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European Journal Of Cardiovascular Nursing

Journal Of The Council On Cardiovascular Nursing
And Allied Professions

DATE AUGUST 2018 VOLUME 17 (S1) ABSTRACT BOOK

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1. Abstract Statistics

Abstract submission by topic

Submission by Topic EHC 2018	Clinical Case	General	Grand Total
4.99 - Arrhythmias, General – Other	5	15	20
5.99 - Atrial Fibrillation - Other		13	13
10.4 - Chronic Heart Failure – Treatment	14	39	53
11.4 - Acute Heart Failure– Treatment	1	1	2
11.99 - Acute Heart Failure - Other		7	7
13.4 - Acute Coronary Syndromes – Treatment	3	5	8
13.4.2 - Acute Coronary Syndromes: Pharmacotherapy	1	2	3
14.2 - Acute Cardiac Care – Prehospital and Emergency Department Care	3	4	7
14.99 - Acute Cardiac Care – Other	2	7	9
26.99 - Cardiovascular Surgery - Other	3	12	15
27.4 - Hypertension – Treatment		7	7
28.9 - Stress, Psycho-Social and Cultural Aspects of Heart Disease	1	11	12
28.99 - Risk Factors and Prevention - Other	1	35	36
29.2 - Cardiovascular Rehabilitation	1	9	10
29.2.1 - Rehabilitation: Exercise Programmes		11	11
30.4 - Non-cardiac Surgery/Pre-surgical Assessment		1	1
30.5 - Cardiovascular Disease in the Elderly	1	3	4
32.1 - Acute Nursing Care	1	13	14
32.2 - Chronic Nursing Care		20	20
32.99 - Cardiovascular Nursing - Other	2	39	41
34.99 - Public Health and Health Economics - Other		5	5
Grand Total	39	259	298

Abstract submission per Country

Country EHC 2018	Clinical Case	General	Grand Total	Country EHC 2018	Clinical Case	General	Grand Total
Albania		1	1	Macedonia The Former Yugoslav Republic of	1		1
Australia		13	13	Mexico		1	1
Austria	4	2	6	Morocco		2	2
Belgium		2	2	Netherlands		8	8
Brazil		1	1	New Zealand		1	1
Canada		6	6	Norway		8	8
China		2	2	Poland	1	13	14
Costa Rica		1	1	Portugal	1	16	17
Croatia		1	1	Romania		4	4
Cyprus	1	1	2	Russian Federation		15	15
Czech Republic		2	2	Rwanda		1	1
Denmark	1	17	18	Saudi Arabia	1	2	3
Egypt	1	2	3	Serbia	1		1
Faroe Islands		1	1	Slovak Republic		3	3
Finland		2	2	South Africa		1	1
Germany		5	5	Spain	2	18	20
Greece		1	1	Sweden	1	19	20
Hong Kong SAR People's Republic of China		4	4	Tunisia		1	1
Iceland		2	2	Turkey		4	4
Ireland	8	23	31	Ukraine		2	2
Israel	1	1	2	United Kingdom	2	22	24
Italy	1	12	13	United States of America		11	11
Japan		1	1	Uzbekistan	1	2	3
Korea Republic of		2	2	Vietnam	9		9
Lithuania	2		2	Grand Total	39	259	298

2. EuroHeartCare 2018 Abstract Reviewers

The Scientific Programme Committee for EuroHeartCare 2018 gratefully acknowledges the assistance of the following experts who served as abstract graders. Our experts graded the abstracts anonymously. The author's names and details were not known at any point in time during the grading process.

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European Journal of Cardiovascular Nursing

ESC European Society of Cardiology

EuroHeartCare 2018

European Journal of Cardiovascular Nursing
1–120
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/1474515118787764
journals.sagepub.com/home/cnu
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Moderated poster session 1

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The role of concealment and relationship quality on hospitalizations and mental health of heart failure patients and their spouse carers

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Background: Heart failure (HF) is one of the most common reasons for hospitalization among older adults and negatively influences the QOL of both patients and their carers. Despite evidence of the protective nature of positive relationship quality within the HF patient-carer dyad, the majority of research has examined HF patients and carers separately, limiting ability to understand the interpersonal context of HF. Additionally, no known study has examined the role of patient concealment (i.e. hiding symptoms and concerns) on dyadic health or patient clinical outcomes in the context of HF. Purpose: The purpose of this study was to examine interpersonal factors associated with the mental health of HF patients and their spouse carers and patient hospitalizations.

Methods: A sample of 62 community-dwelling adults with HF and their spouse carers were recruited from a large academic health center. Data were collected separately from patients and carers at one point in time. Multilevel modeling was used to examine depressive symptoms (PHQ-9; higher=more depressive symptoms) and anger (SSCL; higher=greater anger) of patients and carers controlling for the interdependent nature of these data. Patient concealment of symptoms from their carer (EIDB measure; higher=more concealment) and relationship quality (Mutuality measure; higher=more positive) were examined as predictors of dyadic health, controlling for carer strain (Multidimensional Caregiver Index; higher=more strain), stage of HF (NYHA) and patient gender.

Results: Patients were 59.5 (SD=11.9) years of age, predominantly men (67%) and had symptomatic, moderate-advanced HF (73%). Carers were 57.8 (SD=11.9) years of age and significantly younger than patients ($p<.05$). Patients had significantly higher depressive symptoms (M=6.9+5.2) than their carers (M=4.0+4.4) ($t=3.9$, $p<.001$), but patients (M=7.2+0.3) did not significantly differ from carers in levels of anger (M=6.5+0.3) ($t=1.8$, $p>.05$). Higher levels of patient concealment (B=0.4+0.1, $p<.001$) and lower levels of relationship quality (B=-4.2+1.2, $p<.001$) were significantly associated with greater depressive symptoms for the patient but not the carer. Similarly, higher patient concealment (B=0.3+0.5, $p<.001$) was significantly associated with greater levels of patient anger; lower relationship quality (B=-1.2+0.6, $p<.05$) was significantly associated with greater levels of carer anger. Finally, patients who reported greater levels of concealment were significantly more likely to have one or more hospitalizations over the previous 12 months than those reporting lower levels of concealment (B=0.18+0.1, $p<.01$); relationship quality was not associated with patient hospitalizations.

Conclusions: Greater focus on the interpersonal context of HF and strategies to strengthen greater collaboration and communication may provide promising lines of clinical intervention to optimize the health outcomes of both members of the HF dyad.

Funding Acknowledgements: OHSU School of Nursing Innovations Grant

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Heart failure patients and their family caregivers: The dyadic association of psychological distress with relationship quality

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Introduction: Depressive symptoms and anxiety (i.e., psychological distress) are common among patients with heart failure (HF) and their family caregivers. Patients

and their family caregivers engage in an interdependent relationship in the management of HF. The quality of the dyadic relationship may influence their psychological distress. However there is limited knowledge of the association of relationship quality with psychological distress. The purpose of this study was to examine the influences of individuals perceived relationship quality on their own depressive symptoms and anxiety as well as those of their partners.

Methods: In this cross-sectional study, we used baseline data from patients with HF and their primary caregivers who participated in an on-going longitudinal randomized controlled trial. Relationship quality was assessed using the Dyad Relationship Scale, which has positive interaction and dyadic strain subscales. Depressive symptoms and anxiety were assessed using the Patient Health Questionnaire-9 and Anxiety subscale of the Brief Symptom Inventory, respectively. Multilevel regression actor-partner interdependent model and paired t-tests were used.

Results: A total of 94 patients (60% males, mean age= 62.4 years) and 94 caregivers (71% female, mean age = 58.5 years) completed baseline questionnaires. Most dyads (81%) were in spousal relationships. Patients and caregivers reported similar levels of relationship quality, anxiety, and depressive symptoms. Patients who had high levels of positive interaction with caregivers had higher level of depressive symptoms (B=0.52, P<.001). Patients dyadic strain was associated with caregivers depressive symptom, demonstrating a partner effect (B=.31, P=.03) that caregivers of patients who perceived higher strain in the relationship had higher depressive symptoms. Patients who had high level of positive interaction (B=.043, p=.007) and low level of dyadic strain (B=-.047, p=.035) reported high level of anxiety. There were no partner effects of perceived relationship quality on anxiety.

Conclusion: Interestingly, caregivers perceived relationship quality has no effect on their levels or the patients levels of psychological distress. In contrast, patients perceived relationship quality was associated with their own psychological distress and their perceived dyadic strain was associated with their caregivers psychological distress. Patients perceived dyadic relationship quality appears more powerful effects on psychological distress.

Funding Acknowledgements: National Institutes of Health (NIH) USA

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The effects of emotional distress on quality of life of patients with heart failure and their family caregivers: testing dyadic dynamics using the actor-partner interdependence model

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Background: It is vital to examine the impact of emotional distress on quality of life (QoL) at the dyadic level due to interdependent relationships between patients and their caregivers. Although depression and anxiety, common psychological problems, are known to affect individuals partner outcomes in patients with heart failure (HF) and their family caregivers, there is limited knowledge of other emotional symptoms such as hostility or obsessiveness on quality of life (QoL) in HF patient-caregiver dyads.

Aims: To compare the levels of emotional symptoms and QoL between patients with HF and family caregivers; and to examine whether patients and family caregivers emotional symptoms were related to their own, and their partners QoL.

Methods: A cross-sectional study in which 41 patient-family caregiver dyads completed all 9 dimensions of the Brief Symptom Inventory (sommatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism) and the Minnesota Living with Heart failure Questionnaire for quality of life. Data were analysed using the paired sample t-test and Multilevel modelling regression, the ActorPartner Interdependence Model, with distinguishable dyad regression.

Results: Most patients were male (76 %), and caregivers female (81%). Patients were aged 68 years, an average 2.8 years older than the caregivers. Patients had higher scores for somatisation than the caregivers which reflect distress arising from perspectives of bodily dysfunction; other emotional symptoms and QoL were similar. Patients and caregivers phobic anxiety exhibited an actor effect (B = 13.969, p = <0.001; B = 7.798, p = 0.007), and a partner effect (B = -7.077, p = 0.040; B = 6.472, p = 0.049) on QoL, indicating that phobic anxiety influenced the patients and caregivers health in a negative way. Caregivers obsessive-compulsive dimension negatively impacted their own (B = 5.639, p = 0.017, and the patients QoL (B = 5.633, p = 0.017). Patients anxiety, hostility, interpersonal sensitivity and paranoid ideation negatively impacted their own, and the caregivers QoL. Patients somatisation and psychoticism and patients and caregivers depression showed an actor effect on their own QoL.

Conclusions: Both patients and caregivers had similar and higher levels of emotional symptoms. Patients and/

or caregivers emotional symptoms were variably and negatively associated with QoL. There is a need to develop interventions to target particular emotional responses to improve QoL of the dyads.

Funding Acknowledgements: Chest, Heart and Stroke Scotland

31

Use of community subcutaneous furosemide in advanced heart failure: Experience of a new service in the North East of England

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Aim: Evaluation of a community based subcutaneous furosemide service for the treatment of advanced heart failure.

Method: We have initiated a community based subcutaneous furosemide service for the treatment of advanced heart failure. In patients with end-stage heart failure, there is some evidence which suggests that furosemide can be given subcutaneously to relieve symptoms and avoid hospital admission. Our treatment guidelines were developed in collaboration with cardiologists, specialist nurses, palliative care and community nursing teams. All patients have a comprehensive emergency healthcare plan (EHCP) involving the heart failure team and delivery of the service is facilitated by community heart failure and district nurses in the patients homes. Our service aims to increase patient choice, reduce avoidable hospital admissions, facilitate early discharge and improve quality of life. We collected background and episode related data for all patients with advanced heart failure that received subcutaneous furosemide.

Results: Subcutaneous furosemide was used in 19 treatment episodes in 16 patients. The majority had LVSD (87%, 14/16). The median (IQR) length of treatment was 10 (5-19) days. Median weight loss of 5 (2-7.5) kg was recorded over the course of treatment. 11 patients EHCPs were initially drawn up in secondary care and 5 in the community.

50% (8/16) of patients died during treatment, 6/8 died at home and 2/8 died at our specialist palliative care unit. Both patients were admitted as a result of difficulty managing the syringe driver at home. Of the treatment episodes which the patient survived, 18% (2/11) of patient episodes resulted in readmission. This was for assistance with syringe driver management and assessment following a fall at home.

For those patients who were alive on completion of initial subcutaneous furosemide course (n=8) there were 10 admissions to hospital over a median survival period of six months. In the preceding six months there were 21 admissions in the same patient group.

Conclusion: Our data suggests that subcutaneous furosemide can be successfully delivered in the community. In addition to palliation in the final days of life, community subcutaneous furosemide can be an effective treatment leading to significant weight loss and improved symptoms and survival for several months. This approach allows management of worsening symptoms in the community and we have shown a reduction in hospital admissions in a group at high risk of hospital readmissions.

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Patient experiences of living with heart failure and diabetes

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Backgrounds: The presence of multi-morbidity makes self management even more complex for those with heart failure (HF). Although diabetes is a common co-morbidity in the HF population, the experiences of living with both HF and diabetes and the impact of such multiple morbidities on patients daily self-management are not well researched.

Purpose: This study aimed to gain an in-depth understanding of patients experiences of living with both HF and diabetes and to identify any potential gaps in the current practice that could be improved.

Methods: Semi-structured interviews (n=14) were conducted focusing on patients perspectives of their current self management of their multiple conditions and the challenges they faced while living with these conditions. All interviews were audio recorded and transcribed verbatim, then the data were analysed using framework analysis approach by two researchers.

Results: Four main themes emerged from the data: 1) Impact: these multiple morbidities had a major impact on patients lives including changing their health behaviour, causing physical discomfort due to the symptoms, feelings of life changing with low mood and memory loss. 2) Self-management of multiple morbidities: in addition to HF and diabetes, patients also suffered from other health conditions and experienced difficulties in self management at home and expressed the needs for more support. 3) Quality of health services they received: patients experienced contradictions or repetition in the information received from different health care team members when visiting different clinics. 4) Ways to prevent future admissions:

more close and frequent monitoring/contact are needed as this may help prevent readmissions.

Conclusions: Findings from this study highlighted the need for better integration and more closely monitoring for HF patients with diabetes to reduce admissions and improve their health outcomes.

Funding Acknowledgements: This study was funded by CQUIN project England, UK

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Better mutuality in heart failure patient and caregiver dyads improves their self-care: results of a dyadic analysis

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Background: Self-care in heart failure (HF) patient and caregiver dyads is vital in improving patient outcomes, but the literature shows that self-care is insufficient in several populations. Mutuality, that is the positive quality of the relationship between a patient and his/her caregiver, improves patient and caregiver outcomes in several chronic conditions. However, only one study was conducted in HF.

Purpose: The purpose of this study was to evaluate the influence of mutuality on self-care in HF patient and caregiver dyads.

Methods: A cross-sectional design was used, and a sample of HF patient and caregiver dyads was enrolled across Italy. Patients and caregivers completed the Mutuality Scale. In addition, patients completed the Self-Care of Heart Failure Index, and caregivers completed the Caregiver Contribution to Self-Care of Heart Failure Index. Both indices measure the self-care maintenance (treatment adherence and symptom monitoring), self-care management (responses to symptoms of HF exacerbation) and self-care confidence (self-efficacy in managing the self-care) in patients and caregivers, respectively. The ActorPartner Interdependence Model (APIM) was used to examine how the patients and caregivers individual mutuality influenced their own self-care (actor effect) and their partners self-care (partner effect).

Results A sample of 366 HF patient (56% male, mean age 72 years) and caregiver (73.3% female, mean age 59 years) dyads was enrolled. The APIM showed two actor effects and one partner effect. Higher patient mutuality was associated with higher patient self-care maintenance and confidence, and higher caregiver mutuality was associated with higher caregiver self-care confidence. In addition, higher patient mutuality was associated with higher caregiver self-care management.

Conclusion: Patient and caregiver mutuality influences their own and their partners self-care. These results emphasise the importance of considering the relationship between HF patients and their caregivers as a factor influencing their self-care. Interventions focused on the relationship between HF patients and their caregivers might potentially improve patient and caregiver outcomes.

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Home visits for a cohort of heart failure patients who otherwise could not attend a heart failure clinic, an observation of their management after referral for home visit.

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Background: Heart failure (HF) is a chronic disease which affects 2% of population, prevalance increases with age . Aging, co-morbidities and or progression of HF, mean some patients find it increasingly difficult to attend hospital appointments for management of HF. Home visits are provided to a small cohort of patients who require nursing home care, lack family support or physically cannot attend HF service.

Method: This observational report looks at a group of HF patients (82) diagnosed with HF either following admission to hospital with ADHF (24.3%) or are referred using other pathways, for diagnosis and management of HF. As a result of aging, increased care requirements, progression of HF or other chronic diseases, a percentage of our patients, who otherwise would refuse follow-up are offered home visits from a HF Nurse Specialist.

Results: Over a five year period, 82 patients have benefitted from home visits, (48 female (49%), 37 (45%) HF with reduced ejection fraction (HFREF). NYHA Class II 10 (12%) at time of referral to home visits. Mean age at time of first review in HF Unit 81.63 years-9.03 and mean age at time to referral for home visits 84.79 -9.02. Mean follow-up from time of referral to service 3.8 years (1-14). Thirty (36.5%) patients required input from specialist palliative care services for management of HF symptoms. In total, 29 (35%) patients died, of these 20 patients (24%) had input from specialist palliative care services, the remainder for non- HF related reasons. Over the five year period, 8 (9.7%) patients were readmitted with one ADHF admission, 5 patients (6%) had more than 2 ADHF admissions. Twenty seven patients (32%) required at least one additional visit, 9 (10.9%) required more than two additional visits and 5 (6.09%) patients required more than 3 home visits outside of routine reviews for further management of their HF symptoms. At time of initial

referral to HF service, 9 (10%) were on diuretic, with 72 (87 %) requiring diuretics at time of referral to home visit. Changes in BNP by more than 100pg/ml increased in 9 patients (36%).

Conclusion: A complex cohort of HF patients who otherwise would not be able to continue their link with specialist HF service can be managed at their place of residence, maintaining continuity of care with HF service and quality of life.

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The influence of health literacy on self-care in heart failure patient and caregiver dyads.

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Heart failure (HF) is a common cardiovascular disease, with an estimated prevalence of 1-2% in an adult population, and 10% in adults aged 70 or over, in developed nations. Self-care is a complex and fundamental process in the day-to-day management of HF, which requires patients to adhere to health recommendations, and be able to identify changes in their condition, act accordingly and evaluate their own response to treatment. Health literacy (HL) comprises a variety of aspects, namely knowledge, motivation and the capacity to understand, assess and apply healthcare information to the process of decision making in the self-management of HF. Several authors affirm that patients with a higher HL have better knowledge of HF, are less likely to be hospitalized and enjoy a better quality of life . Additionally, a low level of HL has been linked to less frequent use of preventative services, errors in treatment management, and poor treatment adherence.

Aims: To describe the relations between levels of health literacy and and self care using a multilevel modeling dyadic analysis : Actor Partner Interdependence Model (APIM)

Methods: APIM with distinguishable dyads was used to examine how an individuals self-care was influenced by the own health literacy (actor effect) and the partners health literacy (partner effect). All individual data were restructured to a pairwise dyadic data. Predictor scores were grand-mean centered and standardized to obtain both unstandardized and standardized regression coefficients for the APIM.

Results: Patients reported significantly higher level of health literacy that their caregivers however, patients self-maintenance and self-management were not statically different from their caregivers. Patients self-confidence was lower than their caregivers. The results of the APIM analysis are showed that there was no evidence for an actor effect of health literacy on self-care maintenance, self-care management, and self-care confidence for patients and their caregivers. However, we found a significant partner effect of health literacy on self-care maintenance from caregivers to patients. However, there was no partner effects of health literacy on self-care management and self-care confidence for patients and for caregivers

Conclusion: There is a paucity of research evaluating the effect of HL on diverse aspects of Self-Care.

Table 1.

	Self-care Maintenance (n=102 dyads)			Self-care Management (n=56 dyads)			Self-Care Confidence (n=91 dyads)		
	Estimate		p-value	Estimate		p-value	Estimate		p-value
Health Literacy									
Actor: patient	–.364	–.030	.712	1.464	.095	.500	–2.360	–.132	.138
Partner: patient	–.099	–.008	.935	.021	.001	.992	–1.998	–.112	.309
Actor: caregiver	–2.122	–.175	.152	–4.313	–2.509	.079	–2.857	–.160	.202
Partner: caregiver	–2.460	–.202	.040	-.279	–.162	.200	–.411	–.023	.820

The actor and partner effects of mutuality on self-care.

Oral abstract session: heart failure, surgery and PAD

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Perception of health: patient experiences of dietary habits and nutritional counseling during hospitalisation after coronary artery bypass graft surgery

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Background: Changing dietary habits is an important part of treating coronary heart disease and much focus has been given to secondary prevention, whereas nutritional needs after surgery and the patients perspective of this lack attention.

Purpose: The purpose of the study was to examine patients perception of own health, dietary habits and nutritional counseling in the early postoperatively period after coronary artery bypass graft surgery.

Methods: The methodological framework was based on text interpretation theory inspired by Paul Ricoeur. Fifteen qualitative interviews were performed in the postoperative period during admission after coronary artery bypass surgery. The analysis was conducted in three levels i) naive reading, ii) structural analysis, and iii) comprehensive understanding.

Results: Four themes emerged: The first theme Different needs - not knowing how to eat after surgery revealed a gap between nutritional needs and the provided counseling after surgery. When asked about the association between habits and the underlying heart disease, the second theme Food and heart the lacking attention showed variations in knowledge and habits. Some participants were aware of the association and wanted to change habits. Others did not have a desire to change well-known habits; whereas others again did not know that unhealthy lifestyle could have caused their ischemic heart disease. In the third theme Perceptions of being healthy enough the participants expressed how they felt they had been living healthy enough, being in the safe zone and therefore not seeing the need for dietary changes. The fourth theme The force of habits - being under influence from spouses on dietary habits illustrated how social relations had an influence on the possibilities to change dietary habits. Throughout the theme it is clearly described how females might be the primary decision maker in regards to planning and cooking family meals, but also main characters when it comes to making dietary changes.

Conclusion: Knowledge on the association between dietary habits and the development of an ischemic heart disease is essential to making future dietary changes, however, this study showed how patients perception of their health and dietary habits can be contradictory. When feeling healthy enough, the need for changes is of low priority for the patients. This is enforced by the experience of not having received nutritional counseling during hospitalisation. Finally, nutritional habits might be influenced by social relations with females tending to be initiating dietary changes.

Future interventions should be aimed at optimising individual patient knowledge on nutritional needs after surgery to promote healing and preventing progression of the ischemic heart disease. To be of any success, relatives should be included when helping the patient to changes dietary habits.

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Sense of security among Icelandic patients with heart failure

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Heart failure (HF) is a serious condition affecting both quality of life and life expectancy. Patients frequently struggle with sudden changes in their condition which may affect their sense of security. The purpose of this study was to describe HF patients sense of security and its relationship with background factors.

Method: Data was collected in 2014-2017 from patients who attend a heart failure out-patient hospital clinic. The instrument Sense of Security in Care (SEC-P) is a 15 item questionnaire with 3 subscales (care interaction, identity and mastery) and measures patients sense of security in care (6 point scale, 1=never to 6=always). Patients assessed their own health with the EQ5D visual analogue scale (0=worst possible health to 100=best possible health), their self-care with the European Heart Failure Self-care Behaviour Scale 12 items (EHFScB-12, possible scores 12-60) and their symptoms of depression and anxiety with the Hospital Anxiety and Depression Scale (HADS, possible scores 0-21).

Results: Patients (N=218, mean age 74 (14), 70% male) had high sense of security (total score MD 5.33 (IQR 0.87). Their highest sense of security was related to care interaction (MD 5.38 (IQR 1.13), then mastery 5.33 (IQR 1.08) and least in the identity subscale 5,25 (IQR 1.00). Sense of security was lower in women than men (MD 5.13 (IQR 1.13) vs 5.40 (IQR 0.85), p=0.029), less in younger

than 76 years old individuals than older (MD 5.23 (IQR 1.02) vs 5.47 (IQR 0.85), p= 0.026) and was positively correlated with perceived health status (p<0.001), better self-care (p=0.002) and less symptoms of anxiety (p=0.020) and depression (p=0.05).

Conclusion: The association between sense of security and anxiety, depression and self-reported health status is of significant clinical importance. Nurses working in the outpatient clinics could enhance their patients feelings of security through assessing and treating their psychological symptoms of anxiety and depression and supporting patients self-care behaviour. Special attention should be given to women and younger patients and those with poor health status.

Funding Acknowledgements: Landspitali University Hospital Research Fund, The Icelandic Nurses Association Research Fund, the Research Fund of Mara Finnsdttir

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Caregiver contribution to heart failure patient self-care does not increase caregiver burden

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Background: HF affects patient outcomes with repeated hospitalisations, poor quality of life and increased mortality rates. Self-care, which is the process that HF patients use to maintain the stability of the disease and to respond to symptoms when they occur, can improve HF outcomes. However, in several populations, HF patient self-care was found to be insufficient. Caregiver contribution (CC) to HF patient self-care improves patient outcomes but could be burdensome for caregivers. To our knowledge, no study has yet evaluated if CC to HF patient self-care is burdensome for caregivers.

Purpose: To evaluate if CC to HF self-care increases caregiver burden over and above caregiver and patient characteristics.

Methods: A secondary analysis of a cross-sectional study in which we enrolled 505 caregivers of HF patients in 28 provinces across Italy. Caregivers were defined as those persons inside or outside the family who provided most of the informal care to HF patients. In the data analysis we considered: the CC to Self-Care of Heart Failure Index scores; the Caregiver Burden Inventory scores; caregiver characteristics (i.e. age, gender, employment, education level, living with the patient, hours of caregiving per day, social support); and patient characteristics (i.e. age, gender, employment, education level, hospitalisation for HF in previous year, ejection fraction, New York Heart Association [NYHA] class, months of illness, number of medications taken, comorbidities, cognitive impairment and physical and mental quality of life). We used hierarchical regression to evaluate if the scores for the CC to Self-Care of Heart Failure Index predicted Caregiver Burden Inventory scores over and above the caregiver and patient characteristics.

Results: The caregivers were 56.5 years old (14.9) on average, and they were mostly females (52.5%) or the patients spouses or adult children (82.4%). HF patients were 75.9 years old (10.4) on average, and they were mostly males (55.2%). The only caregiver predictor of higher caregiver burden was older age; patient predictors of higher caregiver burden were older age, higher education, a fewer number of medications taken and lower mental quality of life (R2 = 0.25). At the hierarchical regression, CC to Self-Care of Heart Failure Index scores were not significant predictors of caregiver burden.

Conclusions: While HF caregiver and patient characteristics were predictors of caregiver burden, CC to self-care was not. Since CC to HF self-care improves patient outcomes and is not burdensome for caregivers, providers may consider educating caregivers about self-care as a viable option for improving patient outcomes without increasing caregiver burden. However, further research is needed to confirm the results of this study.

Funding Acknowledgements: Center of Excellence for Nursing Scholarship, Rome, Italy

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What works for caregivers in advanced heart failure: a systematic review

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Background: There is increasing evidence that caregivers of patients with heart failure can experience physical, emotional and financial stress (Doherty et al 2015 and Clark et al 2008) while supporting the patient with self-care. There is limited healthcare support and information available therefore it is imperative to identify effective resources that are tailored to meet the needs of caregivers.

Purpose: To assess how effective psycho-educational resources are at improving caregiver burden, caregiver strain, depression, perceived confidence and heart failure related knowledge and help to inform the components of a supportive interventional study.

Methods: Search terms were grouped under three concepts: caregiver, intervention study and heart failure and five databases (PsychInfo, Medline, CINAHL Plus, EMBASE,

and SCOPUS) were systematically searched to identify studies using psycho-educational resources. Inclusion criteria determined that interventional studies published in English over the last ten years (2007-2017) would be included. Three reviewers independently screened, extracted data and assessed the quality of included studies. Synthesis of data was undertaken narratively to identify patterns across all of the included studies and key similarities were grouped in tabular form.

Results: Nine interventional studies originating from six different countries included a population of 1239 participants. Outcome measures included: reduced caregiver burden, caregiver strain, depression, increased perceived confidence and improved heart failure related knowledge. Two American studies, one Chinese study and a study from Thailand found educational information, in the form of a booklet significantly improved heart failure related knowledge and caregiver confidence to support patients self-care. Three studies found that multidisciplinary support sessions significantly reduced caregiver burden, depressive symptoms and increased heart failure related knowledge. The majority of the interventions were provided immediately following discharge, with one American study conducted with caregivers of patients in the advanced stages of heart failure. Synthesis of the results identified four key areas of need: education on heart failure condition and symptoms, strategies to help with daily self-care activities, appropriate information on patients health status and knowing what to do in the case of an emergency.

Conclusions: The findings of this systematic review highlight that psycho-educational resources can effectively improve the well-being of caregivers of heart failure patients. Nurses have a key role to play in the development and provision of appropriate tailored education and support to both patients and their caregivers.

Funding Acknowledgements: Northern Ireland Chest Heart & Stroke

On Behalf Of: Queen's University Belfast.

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International comparison of physical symptom burden among adults with heart failure

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Background: Introduction: Symptoms are a major driver of healthcare utilization and quality of life among adults with heart failure (HF). However, similarities and differences in physical HF symptom burden across countries are poorly understood.

Purpose: Compare physical symptoms among patients with HF in Spain, Italy and the United States of America (U.S.). We hypothesized that there would be significant differences in physical HF symptom burden across cultures.

Methods: Data on physical HF symptom burden were collected during 3 research studies using the Heart Failure Somatic Perception Scale (HFSPS), that has a total score (range 0-90, higher = worse), as well as subscales for dyspnea (range 0-30, higher = worse) and early and subtle symptoms (range 0-35, higher = worse); the HFSPS and subscale have established excellent validity and reliability. Demographic and clinical data were collected by self-report and/or medical record extraction. We completed a secondary analysis of these data comparing HFSPS scores by country using generalized linear modeling adjusting for age, gender, New York Heart Association (NYHA) functional classification, and HF etiology; results are reported in raw score difference as well as relative (%) differences in symptom burden.

Results: The sample (n=842) consisted of 187 HF patients from Spain (mean age = 81.18.8 years, 50.3% male, 82.4% non-ischemic HF, 50% NYHA class III/IV), 364 HF patients from Italy (mean age = 71.912.9 years, 56.1% male, 65.8% non-ischemic HF, 38.7% NYHA class III/IV) and 291 patients from the U.S. (mean age = 56.713.3 years, 61.9% male, 65.3% non-ischemic HF, 61.1% NYHA class III/IV). Patients from the U.S. reported the lowest symptom burden with HFSPS total, dyspnea and early & subtle scores of 24.77.6, 7.67.4 and 11.16.7, respectively. Compared with U.S. patients and adjusting for differences in age, gender, NYHA and HF etiology, Italian HF patients reported worse physical symptoms overall (7.61.5 points higher or 34.9%7.8% worse, both $p<0.0001$) and worse dyspnea (4.40.7 points higher or 73.1%13.6% worse, both $p<0.0001$); early & subtle symptoms were similar comparing U.S. and Italian HF patients ($p=0.069$). Compared with U.S. patients and adjusting for age, gender, NYHA and HF etiology, Spanish HF patients reported worse physical symptoms overall (13.12.0 points higher or 63.3%12.7% worse, both $p<0.0001$), worse dyspnea (7.60.9 points higher or 134.7%24.6% worse, both $p<0.0001$), and worse early & subtle symptoms (2.40.8 points higher, $p<0.0001$, or 21.8%9.0% worse, $p=0.007$).

Conclusion: There are marked differences in physical symptom burden experience by adults living in Spain, Italy and the U.S even when adjusting for essential demographic and clinical characteristics. More work needs to be done to understand the social, cultural and language contexts as well as treatment and other health system differences that influence HF symptoms in international research.

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the effects of an empowerment-based program on self-care and health-related quality of life of patients with chronic heart failure: a randomized controlled trial

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Background: The detrimental consequences of CHF not only hamper the quality of life (QoL) of patients, but also strain already over-stretched hospital resources. As ineffective self-care behaviour has been consistently identified as a significant predictor of hospital admissions, enhancing patients self-care is the cornerstone of successful CHF management. Empowerment-based educational model has received more attention in diabetic self-care, but its application in CHF is minimal.

Purpose: This RCT was to investigate the effects of an empowerment-based program on self-care and health-related quality of life (HRQL) among CHF patients.

Methods: From Dec 2016 to Dec 2017, 152 CHF patients, who recruited from the Department of Cardiology in two regional hospitals in Hong Kong, completed the study (attrition rate =67.5%). Block randomization allocated them to receive either the empowerment-based program or a comprehensive education program. The empowerment-based program used a hybrid approach of clinic and tele-care. It comprises of five sessions of group education on topics including symptom monitoring, dietary management, medications, exacerbated symptom management, and exercise. As guided by the empowerment-based philosophies, each session incorporated a five-step goal setting process to facilitated behavioral changes. Telephone visits were made to support the patients to implement the self-care action plan in real life. The comprehensive education also comprised five group sessions on the same topics without any empowerment elements. Self-care Heart Failure Index (SCHFI), the Dutch Heart Failure Knowledge Scale (DHFKS) and the Minnesota Living with Heart Failure questionnaire (MLHFQ) were administered at baseline and post-test.

Results: The mean age of the sample was 37.82 (SD = 8.9), and 67.5% were males. In average, they were diagnosed with CHF for 3.5 years, with 69% in NYHA II and other in NYHA III. About 61% had left ventricular ejection fraction as <40. There was no significant difference in the demographic and clinical profiles between the two study groups. General Linear Model indicated that the empowerment group has significantly greater improvement in SCHFI symptom monitoring (Group*time: $p = 0.021$) and SCHFI self-care management (Group*time: $p = 0.031$). Additionally, significantly greater number of patients in the empowerment group were satisfied with the effects of their actions for exacerbated symptom management ($p = 0.008$). They also have greater improvement in MLHFQ ($p = 0.045$).

Conclusion: Effective symptom monitoring, recognition and management are regarded as the most challenging for CHF patients. This study identified the out-weighted benefit of an empowerment approach than comprehensive education in supporting patients to overcome such challenge in disease management. Data collection on hospital admission is ongoing which can inform the cost-effectiveness of this approach of self-care enhancement.

Funding Acknowledgements: Health & Medical Research Fund (Hong Kong Food and Health Bureau)

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Medication adherence profiles in peripheral arterial disease: insights from the international PORTRAIT Registry

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Background: The average adult over 55 juggles 6-8 medications daily, creating potential adherence challenges. Individuals with peripheral artery disease (PAD) may struggle to manage their disease and risk factors. Understanding profiles of non-adherence can help identify targeted interventions.

Purpose: For PAD, document the amount of medications; explore adherence profiles (Persistent Adherent; Forgetting; Skipping); and compare by country.

Methods: PORTRAIT is a registry of patients with new or worsening PAD symptoms from the United States, Australia, and Netherlands. Patients were interviewed about health status at enrollment and about their medications and adherence behaviors at 3 months. Responses were categorized as: Persistent Adherent (reporting Never or Once in the past month to both items); Non-intentional (reported forgetting >/= 2 times/month); and Intentional (reported skipping >/= 2 times/month).

Results: Among the cohort of 1109 (mean age=689 years; 63% male), patients reported being on an average of 9.2 medications (4.3). The majority (76%) were classified as Persistent Adherent, 18% were in the Forgetting category and 6% were intentionally Skipping a medication. In the Netherlands, rates of patients in the Persistent Adherent category were highest, followed by Australia and the US (Figure). Patients in the Forgetting category had the worst health status and reported more depression (Table).

Patients in the Persistent Adherent category had the lowest amount of medications (9.04.2), patients in the Forgetting category had the most medications (9.94.1).

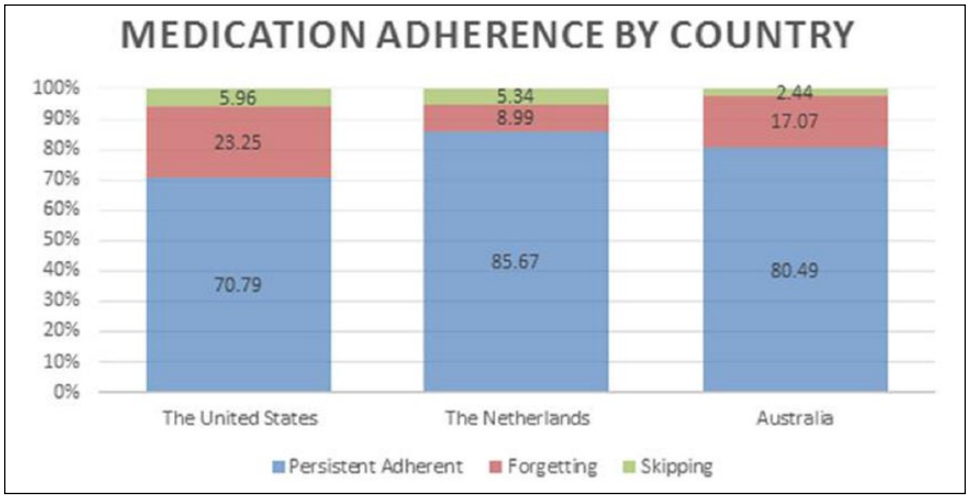
Conclusions: Almost 1 in 5 PAD patients either skipped or forgot to take their medications with higher rates in the US. Discussions and interventions to optimize adherence in PAD, should be sensitive to the unique underlying reasons as to why patients are not adherent.

Funding Acknowledgements: Patient Centered Outcomes Research Institute (PCORI; USA)

Table 1. Characteristics by medication category.

	Persistent (n=846)	Non-intentional (n=202)	Intentional (n=61)	p-value
Age	68.28.8	66.410.6	66.89.2	0.029
Sex	542 (64%)	121 (60%)	40 (65%)	0.508
(1)Male	304 (35%)	81 (40%)	21 (34%)	
(2)Female				
Race:White/Caucasian	717 (85%)	160 (79%)	49 (80%)	0.128
Country	475 (56%)	156 (77%)	40 (66%)	<0.001
(1)USA	305 (36%)	32 (16%)	19 (31%)	
(2)Netherlands	66 (8%)	14 (7%)	2 (3%)	
(3)Australia				
EducationHighSchoolorabove	557 (67%)	157 (79%)	42 (69%)	0.004
Insurance:Haveinsurance,MedicareorMedicaid (BL)	840 (99%)	199 (99%)	61 (100%)	0.522
Married	524 (62%)	106 (53%)	33 (54%)	0.034
Depression (history of or current)	56 (7%)	28 (14%)	1 (2%)	<0.001
PAQ health status summary score	50.721	44.823	54.622	<0.001

BL = BaselinePAQ = Peripheral Arterial Questionnaire



Medication adherence category by country

Moderated poster session 2

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Exploring the experience of caretakers of children with cardiac diseases: care-seeking pathways from home until Rwandan Teaching Hospitals

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Background: The types of cardiac diseases in children and the experience of their caretakers while seeking care are generally not known in Rwanda.

Objective: To describe the types of cardiac diseases in Rwandan children and the experience of their caretakers when seeking care for cardiac diseases through the referral health system of Rwanda.

Methods: Across-sectional mixed method study was conducted in the department of our University Teaching Hospitals. The quantitative part included all children, =15 year old cardiac diseases that consulted from January to August 2016. Manual data extraction was done from their file. The qualitative part data was obtained from in-depth interviews of caregivers of children with cardiac diseases in order to explore their experiences while seeking care for their children from home until teaching hospitals. The information was filled in spreadsheet format. The data entry and analysis was performed using Microsoft Excel, Microsoft Word, and Dedoose; recording and presentation of results was done using Microsoft Excel and Microsoft Word.

Results: Both hospitals received 368 children with cardiac diseases in 8 month period. Females were 52.9%. The majority was in heart failure (NYHA IV: 21.9%, NYHA III: 29.2). The main cardiac diseases were rheumatic heart diseases (32.3%) and ventricular septal defects (24.4%). Qualitative part included twelve caregivers of children with CVDs; 8 female and 4 male participated in-depth interviews. Their age varied between 27 and 51 years with mean of 39 years. Three main topics emerged from interviews. The first topic comprises the experience of caregivers in care seeking for the children with cardiac diseases: recognition of symptoms, access to adequate healthcare services, etc: the caretakers, the family, even the healthcare providers had difficulty to identify and interpret signs and symptoms of cardiac diseases in children, with late care seeking. The second topic concerned the challenges and barriers to seeking care through referral system: wrong and late recognition of symptoms (poisoning, malaria, etc.), limited access to optimal management (geographic and economic barrier, lack of adequate equipment and skilled personnel, poor customer care, use of traditional medicine, and family instability and violence). Finally, respondents highlighted the recommendations for improvement mainly customer care, and education of community and health professionals about cardiac diseases in order to timely recognize them and provide adequate management.

Conclusion: Children present with different types of cardiac disease, some of which can be prevented, particularly acute rheumatic fever and rheumatic heart diseases. The caretakers meet many challenges in seeking care for children with cardiac diseases, some of which can be managed with holistic approach including engagement of families, healthcare system, and local government.

Funding Acknowledgements: No financial support

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Peripheral arterial disease risk assessment & rehabilitation programme

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Background: Patients with peripheral arterial disease (PAD) (lower limb) have a 6 fold increased risk of mortality from cardiovascular disease (CVD) compared to the general population. Similar risk factors exist for PAD as for CVD. Exercise limitations and claudication pain compound these risk factors and accentuate their impact on CVD. Given the very high CVD risk associated with PAD, patients need interventions to protect their overall arterial tree.

Purpose: To evaluate a PAD risk assessment and rehabilitation programme.

Methods: A prospective observational study on one site from 2015-2017. All de novo identified patients and recently treated PAD, were offered a specially adapted 10 week rehabilitation programme, with exercise twice per week, education, and intervention for uncontrolled CVD risk factors, in line with European Society of Cardiology PAD guideline recommendations. Pre and post data was analysed in the powered sample using SPSS version 21, Mann Whitney or Wilcoxan tests.

Results: The profile of the 78 participants was: 77% male, mean age 649.3, 68% hypertension, 38% diabetic and 41% smokers. There was significant improvements ($p < 0.05$) in systolic blood pressure (140 pre:129 post) total cholesterol (4.2:3.7), LDL (2: 1.8), initial claudication time (min.sec) (2.05:5.2) and distance (M) (100:290), max claudication time (4.5:13.5) and distance (240:715)(Gardiner-skinner protocol) and Quality of Life (VasQoL)(3.2:2.6).

Conclusion: This specific PAD rehabilitation programme, which addressed CVD risk factors is the first of its kind to be established nationally. This program was effective in improving functional capacity and quality of life. Increased time to claudication and endurance was associated with increased self-report improvements in activity and pain. With continued audit of this programme, its merits can be established and will help pioneer this approach on a national basis.

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The lack of evidence for the effectiveness of discharge education on clinical outcomes in acute coronary syndrome patients: a systematic review. where to from here?

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Background:/Introduction: It is well established that acute coronary syndrome remains a leading cause of morbidity and mortality worldwide. Targeted-patient discharge education in combination with cardiac rehabilitation and secondary prevention programs positively impact upon recovery and clinical outcomes. Whilst, there is strong evidence supporting the content of discharge instructions (i.e. CVD prevention strategies, components and modes of delivery) it is unknown how discharge education provided during the acute hospitalisation period impacts upon clinical outcomes and which elements of this material contributes to improvements.

Purpose: In order to bridge the knowledge gap, this review seeks to synthesize the existing evidence for the efficacy of discharge education provided in the acute hospitalisation period, to adult patients admitted to hospital for acute coronary syndrome, and to objectively report on the behaviour changes measured in this population.

Methods: A systematic review was undertaken of RCTs published in English between 2000 and 2017. Searching the following databases: Medline; CINAHL; PsycINFO; Scopus; Web of Science; Cochrane Central Trials Register of Controlled Trials; ANZ Clinical Trials Registry; Clinicaltrials.gov; and WHO International Clinical Trial Registry Platform. Studies assessing the following outcomes were considered for inclusion: ACS prevention, diagnosis and treatment, patient knowledge of clinical and lifestyle risk factors. Uptake of treatment recommendations, medication adherence, GP follow-up and attendance at a formal cardiac rehabilitation program, all cause- and ACS-related hospital re-admission and mortality (up to 12 months). Studies with post-discharge follow-up reinforcing intervention content were excluded. Articles identified for inclusion were screened for additional studies. The risk of bias was assessed using the Joanna Briggs Institute standardized critical appraisal instrument for RCTs.

Results: From 2,093 citations, 47 papers were selected for assessment of eligibility with one pilot study (n=40) found to evaluate the effectiveness of discharge education on participation in cardiac rehabilitation. The results from this study showed increased participation in cardiac rehabilitation following two highly individualised information sessions.

Conclusion: The findings from this review show that there is limited evidence for the effectiveness of discharge education provided to acute coronary syndrome patients at the bedside. Highlighting the need for robust evidence for the comprehensive evaluation of current discharge patient education.

Funding Acknowledgements: National Heart Foundation of Australia Vanguard Grant, Award ID 101443; Heart Foundation Future Leader Fellow(App ID: 100847)

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Undergoing enhanced external counterpulsation treatment-a qualitative study of patients with refractory angina pectoris

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Background: Patients with refractory angina pectoris have chronic ischemic symptoms that are unresponsive to both conventional medical therapy and revascularization. Enhanced external counterpulsation (EECP) is a non-invasive treatment for these patients and is generally given over seven weeks in 35 one-hour sessions. Currently, there is no study that describe how patients feel during and after being treated with EECP. The aim of this study was to describe patients experiences of undergoing EECP.

Methods: Fifteen semi-structured interviews were performed on a strategic selection of patients (male 11, average age 71) who had finished one course of EECP from the only two EECP clinics in Sweden. The data was analysed using inductive qualitative content analysis.

Findings: The results were divided into four content areas; Before EECP was initiated patients experienced EECP as an uncharted territory and as be given an opportunity. During EECP sessions a physical discomfort was experienced due to an uncomfortable treatment position but the continuously monitoring by the nurse and their presence was positive and made them felt safe. The daily attendance affected

patients daily routines and required them to coordinate the everyday life, which was facilitated by an individualized treatment time. After the EECP course patients experienced an increased level of physical performance with less angina episodes, more satisfaction with life, happier and more optimistic. It was also experienced as important to stay physical active to maintain the therapeutic effects.

Conclusions: The importance of providing an individualized care was highlighted and the approach can improve the experience of care during EECP. To offer patients a try out EECP-session before deciding on participation had significance as it motivate patients to start the treatment as they felt more secure and prepared. A successful established nurse-patient relationship also creates trust, security as well as safe environment which contribute to the experience of EECP as pleasant.

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Exercise in patients admitted for decompensated heart failure - cardiac rehabilitation

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Introduction: Heart failure (HF) is characterized by dyspnea, fatigue and edema that leads to decreased exercise tolerance, functional dependence and impairment of performance in activities of daily living (ADL). Exercise is a well stablish intervention, for patients with stable cronic HF, which leads to improvement of symptoms, promotes functional capacity and decrease exercise intolerance. Exercise its not yet tested for patients during the phase of stabilization.

Purpose: To evaluate the safety and feasibility of an aerobic exercise training program for patients admitted due to decompensated HF: the ERIC program. Methods: Patients are randomized in training group (TG) or control (CG). Data includes cardiovascular history, HF history and two functional tools: London Chest of Daily Living Activities (LCADL) and Barthel Index (BI). TG patients perform the ERIC program twice a day, 6 days a week. ERIC program is a supervised aerobic exercise program, with increasing levels of intensity, divided into 5 stages: respiratory raining, gait training and climbing stairs, for progressive duration periods. In all sessions are valuated vital signs before and after the exercise, as well as Borg Modified Perceived Exertion scale. CG patients are supervised too and perform freely physical activity. At discharge, all patients perform a 6 minute walking test (6MWT), and evaluation of LCADL scale and BI.

Results: Until now, 47 patients are randomized (24 in TG - 275 sessions) with an average age of 71 (11) years old. 31 are male, 80% are in NHYA class III and 20% are class IV. At admission both groups (training vs control) of patients have the same level of functional dependence. At discharge, TG present lower LCADL and Borg score and higher BI score. Those differences are statistically significant (p=0,038 LCADL; p=0,024 Barthel). The average distance on 6MWT by TG is 72 meters higher, which is a statistically significant (p=0,031). No adverse events had occurred, like precordial pain, falls or worsening of clinical state.

Conclusions: ERIC program can safely lead patients to a better functional capacity state.

On Behalf Of: ERIC.

Table 1. Comparison of group parameters

Parameter	TG	CG
Initial BI	73	74
Final BI	96	92
Initial LCADL	36	34
Final LCADL	13	18
Borg average	3,0	3,9
6 MWT	345	273

TG - training groupCG - control group

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Very elderly patients: good face for bad play

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Few data exist about acute cardiac syndrome (ACS) management in Very Elderly (VE) patients. Their theoretical higher risk of events supports their high fragility and it remains the main feature of the problem. We analysed 130 ACS in VE from 2014 to 2016: 47 (36%) STEMI and 83 (64%) UA/NSTEMI; two populations were similar for basal characteristics. In STEMI patients, a low part of them (25%) primary PTCA was performed, according to guidelines while in the remaining part of VE STEMI population existing co-morbidities or theoretical higher risk of events were considered prohibitive for angiography indication (75%). In VE STEMI patients, adjusting data for renal failure, diabetes mellitus condition, mental status and good general prognosis, we observed lower major events, better survival time and better performance status in VE STEMI underwent to I PTCA referring to VE STEMI patients for which I PTCA was not considered (p=0,59). Our data confirm that ACS management for VE patient depends on scrupulous initial risk/benefits ratio and, above all, it is extremely time dependent and it requires careful management of co-morbidities. Smallness of the sample needs to have more extensive studies on the topic.

Clinical case session

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Ethical challenges in cardiac surgery. Case study.

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Introduction: In cardiac surgery, elderly age is no longer an overriding exclusion criterion. The qualification process involves estimating perioperative risk based on a number of clinical factors, though certain psychosocial factors, which are significant for a patient, are disregarded. Underestimated risk may be an obstacle in obtaining patients informed consent to a clinical intervention, as well as in reliable estimation of morbidity and mortality. As medicine develops, the biopsychosocial burden of patients referred for cardiac surgery requires the development of proper and ethical management strategies.

Case study: An 82-year-old woman was admitted to the Cardiac Surgery Department for a planned mitral valve replacement, aortic valvuloplasty, and coronary artery bypass graft surgery. Comorbidities included: permanent atrial fibrillation, ischemic heart disease, implanted heart stimulator, hypertension, anemia, hyperthyroidism, chronic gastritis, varicose veins in the legs.

At the pre-surgery visit, perioperative risk was rated as high (7.12%). The purpose, scope, and course of the procedure were also discussed, as were all potential postoperative complications. The patient signed a consent form.

The day before the procedure, upon obtaining the patients written consent, a nurse included the patient in a study involving frailty identification. In the interview, the patient said she was widowed. She had cared for her disabled husband for 15 years. Several months before the study, the patients only son died from a heart attack. The patient struggled psychologically.

The nurse used standardized instruments to evaluate the patients cognitive status, frailty phenotype, and depression symptoms. Based on result interpretation, the nurse identified cognitive impairment without dementia and frailty syndrome .

The patient underwent complex cardiac surgery. Currently, 40 days post-surgery, the patient is sedated, hemodynamically unstable, and mechanically ventilated. She undergoes periodic hemodialysis. Long-term prognosis is poor.

Questions: Are elderly patients, with a clinical and psychosocial burden and cognitive impairment, capable of providing informed consent to a cardiovascular surgical procedure? Can a patients psychosocial burden exclude them from the surgery?How to resolve the above dilemmas?

Conclusions: An increasing number of studies indicate the need for including frailty identification in the perioperative risk assessment models used in daily clinical practice. A patients poor psychosocial condition increases perioperative risk. Combined with cognitive impairment, it interferes with a patients ability to provide informed consent to medical interventions. Surgical treatment that does not improve the patients quality of life in the psychosocial dimension is dubious from the point of view of fundamental human dignity. The reliable estimation of perioperative risk contributes to ethical clinical decisions.

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Is youth our friend or foe?

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Background: Oophorectomy appears to be associated with long-term health risks. Research shows that endogenous estrogens are beneficial to the cardiovascular system to maintain long-term health. This is a crucial consideration because although ovarian cancer is statistically significant, coronary heart disease is greater.A cohort study showed that the risk of ischemic heart disease in women with a history of oophorectomy before age 40 years is 7 times greater compared with women having oophorectomy after age 45 years. The risk of heart disease increases as the age group gets younger post oophorectomy.

Purpose: The purpose was to:

1. Examine the effects of Salpingo-oophorectomy on the cardiovascular system in female less that 30 years of age.
2. Identify any preventative measures that could reduce the cardiovascular risk in this cohort.
3. Identify the more dominant risk factor, Cancer versus Heart Disease, in this particular cohort.

Methods: An observational case study was chosen on a young 27year old female who presented to our local cardiology department for and elective coronary angiogram requiring multi vessel percutaneous coronary intervention (PCI).

1. A comprehensive health history was carried out which revealed a history of Salpingo-oophorectomy for a adenocarcinoma of the endometrium in 2009 without HRT post procedure, a 10 pack smoking history and Lynch Syndrome.
2. We carried out a Cochrane Database of systematic reviews to identify the effects of Salpingo-oophorectomy in females of less than 30 years old and identify possible methods to reduce cardiovascular risk.

Results: Despite the use of HRT and risk of development of cancer in people with Lynch Syndrome, cardiovascular risk post Salpingo-oohorectomy is greater. The younger in age the female is post Salpingo-oophrectomy, the higher risk of cardiovascular disease. The risk of cardiovascular disease surpasses the risk of cancer in this cohort.

Conclusions: HRT should be a consideration as a preventative of cardiovascular disease in this cohort.

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Statin induced irritability? The cardiac rehab patient who said no, no, no.

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Introduction: 63 year old man Tom presented to phase II cardiac rehabilitation clinic following non-ST myocardial infarction and deployment of 2 drug eluting stents to the left anterior descending artery four weeks previously. Positive family history and newly diagnosed hypertension and dyslidaemia were noted as risk factors. Discharged medications consisted of dual anti-platelet therapy (DAPT), statin, ACE inhibitor and betablocker.

Tom was slim and fit. Blood pressure 180/90, heart rate 85/min. He seemed tense -was terse in his responses but denied subjective psychological distress. He felt cheated out of health as he had adhered to a healthy lifestyle and had done everything right. He had two family bereavements in 2 months. He related how he had compartmentalized his stress so that it couldnt affect him. Tom then revealed that he had stopped taking his medications 10 days ago. He believed they were making him irritable and hostile and coincided the onset of mood changes to medication commencement. His doctor had dismissed his concerns so he took the decision to stop. Mood changes abated within 3 days of stopping.

The Problem: Non adherence to medications is associated with worse outcomes and increased mortality and can dominate risk. Toms decision placed him at high risk for stent thrombosis and future cardiovascular events relating to dyslipidaemia, hypertension & ventricular dysfunction.

Practical challenges and solution: Detecting non adherence does not equate to overcoming it. Tom was invested in his own perception of what had gone wrong as well as how best to deal with it. He had lost trust in clinicians. Using motivational interviewing techniques I helped Tom to understand that his decisions were not the best for his health. He needed more information regarding the nature of stents and cardiovascular disease and how each medication should work for him and not against him. I explained how the statin might be the culprit cause of mood changes. Using consensual collaboration we drew up a 2-step plan to reintroduce medications. He opted to recommence all medications except his statin and reported back in one week. Clear of any adverse mood effects we proceeded to introduce an alternative statin. A hydrophilic statin was substituted for the originally prescribed lipophilic formulation, on the basis that it should have less brain penetration. He opted to keep a diary recording any adverse mood effects. Tom commenced Phase III cardiac rehabilitation programme within 2 weeks and this afforded ideal monitoring opportunity. He tolerated all medications without recurrence of adverse effects.

Conclusion and implications for practice: This case study makes no claim to demonstrate cause and effect in terms of mood changes during treatment with statins. It does demonstrate how the nurse patient relationship within the cardiac rehabilitation setting is a pivotal and undervalued resource for optimising medication adherence for secondary prevention.

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Lung impedance as a sensitive tool to track both dehydration and congestion in early post-discharge phase

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Clinical problem: A major challenge in the management of heart failure (HF) patients is an accurate clinical assessment of lung congestion. The under- or over-use of diuretics is frequent and associated with high risk readmissions.

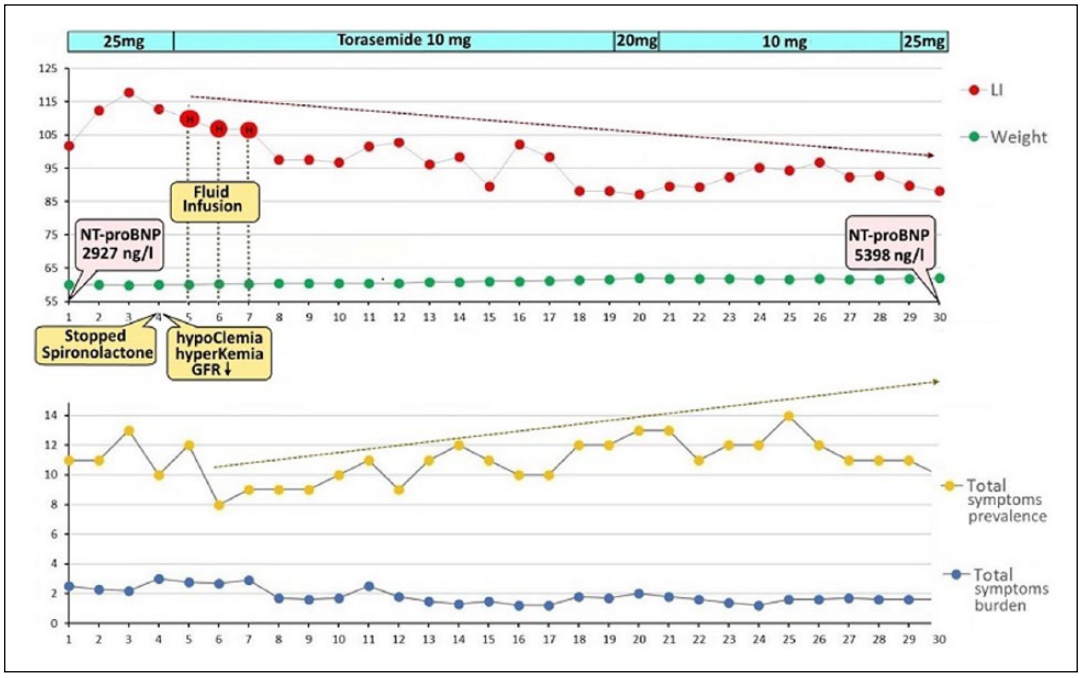
Technique for patient monitoring Edema guard monitor (EGM) is a high sensitive noninvasive device for the measurement of lung impedance (LI), based on an algorithm calculating the chest wall impedance that is a preponderant component of the total electrical transthoracic impedance. Subtraction of the chest wall impedance from the latter yields the net LI. Decreasing LI values represent the increase of lung fluid. Measurements with EGM are done using 3 electrodes on the front and back side of the chest wall. Before discharge the patient and her daughter were trained to perform daily measurements of LI values, weight and report data to HF nurse by SMS during 30 days. The patient also filled the diary of symptoms using the Memorial symptom assessment scale-Heart Failure (MSAS-HF).

Case description: An 83 year old woman diagnosed with ischemic HF with reduced ejection fraction was admitted to HF department. During 15 days she was treated medically and by the implantation of drug-eluting stents in

left main and 2 coronary arteries. Given the severe systolic dysfunction, mitral regurgitation, pulmonary hypertension and long anticipated duration of stenting, coronary intervention was protected by extracorporeal membrane oxygenation. The patient was discharged on metoprolol 50 mg q.d., torasemide 25 mg q.d., spironolactone 50 mg q.d., zofenopril 30 mg q.d., ranolazini 500 mg b.i.d. and dual antiplatelet therapy. LI value at discharge was 101.8O, and during the next 3 days it was high and still increasing (101112117O; +15%) pointing to decreasing lung fluid, concomitantly with increased anxiousness and forgetfulness (symptoms prevalence in MSAS-HF 111113; +18%). During the visit to cardiologist on the 4th day, acute renal failure with hyperkalemia and hypochloremia was diagnosed. The patient was readmitted for 3 days and treated with intravenous fluid and electrolyte infusion. During the remaining follow-up period, the doses of diuretics were titrated very cautiously, trying to keep LI about empirical values of 95 100O and in this way to protect patient from excessive diuresis or congestion. However, the reduction of torasemide dose resulted in an increased congestion, which was detected by the rise of NT-proBNP level from 2927 to 5398 ng/l, increased symptoms prevalence from 9 to 14 (55%), weight increase from 60.3 to 61.8 kg (2.4%) and concomitant decrease of LI from 106.7O to 88.1O (21%).

Conclusion: With the increasing role of nurses in heart failure care both in-hospital and home monitoring of lung impedance might be promising tool of tracking the lung fluid amount. Both increasing congestion and dehydration may be timely suspected and corrected by HF nurses and other health care professionals.

Funding Acknowledgements: This work was supported by NordForsk. Nordic Programme on Health and Welfare Project no.: 76015.



Dynamics of characteristics

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A case study in syncope: raising awareness of PoTS

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Miss S. 19 years old came to the nurse led syncope clinic referred from neurology. Her history is recurrent syncope, twice weekly. This began, aged 11 following a serious septicaemia. There are no provoking factors, a brief, hot, prodromal sensation. The episodes occur when standing.
Miss S. is on the autistic spectrum, has a diagnosis of anxiety and had joint hypermobility as a child. There is no family history of sudden cardiac death, however two second degree relatives have Von Hippel-Lindau syndrome , which causes pheochromocytoma.
There are occasions when Miss S. screams in the room. Miss S has become disengaged with health professionals. This is due to being informed syncope is anxiety related.

Cardiovascular assessment was normal. ECG was normal with a sinus tachycardia 118 bpm. BP sitting 114/64. Active stand test at 1 minute BP 138/80, pulse 138bpm and after 3 minutes BP 100/75 pulse 144 bpm. Beighton score 8.

The differential diagnosis is either pheochromocytoma or Postural orthostatic Tachycardia Syndrome (PoTS).

The clinical management plan was metanephrines and urinary catecholamines which excluded pheochromocytoma. Lifestyle management for PoTS was initiated, which is to increase fluids to 2-3 litres daily, increase salt and regular exercise. We reengaged with Miss S. and counselled on symptom recognition. The episodes of anxiety were associated with symptoms. For management of joint hypermobility syndrome referral was made to rheumatology.

A requested tilt table test confirmed a rapid increase in heart rate from 95 bpm to 168 bpm, associated with upright posture. BP varied slightly with beat to beat variability. An episode of syncope occurred, following GTN provocation, which was not associated with a BP drop.

The diagnosis is PoTS with a psychogenic element. Miss S was commenced on Ivabradine 5mg twice daily, increased to 7.5mg twice daily. Miss S had significant improvement with 2 syncope episodes in 4 months.

PoTS is a debilitating, under diagnosed condition, affecting 1 in 500. There are 5 times as many women with PoTS than men. Average age at diagnosis is between 17-35. PoTS results from an imbalance in the autonomic nervous system. Just standing can feel like running a marathon. Onset is often associated with a severe illness. Joint hypermobility is associated with PoTS.

In the UK, from symptom onset, to diagnosis is 7 years. 90% report a significant impact on quality of life, 20% are wheelchair users. 1/3 of UK patients stop working and 4.3 million work days are lost.

PoTS patients report Brain Fog. This is a neurocognitive state, not fully understood and possibly due to a reduced cerebral blood flow. This cognitive dysfunction is closer to features of attention deficit disorder rather than anxiety. .

PoTS sufferers are in their prime working years. We need to increase awareness and diagnosis of PoTS, improve time from symptom onset to diagnosis, thereby improving clinical management and quality of life

Poster session 1

Chronic Heart Failure

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Thirst in German hospitalized patients with heart failure

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Background: Thirst can be perceived as an intensive and burdensome symptom in patients with heart failure (HF), which can have a negative effect on the patients quality of life. Especially fluid restrictions can have a negative influence on thirst. The topic has not been studied in Germany and to our knowledge; no translated standardized instruments capturing the concept exist.

Purpose: The aims of this study were (a) to translate the validated Thirst Distress Scale for patients with Heart Failure (TDS-HF) into German and to test the translated version psychometrically, and (b) to describe thirst -occurrence, intensity, distress, and quality- in hospitalized patients with chronic HF in Germany.

Methods: A cross-sectional study in a German acute hospital was conducted. The TDS-HF was translated into German using forward and backward translation. The occurrence of thirst was measured with a question about the presence of thirst (yes/no), thirst distress with the TDS-HF (9 items, 5-point Likert-scale, score 9-45), and thirst intensity with a visual analogue scale (VAS, 0-100mm). Additionally, an open-ended question about interventions to relieve thirst, and sociodemographic items were included. Clinical data were collected from patients medical records. Psychometrics of the German version of the TDS-HF included internal consistency and concurrent validity.

Results: 84 patients with chronic HF (mean age 7210 years, 29% female, 54% acute decompensated HF, mean LVEF 3612%, 62% NYHA III-IV, 45% fluid restriction) have been enrolled. The evaluation of the German version of the TDS-HF indicates high internal consistency measured by Cronbach`s Alpha (a=0.91). Inter-item correlations varied between 0.36 and 0.80, and the item-total-correlation varied between 0.57 and 0.81. There was a significant correlation between the TDS-HF and the VAS to assess thirst intensity (r=0.72, p= <0.001).

Overall, 61% of the patients reported thirst. The patients had a median thirst intensity (VAS) of 39mm (IQR: 22-58mm) and 61% of the patients experienced moderate to severe thirst distress. Moderate to severe thirst distress was mostly associated with a dry mouth (75%), an aggravation of thirst when they drink less (54%), and a feeling of sandpaper (in German furry) in the mouth (53%). The main intervention of the patients to relieve thirst was drinking fluids (98%).

Conclusions: Thirst was experienced as a strong and burdensome symptom for many HF patients in this study. Nurses should expand standards of care for HF patients by asking them whether they experience thirst, and should plan and evaluate interventions to relieve thirst regularly during their hospital stay. The German version of the TDS-HF has acceptable psychometric properties and is usable for clinical practice and research.

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Profiling patients with heart failure who are at risk to not adhere to their exercise advise

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Background: Exercise is known to be beneficial for patients with heart failure (HF) and these patients are therefore routinely advised to be or become physically active Patients with HF might be aware of the importance of exercising, but fail to adhere to their exercise advice. Few data is available on which patients are at risk of not being adherent to exercise.

Purpose: The aim of this study was to look at profiles of patients who might be at risk to not adhere to their exercise advice.

Method: 179 patients with HF (mean age 6912, 72% men) were categorized into 4 profiles based on their answers to questions in the HF compliance questionnaire related to the importance of and the difficulties they experienced with exercising; 1) not very important/difficult, 2) not very important/not difficult; 3) very important/difficult; 4) very important/not difficult.
Comparisons between profiles were made with regard to demographics, depression and anxiety (HADS) and if they reported to adhere to the exercise advice, using chi-square test, Students t test or analysis of variance (ANOVA).

Results Half of the patients with HF found it difficult to exercise, and 59% found exercise not very important. Almost a third of patients (30%) who found exercise not very import and difficult were not adhering to their

exercise advice compared to 14-15% in the other patient profiles (p-value<.01). More patients who found exercise difficult had depression and anxiety compared to the other patient profiles (p-value<.01).

Conclusion: Approximately 1/3 of patients with HF who found it difficult and not very important to exercise were not adhering to their exercise advice. Symptoms and depression are important to assess in patients who find it difficult to exercise. Furthermore, more than half of the patients did not experience exercise as very important, suggesting a gap of HF knowledge.

Table 1. Patient Profiles

Patient profiles	Adherence (%)	Depression (%)	Anxiety (%)
1. Very important/ difficult (n = 26)	15%	31%	25%
2. Very important/not difficult (n = 47)	15%	13%	10%
2. Not very important /difficult (n = 68)	30%	25%	19%
3. Not very important/ not difficult (n = 28)	14%	23%	9%

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Cognitive impairment and depression in hospitalized heart failure patients

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Background: The cognitive deficit occurs between 30% and 80% in heart failure patients, which can impact the capacity for self-care and understanding of disease and to be responsible for the high rate of rehospitalization in these patients. On the other hand, mood disorders such as anxiety and depression can affect cognition and sometimes are underestimated and undertreated.

Purpose: Evaluate and describe cognitive impairment domains in hospitalized heart failure patients and correlate them with anxiety and depression.

Methods: Cross-sectional study with hospitalized heart failure patients admitted to a general hospital between 2015 and 2017 was done. Mini Mental State Exam (MMSE) adjusted for school degrees and Hospital Anxiety and Depression Scale (HADS) were applied from 72 hours hospital discharge forecast. Categorical variables were expressed as absolute and relative frequencies and quantitative variables were expressed as mean standard deviation or median, minimum and maximum. Association between cognitive impairment and HADS was assessed by chi-square test. Correlation between MMSE score and its dominions and HADS scores were assessed by Spearmans correlation. HADS scores were compared by cognitive impairment with Mann-Whitneys test.

Results: Fifty patients were available (90% male, age=76.39.6 years, EVEF=35.28.8%). The sample median education was 12 years of study (4 to 12 years) and cognitive impairment were 56%. The HADS scale demonstrated that 62% of sample was possible/probably for diagnosis of anxiety/depression. The cognitive impairment was statistically associated with increase in HADS score (p = 0.006). Depression was statistically more frequent in patients with cognitive impairment (p = 0.012) and presented inverse correlation with MMSE score (r= -0.361; p=0.010).

Conclusion: The cognitive impairment has association with mood disorders in hospitalized heart failure patients. Depression has an inverse correlation with MMSE and was more frequent in patients with cognitive impairment. To consider these factors and treat them is fundamental for increase the adherence on educational process in these patients.

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Empathy, self-rated health and self-care in heart failure: Results of the MENSCH-NZ study

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Background: In heart failure (HF) care, patients and clinicians work in partnership to improve outcomes and self-care. Little is known about the potential impact of patient-perceived clinician factors such as empathy on self-care and self-rated health. Purpose: The aim of this observational cross-sectional study was to: (1) describe patients perception of empathy during consultation with clinicians in a nurse-led HF service that focusses on patient empowerment to self-care. (2) explore whether perceived empathy correlates with self-care and self-rated health.

Methods: In the Empathy, self-rated health and self-care in heart failure (MENSCH-NZ) study, we consecutively enrolled patients referred to two rural nurse-led HF services, at their discharge appointment, between May 2016 and July 2017. We investigated correlations between perceived empathy and self-care and self-rated health. Self-care was assessed using the European Heart Failure

Self-care Behaviour Scale (EHFScBS). The scale was adapted for clinicians to also estimate patients self-care skill (EHFScBS-C). The overall scale score range is from 0-100, with higher scores indicating better self-care. Self-rated and clinician-rated overall health was measured by asking the patient and clinician How do you rate your/their health in general?, using a 5-point Likert-scale. Empathy during consultation as perceived by the patient was captured using the Consultation and Relational Empathy (CARE) measure. Patient clinical and sociodemographic data were documented as part of the routine clinic appointment.

Results: Of all (n=120) patients, 40% were female, mean age 7111, 80% Caucasian, 20% Maori/Pacific Island ethnicity, 93% NYHA class I-II. 107 patients completed the CARE measure, 48 (45%) with the highest score (50). The median score was 49 (min 27) and 62% of scores were above the 90th centile, indicating a high level of perceived empathy. CARE scores were significantly correlated with patients self-care score (r=0.23, p=0.03) but not clinician estimated self-care score (r= 0.03, P=0.79). There was significant agreement between self-rated and clinician-rated overall patient health (weighted kappa=0.25, p=0.0005). Further significant correlations were observed between EHFScBS score and self-rated health (r= 0.38, p=0.0007), and EHFScBS-C score and clinician-rated overall patient health (r= 0.26, p=0.005).

Conclusions: A very high level of perceived empathy was observed in this cohort. Results may be confounded by social desirability as well as selection bias, as potentially mostly patients agreed to participate in the study who were satisfied with the service. The data confirm a positive correlation between perceived empathy and self-care as reported by the patient. Although only modest, this finding supports design of further, randomized interventional, research with larger samples that should focus on methods to strengthen an empathic relationship between clinician and patient.

Funding Acknowledgements: This research is supported by a grant from the Heart Foundation of New Zealand.

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My heart failure nurse is my checkpoint and my safety: a qualitative study on management of treatment burden among heart failure patients

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Background: Patients suffering from chronic heart failure has a demanding, complex treatment regime with daily self-management and self-monitoring of symptoms. Treatment burden may be described as the extra work delegated to the patients from health professionals. Patients experiencing burden not only from their illness but also from their ever-expanding health care regimens. Factors increasing treatment burden have been identified as demanding medication regimen, numerous medical appointments, barriers to accessing services, fragmented and poorly organized care, lack of continuity, and inadequate communication between health professionals. However, little is known about factors that influence how the patients handle or manage the treatment burden.

Purpose: To explore factors that influence heart failure patients management of treatment burden.

Method: A qualitative descriptive study design with semi-structured interviews involving 17 patients, NYHA class II-III (mean age 63, 11 male), recruited from a nurse-led heart failure outpatient clinic at a hospital in Western Norway. Data were transcribed verbatim and analyzed using systematic text condensation.

Results: The preliminary analysis revealed that factors informants experienced influenced management of treatment burden was represented by three major themes: (1) personal capacity, (2) social support and (3) coping strategies. The patients illustrated the first theme through three sub-themes: personal strength, motivation for monitoring and ability to adapt. The second theme was illustrated by the following sub-themes: essential support from health professionals, emotional support from next of kin and practical support from peers. In addition, the third theme was illustrated by three sub-themes: escaping reality, role change and setting new goals.

Conclusion: The findings indicate that the nurse-led outpatient clinic together with the support from next of kin and peers is important in patients ability to manage the treatment burden. In addition, the patients own personal capacity, his personal strength and ability to adapt, together with coping strategies may help to sustain difficult phases. To handle the complexity of treatment the patients express the necessity of regular contact with skilled health professionals to empower them and relieve their burden

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Do heart failure management programmes improve outcomes for patients with heart failure with preserved ejection fraction?

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Purpose: Managing Heart Failure with preserved ejection fraction (HFpEF) poses a number of challenges to health care professionals, due to lack of evidence-based therapy.

The aim of this review is to explore whether multi-professional or nurse-led management programmes for patients with HFpEF improve outcomes compared to standard care, and to determine the characteristics of the successful programmes.

Methods: Relevant terms were searched in Medline, EMBASE, CINAHL and Cochrane. Eligible controlled trials had to be fully published in English or Greek language from January 2008 to end 2017. Nurse-led or multi-professional programmes in primary/community care with a minimum HFpEF sample of 18% were included. Programmes focusing solely on telemedicine and care-home interventions, pharmacotherapy, exercise, end of life-care or providers were excluded. Quality of the studies was assessed using the Cochrane tool, and the AHA taxonomy was used to assess intervention intensity and complexity. Screening and data extraction process were carried out independently by at least two authors for each step.

Results: Sixteen studies fulfilled the inclusion criteria. Selected studies were heterogeneous in terms of methodology, intervention, follow-up and outcomes. Sample size ranged from 42 to 1360 and follow-up from 3 months to 3.8 years. The percentage of patients with HFpEF ranged from 18% to 100%, and studies used different values to differentiate reduced and pEF. Three studies provided information specifically for HFpEF, and two studies stratified results or used HFpEF as a co-variate. One study reported wider confidence intervals and less effect of the intervention for HFpEF. Most studies used standard care as comparator. Interventions varied but the majority were home-based, individualised with a combined approach of face to face and telephone contact. Education, self-monitoring and supportive care were the most common components; most comprised multiple contacts of significant duration. Four studies out of ten reported significant improvements in hospitalisations (all-cause, HF or combined). Five of ten studies showed significant improvement in quality of life for the intervention. Only two of seven studies observed a significant decrease in mortality favouring the intervention. Two thirds of the studies had improvements in at least half of the outcomes, however there is no clear pattern among those with significant improvements. The majority of the studies had at least some degree of bias.

Conclusion: The above HF management programmes share some common characteristics in their intervention strategy. Specific information regarding the effectiveness of interventions in patients with HFpEF was limited, and high level of study heterogeneity does not allow for clear conclusions and recommendations. High co-morbidity burden in this patient group and lack of evidence-based treatment may require different approaches from other HF management programmes.

Funding Acknowledgements: National Institute for Health Research School for Primary Care Research

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Heart failure patients perceptions of attending a programme in a day hospice.

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Background: Heart Failure is a chronic, progressive syndrome which is associated with poor prognosis (Whellan et al 2014). Patients and their families often lack support and direction as the end of life draws nearer, with limited clarity on the role of palliative care in this scenario. Integration of palliative care and heart failure specialities has been shown to have some benefit to the overall quality of life for patients and their relatives (Siouta et al 2016), yet the implementation of this lacks evidence base.

Aims: To evaluate the delivery a programme of support and education to heart failure patients within a day hospice.

Methods: An 8 week programme was delivered in a day hospice to people with heart failure who were nearing the end of life. The programme was delivered twice in 2014 and again in 2015, by palliative care nurses with the support of a heart failure nurse specialist. At the end of the programme all participants were interviewed within one week in their own homes by the lead author, to explore their experience of the programme and the environment in which it was delivered. Data analysis used Braun and Clarkes thematic analysis framework and involved the research team and members of the advisory committee.

Results: Twelve interviews were undertaken (six from each of the programmes) and lasted between 32 mins and 68 mins. Four overarching themes emerged. These were: positive emotional transference; uncertain future; the hospice environment and programme format.

Discussion: Participants enjoyed the social interaction and group approach to the programme. The delivery of the programme on a hospice site was seen as positive and an enjoyable experience. In general the participants evaluated the format of the programme well, however, all discussed how the programme made them aware of their future and decisions that had to be made by them.

Conclusions: Although participants identified positively the influence the programme and the environment had on their quality of life, they also discussed how uncomfortable decisions focused their minds.

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Belief in medication among people with chronic obstructive pulmonary disease and/or chronic heart failure

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Background: The burden of chronic conditions, including chronic obstructive pulmonary disease (COPD) and/or chronic heart failure (CHF) is high and estimated to be the leading cause of disability worldwide 2030. In chronic illness only about 50% adhere to prescribed medication. Person Centred Care (PCC) has shown to be an effective pillar to improve health and care in different healthcare contexts and conditions. The hypothesis in this current study was that PCC can be delivered also at distance to address present and future challenges in health care.

Purpose: The aim of this study was to evaluate the effect of a PCC intervention on beliefs about medicines in people with COPD and/or CHF.

Methodology: The design in this study was a randomized, open, parallel group intervention study where patients were eligible when they were hospitalized due to worsening CHF and/or COPD. Patients were asked before discharge about participation. Usual care group: Patients (n=118) randomized to usual care was managed by regular evidence-based treatment and care as outlined in treatment guidelines.

Intervention group: Patients (n=103) were phone-called 1-4 weeks after discharge by a dedicated registered nurse (RN) who had received special training in person-centred communication. A person-centred health plan was co-created by the patient and the RN, which was revised during additional follow-ups (as many as was agreed upon) by telephone. The beliefs about medicines questionnaire (BMQ-specific), consisting of two dimensions (necessity and concerns) was used as outcome measure and distributed to all study participants at hospital (baseline), and followed up at 6-months post discharge.

Results: The preliminary results in this study indicate that after 6-months the PCC group (n=64) improved significantly more (p= 0.028) in terms of less concerns about their medications, compared to the control group (n=80). No significant between group differences was observed in the necessity dimension (p=0.804).

Conclusions: Person-centred support through telephone reduces patients concerns about their medication.

Funding Acknowledgements: The Swedish Heart and Lung foundation and The Centre for Person-Centred Care at the University of Gothenburg (GPCC)

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Patient perspectives on person-centered nursing consultations when living with heart failure

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Background: Person-centered care (PCC) is an efficient and powerful approach in care for patients with chronic heart failure. However, knowledge about PCC in nursing consultations from a patient perspective is sparse.

Purpose: To examine patients expectations and experiences regarding participation in a PCC nursing consultation in a heart failure out-patient clinic.

Design: The study used a qualitative design. Data was collected through 1) group interviews with three patients before and after participation in a PCC consultation and 2) individual telephone interviews with 10 patients after participation in a PCC consultation. Interview themes and questions concerned the key elements in PCC; 1) initiating a partnership through the patients narrative, 2) working the partnership through shared decision-making and 3) safeguarding the partnership trough documentation. Systematic text condensation was used to analyse data.

Results: Four syntheses were identified: 1) Timely attention: calmness, presence, enough time, and space for relatives were preconditions for initiating a partnership. 2) Bringing up what matters an obliged balance: It was substantial that the patients had the opportunity to bring up what mattered to them in the consultation, but they were also dependent on the nurse actively participating and facilitating this process. 3) The nurse has to balance her professionalism: The nurse should be a professional authority contributing with expert knowledge and questions as well as provide patient-centered information in accordance with the individual patients need, perspective and situation. Trust in the nurses professional competence and continuity in the contact contributed to the patients feelings of being taken care of and having a partnership with the nurse. 4) Sharing documentation and plan is not a must: Safeguarding the partnership through involvement in the documentation process and receiving a transcript of the shared health care plan from the electronic patient record were neither necessary nor considered important by the patients. The patient record was deemed to be the health professionals tool.

Conclusions: The patient perspectives on PCC consultations are characterized by an asymmetrical power structure that nurses have to be aware of. Nurses should meet the patient with a receptive attitude, sensitive attention and act in a way that the patients opportunities for self-expression and room for action are expanded. Nurses should balance their power and authority, which requires an understanding of the reality of the patient and a focused attention on the patient by the use of senses, expert knowledge and clinical judgment in each specific situation. The PCC consultation enables patients to participate in the decision-making process on treatment and care, but not in

the documentation process, which patients did not consider important to be involved in.

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Using co-design to develop an intervention to improve communication about the heart failure trajectory and end-of-life care

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Background: There is a reluctance among health care professionals in HF care to talk about the HF trajectory and end-of-life care. Previous research focuses on the patients, family members and health care professionals perceptions of communication about the HF trajectory and end-of-life care, rather then evaluating and improving current practice.

Purpose: This study describes the development and feasibility testing of an intervention targeting to improve communication about the heart failure trajectory and end-of-life care.

Methods: Co-design was used where HF patients, family members and health care professionals were constructive participants in the design and development of the intervention. Feasibility testing, acceptability and limited efficacy, of the intervention included 16 health care professionals of which 3 were physicians and 13 nurses. Data were collected pre-post intervention, using questionnaires that were developed for this study.

Results: Two communication tools were designed and tested; 1) a Question Prompt List (QPL) for patients and family members and 2) a communication course for professionals which was web based with one training day with simulation. The QPL is a 7-page A4 booklet, containing 36 questions grouped into the topics: 1) Heart failure and what to expect in the future 2) Help and support at deterioration 3) End-of-life issues 4) Additional questions for the family members 5) Additional questions for the person with an ICD/CRT/PM. The learning goals of the course are for the participants to expand their knowledge about communication about the HF trajectory and end-of-life care, and to improve on their own knowledge, confidence and skills in communications.
The QPL is an important tool in the course, together with practical training with simulated patients (actors) and family members (volunteer course participants), where the participants practice using the QPL in a simulated conversation. Constructive feedback on their performance is provided by course leaders, the simulated patients and family members, as well as the other participants in the course. In feasibility testing of the two tools, the 13 nurses who finalized the communication course, reported improved knowledge, confidence and skills to discuss the heart failure trajectory and end-of-life care. The QPL was evaluated to be a useful tool in communication with patients and family members. None of the physicians finalized the last part of the course, for reasons not known.

Conclusions: The co-designed tools can be used as a dual intervention to improve communication about the HF trajectory and end-of-life care. The QPL can help patients and families to ask questions about these issues. The communication course can prepare the professionals to be knowledgeable, confident and skilled to discuss the questions in the QPL with patients and family members.

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Measurements of the lung impedance consistently reflect the dose of the diuretic

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Clinical problem: Clinical monitoring of pulmonary congestion can be challenging during patient transition from an acute to a stable phase. One of the applicable tools is a measurement of lung impedance (LI), providing the level of lung fluid. Importantly, LI composes only a small fraction of the total transthoracic impedance (TI). This patient case describes the ability of patients to use LI and the potential to adapt medication from a distance based on LI readings.

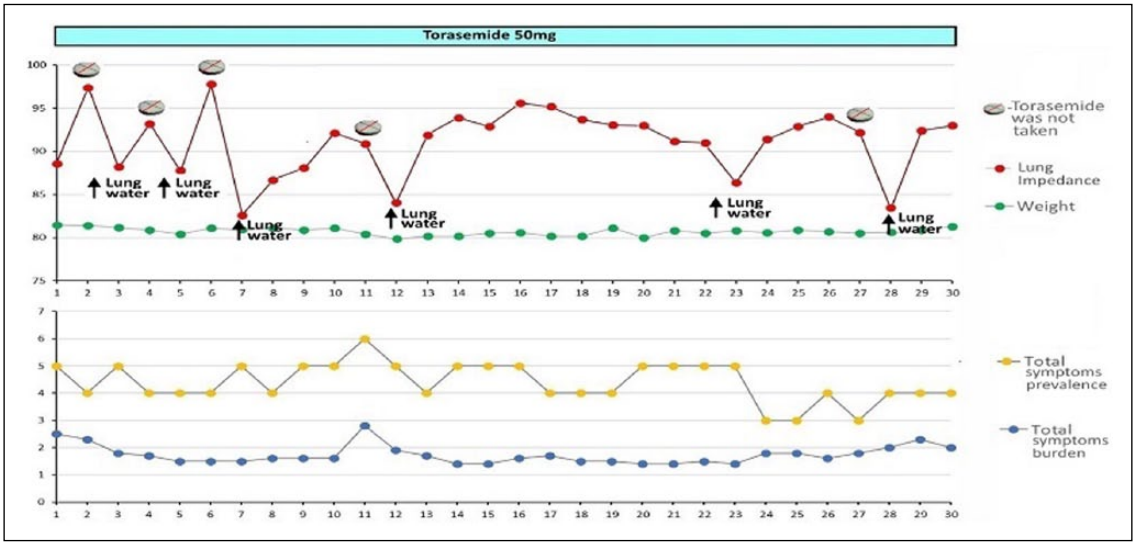
Technique for patient monitoring Edema guard monitor (EGM) is a high sensitive noninvasive device for the measurement of LI. EGM is based on an algorithm calculating the chest wall impedance that is the preponderant component of the total TI. Subtraction of the chest wall impedance from the latter yields the net LI, which is the impedance of interest. Decreasing LI values represent the increase of lung fluid. Measurements were assisted by caregivers putting three ECG electrodes on the front and three ECG electrodes on the back of the chest wall in the sitting position.
Case description: A 66-year old man with the history of chronic ischemic HF with reduced ejection fraction was followed 30 days after hospitalization due to acute

decompensation. Everyday assessments of LI by EGM, weight and symptoms using the Memorial symptom assessment scale-Heart Failure (MSAS-HF) were collected. On discharge the patients medications included metoprolol 50 mg q.d, spironolactone 25 mg q.d, zofenopril 30 mg q.d, zofenopril with hydrochlorothiazide 30/12.5 mg q.d, clopidogrel 75 mg q.d, rosuvastatin 20 mg q.d, ranolazine 750 mg b.i.d. Basic dose of torasemide was 50 mg q.d, initially prescribed every second day during the first week. In total, there were 5 days when the patient did not take torasemide at all, 3 days per recommendation and twice due to leaving the house. In the Figure 1 the high dependence of LI value on the use of diuretic can be clearly seen: each missed diuretic dose has caused the mean drop of LI value by 9 points, or 9.5% (maximal LI value was 97.8, minimal 82.6). The possible explanation could be that LI value accurately reflects the increase in congestion following after the day when the medication was not taken. Importantly, concomitant fluctuation of patients weight was negligible ranging between 0 and 500 g, mostly decreasing. Any association between decreasing LI and worsening patients clinical symptoms according to MSAS-HF was not noticed: means of symptoms prevalence increased by 0.8 whereas symptom burden value decreased by 0.32.

The Dynamics of lung congestion, weight, diuretic dose and symptoms are shown in figure.

Conclusion: High sensitive lung impedance measurements seem to response accurately to the changes in the dose of diuretics and, subsequently, to the degree of pulmonary congestion. Lung impedance measurements may represent much more sensitive tool for the monitoring after discharge compared to weight or subjective symptoms assessment.

Funding Acknowledgements: Nordic Programme on Health and Welfare Project no.: 76015



Dynamics of characteristics

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Management of patients with heart failure with preserved ejection fraction: What do patients and providers need and want?

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Background: Approximately half of patients with heart failure (HF) have heart failure with preserved ejection fraction (HFpEF), and are usually older with multiple comorbid conditions e.g. hypertension, diabetes. HF-specific medications used in HF with reduced ejection fraction have not been found to reduce mortality and morbidity in HFpEF. Primary care providers and patients may be uncertain about what can be done to best manage HFpEF.

Purpose: To explore patients and healthcare providers understanding of and perspectives on managing/self-managing HFpEF and comorbidities; to determine their needs and preferences related to care and support, and the feasibility of providing such care.

Methods: Qualitative study of a purposive sample of community dwelling patients with HFpEF, healthcare providers (HCP) and commissioners identified from primary care and specialist services in East of England. Semi-structured interviews were conducted face-to-face

or by telephone, transcribed verbatim and analysed using framework analysis.

Results: Interim analyses (13 patients and 11 HCPs) identified the following themes:

Symptoms / impact: Symptoms impacted on patients lives to varying extents, many contending with co-morbidities. Most experienced limitations with breathlessness or fatigue; some required assistance for activities of daily living (from informal carers).

Understanding of disease / diagnosis / terminology: Comprehension of diagnosis varied, some patients were unaware of the term heart failure some patients and HCPs disliked using it. The term HFpEF was not widely used by HCPs with patients and some patients lack information about HFpEF and self-management.

Treatment: All patients were on multiple medications. While some found this and follow up visits effortful, the majority accepted these as part of their treatment. No patients reported non-adherence.

Monitoring / support: Most patients were scheduled for cardiac related follow up, often by a secondary or tertiary centre. A minority of patients had support from a cardiac specialist nurse or access to supervised exercise programmes.

Communication: Some patients found it difficult to ask questions in the GP consultation due to time constraints. Most patients found copies of discharge letters useful when provided. Several older patients regularly used the internet for information and communication. GPs would like increased liaison with specialist providers around diagnosis, discharge arrangements and management.

Conclusions: We illustrate complexity in caring for people with HFpEF. Limited clarity and use of the terms heart failure and HfpEF may restrict communication between patients and providers and between providers. Our limited sample showed widespread variation in patient management and access to support. Findings will inform a research programme of optimised management for patients with HFpEF, to support clinical decision-making and management in primary care.

Funding Acknowledgements: National Institute of Health Research, School of Primary Care Research, United Kingdom, Funding round 13

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Exploration of heart rate variability response to a brief pain stressor in heart failure patients

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Background: Decreased or abnormal heart rate variability (HRV) is a risk factor for cardiac morbidity and mortality in persons with heart failure (HF) and in non-diseased adults. HRV is significantly reduced in HF and depression, reflecting the cardiac autonomic dysfunction present in these populations. Both time and frequency domain measures of HRV have been shown to be reduced in both acute and chronic pain.

Purpose: To investigate changes in HRV in response to a brief pain stressor in persons with heart failure, and whether anxiety and depression influence response.

Methods: Participants were 32 adult outpatients referred by providers at a Midwestern US university medical center and its clinics and a private hospital. Depression was measured using the PHQ9. Anxiety was assessed via the anxiety subscale of the Brief Symptom Inventory. Participants wore Holter recorders during the protocol. HRV was measured for each 1-min segment and averaged for the following periods: at rest (5 minutes), during anticipated pain (2 minutes), time of needle stick (one minute) and during recovery (5 minutes). HRV measures of interest were log-transformed SDNN (Standard Deviation of Normal to Normal beat) and RMSSD (Root Mean Square of Successive Differences), LF (0.04-0.15 Hz) and HF (0.15-0.5 Hz) frequency power. Subjects were classified as having high HRV (n=28) vs. low HRV (n=31) based on SDNN resting measures. Repeated measures mixed models tested for between groups differences at baseline and over time.

Results: Participants were aged 5611 (range 24-80) years, (22M, 10F). The majority (n=28) were White, and four were Black. All had a physician-established diagnosis of heart failure. N=15 were in New York Heart Association [NYHA] functional class) I or II, n=10 were in NYHA class III and n=7 were in NHYA class IV. Thirteen were current smokers and just over half (n=33) were former smokers. Higher levels of depression were inversely correlated with SDNN (p= .005). There were no significant differences between NYHA classes for LFnu and HFnu power. There was a significant main effect for time for the pain stressor. Controlling for age, there was a significant main effect of time for both HF and LF HRV, with a significant difference between baseline and time of pain, and baseline and recovery. For both LF and HF, there was a significant interaction between time and anxiety.

Conclusion: HRV has the potential to be a measure of autonomic response to nociceptive pain. Anxiety influenced HRV response to pain, but depression did not. Future research should focus on whether responding to anxiety in heart failure patients may likewise improve long-term prognosis for cardiac symptoms.

Funding Acknowledgements: TriService Nursing Research Program Grant N05-001, Center Grant

1P20NR010679 from the National Institute of Nursing Research, an American Association

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Awareness of the treatment team for palliative care in patients with congestive heart failure

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Background:. Heart failure (HF) patients, despite been similar to patients with malignant diseases in terms of symptom burden and mortality, seldom receive palliative care.

Objective: The aims of the study were to examine the perception of the medical and nursing staff regarding palliative care in patients with advanced HF.

Methods: Attitude questionnaires were distributed to 27 physicians and 25 nurses working in the cardiology department of a tertiary referral center with an advanced HF clinic during 2016.

Results: Physicians and nurses alike, were familiar with palliative care, agreed that there is a place for palliative care in HF and wanted to learn more about it but only 76% of the nurses as compared with 89% of the physicians knew about programs for palliative care in HF. Only 30% and 36% of the physicians and nurses respectively reported on having conversations with family members of a dying patient with the main aim of listening rather than give information.

Discussion: The general approach of physicians and nurses to palliative care in HF similar. There is a great need to deepen the knowledge and train the medical nursing staff in applying palliative care for HF patients.

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Influence of acceptance of the illness on the level of self-care ability in patients with heart failure

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An important factor influencing patients compliance with the therapeutic plan is acceptance of the illness. **Aim:** to assess the effect of the degree of acceptance of the illness on the level of self-care in patients with heart failure.

Methods: The study included 180 consecutive patients age over 60 years old (average age 72.77 7.98, 29.44% women) hospitalized due to treatment of the heart failure. In all, a validated instruments in Polish language were used: the 9-item European Heart Failure Self-care Behavior Scale (EHFScBS) and Acceptance Illness Scale. Depending on the acceptance of illness, patients were divided into three groups: group I low acceptance of the illness (8 patients); group II moderate acceptance of the illness (121 patients); group III high acceptance of the illness (51 patients). The data obtained were analyzed statistically. Differences were marked as significant if $p<0.05$.

Results: The average level of self-care ability of patients was 27.74 5.25 points (min. value: 15; max value: 45). Average value of acceptance of the illness was 26.84 4.08 (min. value: 16; max value: 37). In all variables except two (If I experience fatigue, I contact my doctor or nurse / I exercise regularly) differences between group was significant. Detailed results are presented in the table below. Negative significant correlations were found between self-care ability and the degree of acceptance of the illnesses ($r = -0.4662$, $p = 0.0000$).

Conclusion: Low level of acceptance of illness in patients with heart failure is connected with low level self- care ability.

Table 1. Results

9-EHFScBS	Acceptance of the illness			p
Variable	High	Moderate	Low	
I weigh myself every day	2.88 0.76	3.24 0.67	4.12 0.6	0.0001
If shortness of breath increases, I contact my doctor or nurse	2.86 0.87	2.97 0.75	4.00 0.75	0.0427
If legs/feet are more swollen, I contact my doctor or nurse	2.98 0.76	3.21 0.74	4.00 0.75	0.0013
If I gain weight more than 2 kg in 7 days, I contact my doctor or nurse	3.02 0.81	3.34 0.83	4.12 0.64	0.0071
I limit the amount of fluids (not more than 1.5-2 litres a day)	2.72 0.83	3.03 0.85	4.12 0.83	0.0004
If I experience fatigue, I contact my doctor or nurse	2.96 0.85	3.1 0.82	4.00 0.53	0.1039
I eat a low-salt diet	2.43 1.06	2.83 1.08	3.62 0.74	0.0001
I take my medication as prescribed	1.91 1.08	2.21 1.13	3.00 1.85	0.0002
I exercise regularly	3.784 1.06	4.16 0.88	4.75 0.46	0.1518
Level of self-care	25.55 5.27	28.14 4.65	35.75 5.01	0.0000

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Cardiomyopathy:exploring clinicians' and patients' experiences of diagnosis

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Purpose: Cardiomyopathies are characterised by structural and functional abnormalities of the heart muscle and are a major cause of morbidity and mortality. Little is known about the lived experiences of newly diagnosed patients, or their adjustment to life following diagnosis.

Participants: Adult patients with a recent diagnosis of cardiomyopathy alongside related NHS clinicians.

Methodology: This multi-method study uses a sequential explanatory design with multiple phases. Phase 1 explores clinicians experiences of the diagnosis processes. Phase 2 uses pre-validated questionnaires to assess patients quality of life and psychological wellbeing, during the early stages of diagnosis. Phases 3 and 4 explore the same patients initial experiences of diagnosis and the longer-term impact the diagnosis has on their life.

Preliminary Findings: Data collection for phases 1 and 2 are ongoing. A thematic analysis of clinicians interview data revealed four key themes thus far; clarity needed, patient needs, importance of language and holistic care. Preliminary findings indicate that clinicians perceive communication to be key to improving services.

Implications: This study will highlight the needs of newly diagnosed cardiomyopathy patients and that of their clinicians, with a view to informing future care provision.

Funding Acknowledgements: Liverpool John Moores Uninversity, School of Nursing and Allied Health

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Methodological quality of studies assessing validity and reliability of the European Heart Failure Self-care Behaviour Scale

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Background: Assessing self-care of patients with heart failure with a patient reported measurement is pivotal to plan and evaluate interventions aiming at fostering self-care behaviours in practice and scientific studies. One of the most used instruments is the European Heart Failure Self-care Behaviour Scale (EHFScBS). It has been translated in several languages and has been assessed extensively for validity and reliability. However, the quality of the studies assessing EHFScBSs validity and reliability has not been evaluated so far.

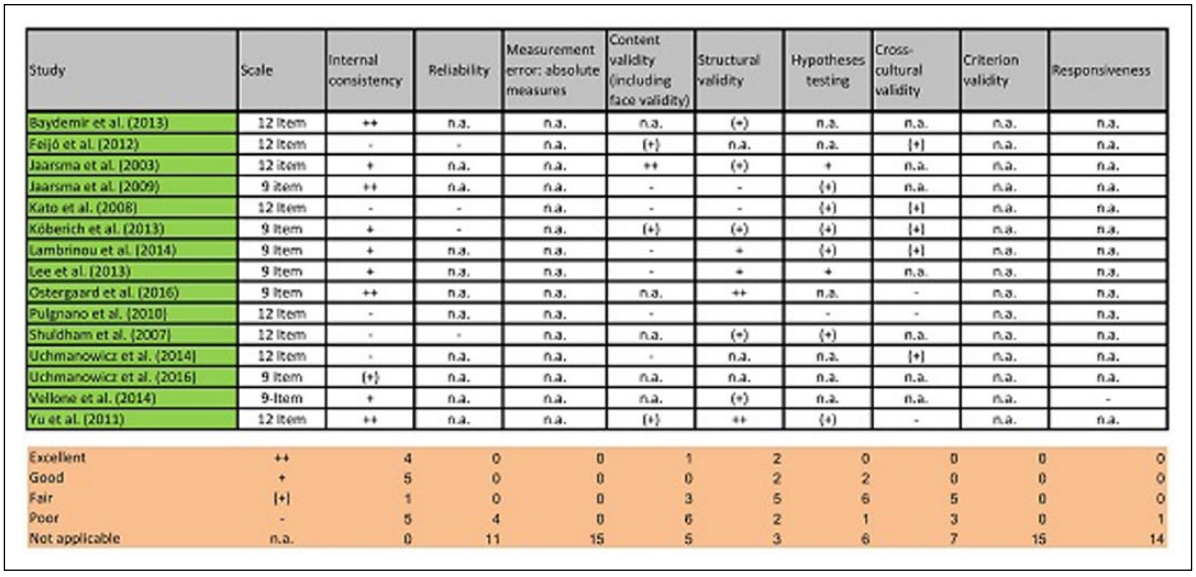
Aim: The aim of the study was to assess the methodological quality of the studies assessing validity and reliability of the 9-item or 12-item EHFScBS.

Method: First, a systematic literature search was conducted in CINAHL and Medline to identify studies assessing validity and/or reliability of the 9-item or 12-item EHFScBS. Afterwards, the methodological quality of the studies was assessed using the COSMIN-checklist, which assesses the quality of the reports regarding different aspect of validity (e.g. content validity, structural validity, hypothesis testing, cross-cultural validity) and reliability (e.g. internal consistency). Every aspect has to be rated as excellent, good, fair or poor. Two raters assessed every study independently. Differences in the assessments were discussed until consensus was reached.

Results: Fifteen reports about assessing validity and/or reliability of the EHFScBS have been identified through literature research and evaluated in this study (Fig. 1). Internal consistency (n=15), content validity (n=10), structural validity (n=12) and cross cultural validity (n=8) were the aspect most evaluated. Evaluation of the methodological quality according to the COSMIN-checklist shows that most aspects did not reach good or excellent in the studies. The methodological quality assessing internal consistency could be rated as excellent in four (27%) of the studies. Assessing content validity and structural validity was rated as excellent in one (10%) and two (18%) of the studies respectively. Content validity was the aspect in which 10 (60%) studies had a rating Poor. Aspect with predominantly fair-ratings were structural validity (n=5; 46%), hypothesis-testing as part of assessing construct validity (n=6; 67%) and cross-cultural validity (n=5; 63%)

Conclusion: There is a lack of appliance of rigorous methods in most studies testing psychometric properties of the EHFScBS. Using the EHFScB in future studies additional rigorours testing of validity and reliability should be considered.

Funding Acknowledgements: No funding



Study	Scale	Internal consistency	Reliability	Measurement error: absolute measures	Content validity (including face validity)	Structural validity	Hypotheses testing	Cross-cultural validity	Criterion validity	Responsiveness
Baydemir et al. (2013)	12 item	++	n.a.	n.a.	n.a.	(+)	n.a.	n.a.	n.a.	n.a.
Feijó et al. (2012)	12 item	-	-	n.a.	(+)	n.a.	n.a.	[+]	n.a.	n.a.
Jaarsma et al. (2003)	12 item	+	n.a.	n.a.	++	(+)	+	n.a.	n.a.	n.a.
Jaarsma et al. (2009)	9 item	++	n.a.	n.a.	-	-	(+)	n.a.	n.a.	n.a.
Kato et al. (2008)	12 item	-	-	n.a.	-	-	(+)	[+]	n.a.	n.a.
Köberich et al. (2013)	9 item	+	-	n.a.	(+)	(+)	(+)	[+]	n.a.	n.a.
Lambrinou et al. (2014)	9 item	+	n.a.	n.a.	-	+	(+)	[+]	n.a.	n.a.
Lee et al. (2013)	9 item	+	n.a.	n.a.	-	+	+	n.a.	n.a.	n.a.
Ostergaard et al. (2016)	9 item	++	n.a.	n.a.	n.a.	++	n.a.	-	n.a.	n.a.
Pulignano et al. (2010)	12 item	-	n.a.	n.a.	-		-	-	n.a.	n.a.
Shuldham et al. (2007)	12 item	-	-	n.a.	n.a.	(+)	(+)	n.a.	n.a.	n.a.
Uchmanowicz et al. (2014)	12 item	-	n.a.	n.a.	-	n.a.	n.a.	[+]	n.a.	n.a.
Uchmanowicz et al. (2016)	9 item	(+)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Vellone et al. (2014)	9-Item	+	n.a.	n.a.	n.a.	(+)	n.a.	n.a.	n.a.	-
Yu et al. (2011)	12 item	++	n.a.	n.a.	(+)	++	(+)	-	n.a.	n.a.
Excellent	++	4	0	0	1	2	0	0	0	0
Good	+	5	0	0	0	2	2	0	0	0
Fair	[+]	1	0	0	3	5	6	5	0	0
Poor	-	5	4	0	6	2	1	3	0	1
Not applicable	n.a.	0	11	15	5	3	6	7	15	14

Overview of methodological quality of th

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Intravenous iron reduces hospital readmission rates in patients with chronic heart failure

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Background: Heart failure is one of the leading cause of morbidity and mortality in cardiovascular patients. In the Republic of Ireland, seven per cent of all inpatient bed days are heart failure related.
Heart failure patients are frequently observed to be iron deficient, and the administration of intravenous iron for these patients is a currently a class IIa level A recommendation in the ESC Guidelines.

Purpose: The aims of this study were to
1. Identify patients enrolled in a specialised heart failure clinic who were both iron deficient and anaemic
2. Assess if improvement in iron stores served to reduce rates of admission.

Methods: Retrospective and prospective cohort analysis was conducted on all patients attending the regional heart failure service. Patient-level data was extracted from both electronic and written health records. Intravenous iron was administered to patients as per manufacturer specifications. Standard Bayesian statistics were employed to assess for associations within this cohort.

Results: Out of a total cohort of patients attending the heart failure service (n=178), 57 patients were both iron deficient and anaemic (32%). Following iron infusion. transferrin saturations were seen to improve in this cohort from 12.66 to 21.78 (wilcoxon ranked sum test p=0.00036). Rates of admission per patient for the 6 months before infusion were 2.29 and 1.00 following iron (p=0.01468).

Conclusion: The administration of intravenous iron was associated with a reduction in admission rates during the study period. Further numbers are required however to perform further multivariate analysis to control for confounders such as temporal biases.

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The adherence to therapy in patients with heart failure and diabetes mellitus: systematic review

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Objective: To examine the various factors that affect the adherence to therapy in patients with commorbidity of heart failure (HF) and diabetes mellitus (DM).

Methods: It is a systematic review survey. Search was done in the electronic data basis Pubmed, Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Cochrane Library, to locate studies, published in English language. Search was done from the beginning of July 2017 until the end of July 2017. The words ?adherence to therapy?, ?commorbidity?, ? heart failure?, ?diabetes mellitus? were used as key words in various combinations. Inclusion /exclusion criteria were pre-specified. Quality assessment was established using the EPHPP (Effective Public Health Practice Project) quality assessment tool.

Results: The search yielded five articles. Patients with HF and DM were less likely to receive smoking cessation counseling and blood pressure control during their hospitalization. Patients with severe HF were associated with lower diabetes prioritization and self-management scores. HF patients with DM experienced longer length

of stay in hospital comparing with those without DM and had increased all-caused rehospitalizations. Patients with diabetes and preserved ejection fraction(HFPEF) that were less likely to receive ACE inhibitor or angiotensin receptor blocker or beta-blockers had a worse blood pressure control, comparing with those with reduced ejection fraction(HFREF) and diabetes, who received the above substance classes.

Conclusions: DM patients with severely symptomatic HF may need more support in making decisions about setting care priorities and self-management activities. Programmes that consider the HF and DM patient empowerment seem to offer better adherence to therapy including improvements in many psychosocial and behavioral variables. HF patients with DM had higher risk of rehospitalization comparing with those without DM even thought they receive similar quality of care and had similar short-term mortality. Diabetic patients with HFPEF that received less HF medication had a poorer control of blood pressure as compared to DM patients with HFREF who receive HF medication.

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Reduction in rate of hospitalizations of patients with heart failure after treatment with sacubitril/ valsartan.

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Background: Heart failure is one of the leading cause of morbidity and mortality in cardiovascular patients. About 7% of all HSE inpatient bed days are heart failure related. We identified 19 patients enrolled sequentially for initiation of sacubitril/valsartan, a new treatment for heart failure, 12 male and 7 female, mean age 69 years old, and evaluated their clinical response to treatment.

Purpose: The purpose of the study was to determine if initiation of treatment with sacubitril/valsartan led to an improvement in clinical outcome in the following domains:

1) Reduction in hospitalisations with heart failure;
2) Improvement in NYHA functional class;
3) Improvement in echo derived ejection fraction.

Methods: We used the Hospital In-Patient Enquiry dataset to determine the number of admissions to hospital with heart failure 6 months prior and 6 months after commencing sacubitril/valsartan in our cohort. We reviewed echo reports and NYHA class of patients, as determined by experienced heart failure nursing staff, to determine any improvement in functional capacity and LV function.

Results: Admission rates fell from an average of 30 in the 6 months prior to initiation of treatment, to 9 in the six months after ($p<0.02$, Wilcoxon Rank sum test).

Echo-derived ejection fraction (EF) data was available for all 19 patients pre initiation of treatment, and for 14 patients in the follow-up period. The EF rose from 21% (SD 9.07) pre-treatment to 36% (SD 12.9) $p<0.0001$, paired t-test.

The NYHA class fell in 17/19 subjects from pre to post treatment ($p<0.0001$, Sign test), and fell by a median of 1 NYHA functional class.

Conclusion: Our data show that Sacubitril/ valsartan reduces hospital readmission rates for heart failure patients, and leads to improvements in symptom class and objective measures of LV systolic function.

Acute Heart Failure

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Decompensated heart failure

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Introduction: This case study presents a 68 years old man who had been diagnosed with heart failure (HF) NYHA stage III and LVEF40-45%. His medical history includes: coronary artery disease, hypertension and chronic renal failure. He underwent PTCA twice in 2017. He had repeated readmissions due to decompensated HF (DHF) for the last two months.

Since his last admission he has been taking: diuretics, anti-coagulants, ACE inhibitors and b-blockers daily and epoetin alfa 4000 units once a week.

Identification of the problem

A man showed up to the hospital with signs of acute pulmonary edema (APE). He was haemodynamically unstable with severe dyspnea and was transferred to the ICU for close monitoring. NIV (Non-invasive ventilation) was indicated due to acute hypercapnic respiratory failure (high PaCO2, low pH, and normal HCO3) (British Thoracic Society Standards of Care Committee, 2002). Medication in ICU included inotropes for haemodynamic stability and infusion diuretics. (Braid A., 2010)

During his hospitalization and after cardio-pulmonary stabilization, social issues and adherence to treatment revealed. The patient complained that his relatives do not response immediately to his escalating symptoms.

Questions and problems: Patient had a lot of re-hospitalizations due to DHF the last year. Nursing care

and management of the patient in the acute phase of APE included NIV, diuretics and inotropes. The care plan consisted of following main interventions: Close monitoring adjusting the treatment during the acute phase, recognition of the cause of decompensation and education of the patient and his family during recovery.

The nurse explained to the patient about NIV and the importance to be synchronized with the ventilator. A psychological assessment on the anticipating degree of compliance with the interface of the patient before applying the NIV showed the patient was anxious. Patient lied in 45 and was empowered to express his fears and concerns. Ventilation pressures started at low levels and were adjusted according patients tolerance and arterial blood gases. The nurse was checking for air leaks, was monitoring patients vital signs and his ventilator synchrony and his general condition. Six hours later the patient became stable and there was no need for applying the NIV again.

An important part of the nursing interventions was patients and his caregivers education on HF syndrome. Specialized nurses in HF, educated and counseled the patient and his caregivers, which found to be the key to ensure that patient fully understood the information included in the education process (Felter et al 2014). Important domains of the education were: the recognition and managemnt of decompensated symptoms, activity recommendations, indications and need for adherence to the therapy, self-care management behavior, diet recommendations and follow-up evaluations. Printed material on self-care techniques was provided [MEETinCy (ID: NCT01465308)].

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The prognostic role of right ventricle in non-acute coronary syndrome acute pulmonary edema

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Introduction: Ventricular interdependence and right ventricle(RV) function as etiopathogeny in Acute Pulmonary Edema(APE) has been a subject of interest in our days. It is known that a proper function of the RV favors the onset of an episode of APE in patients with Acute Coronary Syndromes(ACS) associeted with left ventricular dysfunction. What about RV role in APE outside of ACS?

Scope: To study the prognostic role of RV in patients with non-ACS APE and the correlation of the RV echo parameters with the early outcomes, in relation with ethiology.

Methods: 92 patients with non-ACS APE consecutively hospitalized in our clinic between 01.01-31.12.2015, distributed and analyzed according to three etiologies: ischemic, primary valvular and hypertensive(with preserved LVEF, without significant valvular or documented coronary artery disease). An echocardiography was performed on admission.We analyzed three RV parameters: Tricuspid annular plane systolic excursion(TAPSE), Pulmonary artery acceleration time(PAT), Right atrium-right ventricle pressure gradient(RA-RV PG).We identified the correlation of these parameters with in hospital mortality(IHM) in the entire group and according with underlying ethiology.

Results: In the whole group of patients all three parameters, in a univariate analysis, were statistically significant (SS) associated with IHM ($p<0.01$) with the following cutt of values(COV) at ROC curve: TAPSE<17 mm($p<0.01$), PAT<92ms($p<0.01$), RA-RV PG>41mmHg($p<0.01$). The prognostic value has been changed when was correleted with ethiology. Remained SS for hypertensive substrate TAPSE, PAT and RV-RA PG ($p<0.01$); for ischemic group TAPSE($p=0.01$) and PAT ($p<0.01$) and for valvular patients RV-RA PG($p=0.02$), all with the same COV as in the entire group.

Conclusions: In our non ACS APE patients group the RV had a significant prognostic role. Right ventricule dysfunction(TAPSE<17mm) and pulmonary hypertension(PAT<92ms and RA-RV PG>41mmHg) was significatly associated with in hospital mortality($p<0.01$). The prognostic value of this parameters was changed by ethiology. So, to look at RV is also very important in APE patients!

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Evaluation of nurses knowledge of heart failure management

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Introduction: Heart Failure is a major public concern in Ireland and its prevalence is increasing. Nurses play an important role in the management of Heart Failure and optimizing the patient care and therefore need to have a comprehensive knowledge about Heart Failure (Riley, 2014). The presenter works as Heart Failure CNS in a model 2 Hospital which serves a population of approximately 160,000 across South East Dublin and East Wick low. The presenter identified variation in care given by Registered Nurses to this cohort of patients, especially in assessment and management of Heart Failure.

Purpose: 1.To evaluate Nurses knowledge of Heart Failure management (topics evaluated : Assessment, Pharmacological and non Pharmacological interventions). 2.To describe the findings in relation to Nurses educational background ,years of experience and area of employment.

Methods: 1. Two validated questionnaires (Nurses knowledge regarding Heart Failure survey (Albert et al. 2002) and assessment questions from Advance Heart Failure Clinical Competence Survey (Goodlin et al. 2007))

were used to examine knowledge of 120 registered nurses. 68 of the 120 Nurses returned the completed questionnaire. 2. Statistical analysis(Mann Whitney U test,independent sample t test) was conducted to identify whether Nurses knowledge will vary according to their years of experience, education and area of employment.

Results: The results from this study reveal that Registered Nurses in a Level 2 Hospital had a mean knowledge score of 13.79 (SD=2.296) out of the 20 points. This translates to 68.5% and indicates a knowledge deficit regarding pharmacological and non-pharmacological knowledge of HF. The average correct score on advance Heart Failure basic assessment question was 55.64% for the entire group. This indicates that on average the group answered 6 questions correctly out of 11 questions (mean score of 6.121.54).

Conclusion: Nurses working in a Level 2 hospital demonstrated overall 55.64% knowledge score on assessment questions and 68.5% knowledge score on pharmacological /non pharmacological questions, which is significantly below the minimal level acceptable in order for nurses to deliver appropriate care to Heart Failure patients. There was no significant relationship identified between Nurses knowledge score on education, years of experience and area of employment. This study identified that Nurses working in Level 2 Hospital may not have satisfactory knowledge about Heart Failure Topics.

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What is life like for informal caregivers of people with heart failure?

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Background: The burden on caregivers of people with heart failure is huge, with caregivers tending to be female, aged over 60 years and with 2 or more health conditions of their own. Caregivers often suffer carer strain and carer burden. Furthermore, informal caregivers tend to have a poor understanding of the disease and medications and not knowing where to go to ask for help.

Purpose: To provide a better understanding of how informal caregivers of people with heart failure describe the caring role and how this impacts on their everyday life.

Methods: In 2017 a 3 phase study was commenced to explore the needs of informal caregivers of people with heart failure. Phase one involved exploring the views of informal caregivers, phase two exploring the views of health care professionals and phase three involves the analysis of the first two phases and to develop any intervention if required. The first phase involved interviewing caregivers about their role and experiences of undertaking the role. Early preliminary findings of the caregivers voice are presented here. Data analysis used Braun and Clarkes thematic analysis framework and involved three members of the research team and an informal caregiver from the advisory committee.
Ethical approval was granted to undertake the study.

Results: Eleven interviews (all female) have been undertaken to date (April 2017- date). Interviews have taken place in the caregivers own homes and have lasted between 38 mins and 65 mins. Three overarching themes have emerged from preliminary analysis. These are: socialisation into the role; personal sacrifice of the role and formalisation of the caregiver role.

Discussion: The informal caregivers identified the enormous change having a loved one diagnosed with heart failure has had on their own lives as a consequence. They often felt out of their depth and unclear on how they could help the person manage symptoms or medications or activities of daily living. They did not know who to ask for help. Many felt isolated themselves and described loneliness, yet also described an overwhelming need to care for the person, seeing this as their role and wanting to do it.

Conclusions: Participants in phase one identified the need for some support and/or information on how to manage in this caring role, including what to expect, how to help manage symptoms, medications and how to help with activities of daily living.

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Patient experience of physiotherapy input on a specialist heart failure unit

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Background: Acute heart failure care is recommended to be delivered by a multidisciplinary team, incorporating education, and advocating self-management and patient centred care. With this in mind in 2016 a specialist 11 bedded heart failure unit (HFU) was opened to cohort acute heart failure patients with the aim of improving outcomes in quality of life, 30 day readmission rates, and mortality. As heart failure is often associated with marked reductions in quality of life and high levels of debility, a full time specialist physiotherapist was funded to work as part of the multidisciplinary specialist team. The aim was to assess the impact of exercise education and early physiotherapy intervention on patient experience.

Methodology: Between June 2016 and January 2017, 69 patients completed an anonymous physiotherapy experience survey on discharge from the HFU. The survey was a combination of multiple choice answers as well as

having an option to provide written comments. Simple analysis of survey results was completed to evidence patient experience.

Results Of the patients surveyed, 88 saw a physiotherapist on the heart failure unit. Of those seen (n61), 95 felt they had a better understanding of how exercise could help their condition after input by the physiotherapist. 92 felt the physiotherapist respected them at all times, and 87 felt their views were somewhat or completely taken into account by the physiotherapist. 59 of responders reported the physiotherapist set specific goals with them during their stay, with a further 34 unsure. 25 of patients seen by a physiotherapist would not have expected to see a physiotherapist during their stay. 79 of responders felt physiotherapy helped them during their stay, with a further 15 unsure and 3 did not feel physiotherapy helped them. 75 were seen by physiotherapy most days (43) or every now and then (31) with only 8 of respondents feeling this was not enough.

Discussion: The results indicate physiotherapy input was well received by patients admitted to the HFU. Almost all patients surveyed felt they had a better understating of how exercise could help their condition on discharge. This will assist this patient group to self-manage their condition and improve long term quality of life. Input on the whole was deemed to be helpful and sufficient for patients. The patient group who will benefit most from exercise education are thought to be the higher level patients not previously seen traditionally at this institution who are returning to an active lifestyle after a significant deterioration in their exercise tolerance. An area to move forward with is to set clear patient centred goals to assist with patient motivation. Longer term assessment of quality of life should also be considered along with assessment of long term carryover of knowledge gained and how it has assisted with patients lifestyle change and self-management.

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Second chance for life or last resort against the cardiorespiratory failure.

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Introduction: Extracorporeal membrane oxygenation (ECMO) is an innovation Therapy, which gives a second chance at life to patients with refractory cardiogenic shock or acute respiratory failure patients. When there is a Medical-Surgical treatment failure in this patients this therapy is activated, which is made up of a highly qualified staff (Doctors and Nursing). Patients are connected to a device that operates like an artificial heart, artificial lung or artificial heart-lung. Depending on the pathology the blood would be or pump up or oxygenate or pump up and oxygenate, but all of them will have a termo-regulation for the blood.

Cardiac-Respiratory Pathologies: A fully closed veno-arterial cycle is created, which consists of a suitable blood pump, an appropriate blood heat exchanger and warming unit and a gas exchanger. All connected through canules and disposable materials. The main goal is to pump out and oxygenate.

Respiratory Pathologies: A fully closed veno-venous cycle is created. The dispositive will only warm and oxygenate the blood.

Generally, Patients with cardio Pathologies may be connected to the device for a few days or until other alternative is decided (transplant or long-term circulatory mechanical assistance), while the recovery in Patients with lung failure is slower (15 21 days). Childrens pathologies are similar. Cardiac Disease is due to congenital heart disorders and for serious infections when it comes from lungs disease.

Objective: (1) Give support to recovery, (2) Bridge-Transplant (If the recovery is not possible, it will pass the 0-code) and (3) Incorporate another long-term artificial support device.

Material and Method: A total of 15 patients (adults and children) were treated, 6 pulmonary patients and 9 cardiac patients, from January-December 2017 in our Service.

Result: Extracorporeal membrane oxygenations success remains a controversial point. 100% of patients die if they will not be included in this innovate program. Therefore, if only one life is saved, the program is a success.The result obtained by our service is within the international range. 66% of pulmonary pathologies and 55-58% of cardiac pathologies have survived.

Conclusions: It is second chance for life. Extracorporeal membrane oxygenations demand rises when professional have more information.The programs effectiveness and efficiency depend on all personnel (Doctors and Nursing) involved in it being well-informed and trained. Scientific investigation is a lifetime struggle in seeking solutions to major pathologies. Continuing vocational training in Nursing is thus essential to support the most innovate surgical techniques.

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Factors that influence mortality in patients supported by intra-aortic balloon pump in cardiac intensive care unit

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Introduction: The mortality rate in cardiac intensive care unit (CICU) increases over time.

Purpose: To explore the factors that influence mortality in patients supported by intra-aortic balloon pump (IABP) in CICU.

Methods: Between February 2014 and December 2017, a total of 54 patients admitted in the CICU of a tertiary, specialized cardiac surgery hospital. Patients medical history, IABP related variables and patient outcome was recorded.

Results: Mean age of the studied sample was 50.717.2 years and 66.7% (n=36) were male. As regards to their medical history, 11.1 % (n=6) had diabetes mellitus, 24.1% (n=13) had hypertension, 33.3% (n=18) had coronary heart disease, while 11.1% (n=6) had a history of peripheral vascular disease. Thirty three patients (61.1%) received IABP as a bridge to transplantation while 21 patients (38.9%) due to acute coronary syndrome. The duration of IABP therapy ranged from 1 to 110 days (mean 23.132.3 days). Regarding patients outcome, mortality rate in CICU was 34.8% (n=16). T-test analysis revealed that advanced age (>65 years) was the factor affecting CICU mortality along with blood urea nitrogen and serum creatine, ($p<0.005$). Prolonged length of stay in CICU, ejection fraction and other laboratory findings were not associated with CICU mortality.

Conclusion: Patient mortality in CICU seemed to be determined by factors like renal function; the early assessment and recognition of renal function deterioration is of high importance.

Risk Factors and Prevention - Other

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Self-care behaviours and self-efficacy of patients with coronary heart disease

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Background/Introduction: Coronary heart disease (CHD) requires healthy lifestyle and significant amount of self-care. Inadequate self-care frequently plays an important role in the development and management of the disease. Supporting patients in reaching optimal self-care is an important part of treatment and integral part of nursing, following coronary event. This is the first study of self-care behavior in Icelandic patients with CHD.

Purpose: To describe the self-care behavior and self-efficacy of patients admitted to hospital for CHD and its relationship with background factors.

Methods: Data was collected in the fall of 2017 from patients who were admitted to hospital, for acute or elective treatment of CHD. Self-care was measured with the Self-Care of Coronary Heart Disease Inventory (SC-CHDI), a 22 items instrument with three scales which measure self-care maintenance, self-care management and confidence (self-efficacy). Each scale is scored separately and standardized to scores of 0-100, with higher scores indicating better self-care and/or self- efficacy. Symptoms of depression and anxiety were assessed with the Hospital Anxiety and Depression Scale (HADS).

Results: (preliminary data analysis)
Patients (N=108, mean age 66 (SD 8.4), 78% male, 63% living in urban area) had higher self-care maintenance than self-care management (M 56.4 (SD 16.5) versus 46.3 (SD 21.7) and a confidence score of 48.3 (SD 23.8). Self-care maintenance was less in patients with depressive symptoms ($p=0.003$) and positively correlated with self-efficacy ($p=0.005$). Self-care management was positively correlated with self-efficacy ($p<0.001$). Patients living in urban areas had better self-care maintenance (M 60.0 (SD 15.0) versus 50.2 (SD 17.4), $p=0.005$) and self-efficacy (M 52.4 (SD 22.6) vs 40.4 (SD 24.6), $p=0.019$) than those living in rural areas. Self-efficacy was negatively correlated with age ($p=0.004$). There was no difference found in self-care behavior or self-efficacy between patients with recurrent vs first hospital visit for their CHD. Further results of relationship between self-care and background will be presented.

Conclusion(s): The self-care behaviors and self-efficacy of patients being treated in hospital for their CHD is not optimal and needs to be supported with follow-up after discharge. The difference in self-care found between patients living in rural vs urban areas gives reason to consider using telehealth to reach the rural patient population.

Funding Acknowledgements: The Research Funds of Landspitali University Hospital, The Icelandic Nurses Ass., Mara Finnsdttir and Akureyri Hospital

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Time orientation may affect cardiovascular disease risk counseling in south Asians

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Background:. Culture influences peoples perceptions regarding how cardiovascular disease (CVD) risk factors influence their own heart disease (or its potential). Time orientation is a culturally-bound cognitive process that people

use to contextualize and organize their life experiences. Healthcare providers tend to have a future orientation when discussing health and illness with patients. It is unclear whether this approach is useful with south Asian patients relative to European whites.

Purpose: We aimed to examine and document time orientation patterns of south Asian people residing in Canada, relative to European white counterparts.

Methods: Community-dwelling south Asian (100) and European white (100) people were surveyed using the Zimbardo Time Perspective Inventory (ZTPI). The ZTPI has five relatively sensitive sub-scales that can reveal past-positive, past-negative, present-hedonistic, present-fatalistic and future time orientations. A weighted score was calculated for each of the five time orientation sub-scales. The mean scores of the subscales and their ranking were compared between ethnic groups, ethnic and sex groups, as well as ethnic and age groups.

Results: South Asian participants were more likely male (p=0.011) and younger (<0.001) relative to whites. Most south Asians (72%) were born outside of Canada. The participants were generally well educated, with the majority in each group having greater than a high school education. South Asians had significantly higher past-negative (p=0.003), present-hedonistic (p=0.026), present-fatalistic (p<0.001), and future (p=0.033) orientation scores than whites. South Asian females had significantly higher past-negative (p=0.017) and present-fatalistic (p<0.001) scores than white females. South Asians >65 years had significantly higher past-negative (p<0.001), present-hedonistic (p=0.005), and present-fatalistic (p=<0.001) than white counterparts. Past-positive was the ranked highest by the greatest proportion of both south Asians (39%) and whites (66%). However, the distribution was significantly different between the ethnic groups (p=0.004). There were no sex differences in this ranking. However, younger south Asians (p=0.048) and older whites (p=0.036) were most likely to rank past-positive highest.

Conclusions: On the whole, south Asians in this study identified a higher future orientation scores than whites. It is possible that these immigrants to Canada represent a sub-group who are indeed more future oriented. However, older south Asians also demonstrated higher present-hedonistic and present-fatalistic scores than whites, representing a belief that they have less control over their future (self-efficacy). Similarly south Asian women also presented with scores representing less self-efficacy. It may be useful for healthcare providers to consider time orientation when discussing care with their south Asian patients and those of any ethno-cultural group.

Funding Acknowledgements: Guru Nanak Dev Ji DIL Research Chair

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The mental well-being of patients presenting with chest pain to a cardiac emergency ward.

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Background: Numerous patients visit cardiac emergency departments each year with chest pain. Cardiac emergency services evaluate whether chest pain is cardiac in origin and administer appropriate acute care. In many cases a medical examination will not find any signs of a cardiac disease, or other acute diseases, causing the chest pain. Non-cardiac chest pain (NCCP) can result from various physical or psychological factors, such as gastroesophageal reflux, anxiety, and stress. Patients with NCCP cause a considerable burden on cardiac emergencies.

Aim: To examine whether psychological factors are associated with cases of NCCP among patients presenting with chest pain to a cardiac emergency department (CED).

Method: A total of 507 patients (59% male, mean age 51.6 10.3) attending the Icelandic CED with chest pain were assessed on anxiety, depression, stress, health anxiety, burnout, somatic symptoms and Type D personality.

Results: In total 72% of participants had NCCP and 24% Coronary Artery Disease (CAD). Psychological variables were comparable between NCCP and CAD patients expect that NCCP patients scored higher on health anxiety and somatic symptoms. A quarter of NCCP patients had burnout (26%) and Type D personality (24%). In a logistic regression Type D personality (OR=3.12; 95%CI:1.26-8.48), gender (female; OR=3.49; 95%CI:1.86-6.85) and age (OR=0.91; 95%CI:0.87-0.94) were associated with NCCP.

Discussion: NCCP is prevalent among patients presenting with chest pain to the Icelandic CED. These patients bear a similar burden of somatic and psychological symptoms as cardiac patients. Patients who were younger, female and had a Type D personality were more likely to have NCCP.

Funding Acknowledgements: Icelandic Research Fund (152207-052). The science fund of Landsptali. (two grants, no grant numbers published)

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Effects of an intervention based on imogene king theory on health-related quality of life and work satisfaction in costa rican workers

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Introduction: Cardiovascular diseases are the main cause of morbidity and mortality rates in Latin America. Therefore, innovative approaches for cardiovascular disease prevention need to be explored for their possible contributions to health and quality of life. This is especially important in adult workers because they are exposed to cardiovascular risk factors in the workplace.

Purpose: To determine the effects of an intervention based on Imogene Kings conceptual model and the nursing process on health-related quality of life and work satisfaction in adult workers from a Costa Rican public institution.

Methods: A pre-experimental pretest-posttest design was used in this study. A convenience sample of 24 workers from 24 to 45 years, all from the same unit at a Costa Rican public institution. The intervention consisted of 4 individual face-to-face sessions in a 7 months period. The 4 sessions were distributed based on the nursing process phases: 1) assessment, 2) diagnosis, 3) planning/implementing and 4) evaluation. NANDA, NIC, NOC taxonomies were applied. Pre-test data was collected during the assessment session and post-test data was collected during the evaluation sesion. Main study variables were health-related quality of life (HRQOL) measured by SF-36, work satisfaction (WS) measured by S10/12, systolic and diastolic blood pressure, body mass index (BMI), and waist circumference (WC). Each individual nursing process was analyzed based on Kings conceptual model and the theory of goal attainment. A t-test for dependent sample was conducted and was compared by sex.

Results: Sample was constituted by 13 women and 11 men with a mean age of 38.
Most frequent diagnosis were readiness for enhanced self-care, Readiness for enhanced health management, stress overload. Most frequent NOC were Knowledge: Diet, and Physical Fitness and NIC were common goals setting-up and healthcare education.
In regard main variables, HRQOL in men improved significantly in the physical health dimension ($p<0.05$) and in scopes such as body pain ($p<0.01$) and general health ($p<0.05$) from pretest to post test. In women, even though there was an improvement in HRQOL, no statistical significance was reached. Moreover, in contrast to men, women had a significant reduction in WC ($p<0.05$), and an increase in intrinsec work satisfaction dimension ($p<0.05$). Blood pressure and BMI did not show a statistical difference from pre to post-test in both sexes.

Conclusion: A theory-based nursing intervention using a patient-centered nursing process that focus on personal goal attainment may be effective to promote cardiovascular health in workplace environments. The analysis of the Kings social, interpersonal and personal systems may of help for nurses to collaborate with individuals to modify or maintain a healthy lifestyle that impacts on health-related quality of life and work satisfaction.

Funding Acknowledgements: Universidad de Costa Rica

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Fear of death in acute coronary syndromes. Incidence and predictors.

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Background: Fear of death is one of the symptoms of acute coronary syndrome (ACS) the magnitude of this phenomenon and factors affecting its occurrence have not yet been well determined. The aim of this study was to investigate the prevalence of fear of death in patients with ACS as well as predictors of fear of death and factors that may affect its level.

Methods: The sample consisted of 72 patients aged 38 to 92 years, who were hospitalized for ACS and treated with PCI in interventional cardiology center We used a dedicated self-prepared non-standardized questionnaire which was filled in by patients and trained nurse. Fear of death was defined as the simultaneous occurrence of a patients fear and the thought of possible death.

Results: Fear of death was present in 25% of all enrolled patients. A tendency to feel fear of death was found for patients: with melancholic temperament type ($p=0.039$), with severe pain during myocardial infarction (weak pain: 11,1% vs. severe pain: 13,9%; $p=0.004$), with other additional symptoms (83,3% vs. no other symptoms: 16,7%, $p=0.013$), especially with dyspnoea ($p=0.045$) and gastrointestinal complaints ($p=0.05$) and with STEMI type ACS (STEMI: 13,9% vs. NSTEMI/UA: 11,1%; $p=0.032$). A trend toward feeling fear of death was observed for patients living in rural areas (rural: 18,1% vs. municipial: 6,9%; $p=0.2$). Analysis did not reveal statistically significant effects for sex, age, body weight and comorbidities.

Conclusions: Majority of patients with ACS do not feel fear of death while hospitalized for interventional cardiology procedures. The incidence of fear of death may be influenced by personal characteristics (such as temperament) and the intensity of the pain ora presence of additional symptoms such as dyspnoe.

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Anxiety and depressive disorders, life quality in patients with chronic heart failure

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Introduction: modern life conditions increase emotional stress and psycho-emotional disorders incidence and multiple clinical trials signify, that affective disorders can reliably worsen clinical and functional condition, decrease physical exercise tolerance and have negative influence on treatment compliance in heart failure patients. Wherein revealed anxiety and depressive disorders in chronic heart failure (CHF) several times above its frequency in population. So, these patients should be distributed in unique group with specific treatment and medical care.
Purpose of this study was to obtain the level of anxiety and depressive disorders in patients with chronic heart failure and their influence on life quality (LQ).

Methods: 152 patients were under observation (85 male and 67 female, mean age 65,912,8) with NYHA III-IV CHF. To detect and obtain the severity of anxiety and depression we used Hospital Anxiety and Depression Scale (HADS) and Spielberger scales, for LQ Minnesota Living with Heart Failure Questionnaire (MLHFQ) was used.

Results: according to the total index of HADS and Spielberger questionnaires anxiety and depressive disorders were revealed in 121 (79,6%) patients, 28 (18,2 %) of them had isolated anxiety, 32 (21,1%) isolated depression, and 61 (40,1%) had both anxiety and depression. Incidence of anxiety and depressive disorders among females was shigher than in males (92,5 vs 82,3%, p<0,05).
According to the scale of the Spielberger anxiety disorders were found in 50,7% patients, 68 (44,7%) had levels of both reactive and personal anxiety of moderate degree, 4 (2,6%) had moderate personal and high reactive, 1 (0,6%) - low personal and moderate reactive, and 5 (3,3%) - high both personal and reactive anxiety.
The MLHFQ score at patients with anxiety and depression disorders was 39,411,8 vs 63,811,2 at patients with anxiety disorders (p <0,01).

Conclusions: The anxiety and depression disorders at patients with CHF have high frequency and more often detected in female, the disoders associated with a significant decrease in LQ, the most significant of its deterioration observed in the combination of anxiety and depression.

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Overweight morbidity and its association with trait anxiety in males of open urban population

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Purpose: To state morbidity of overweight in open population and its association with trait anxiety (TA) in males aged 25-64 years of middle urbanized Siberian city.

Methods: Representative sample of adult males from one of the Tyumen administrative regions stratified by age was formed using mathematical method and random numbers tables. Criteria of including into the sample were males aged 25-64 years at the moment of study, registered and living in the Central administrative region of Tyumen (1000 people); respond to the cardiological screening was 85.0%. Overweight was defined based on the Quetelet index II or body mass index, calculated as per the formula: weight (kg)/height2(?2). Individuals with body mass index =25.0 were overweight. The Spielberger State-Trait Anxiety Inventory (STAI) consisting of 20 statements was used for TA estimation. TA was distinguished as low, medium and high; statistical significance of differences between the groups was determined by the Pearson Chi-square test with a confidence interval of 95%.

Results: Overweight morbidity was revealed in 66.4% of males of an open population; significant growth of this index in age was noticed in third-fourth life decade (51.4% - 73.7%, p<0.001). Morbidity of overweight, general population index, had significant differences with the same index in young age category of 25-34 years. Males aged 25-64 years had 36.6% of high TA morbidity and 55.8% of medium TA. Analyzing morbidity of TA in groups of overweight people associations with TA levels were stated. Thus, overweight morbidity was significantly higher in case of medium and high TA in comparison with low TA. At the same time overweight morbidity was higher even in case of medium TA relatively to its morbidity in case of high TA.

Conclusions: Thus, males of open urban population aged 25-64 in groups with overweight individuals had the prevalence of medium and high TA and this should be considered in developing scientific preventive programs in the region under study.

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Staying engaged in cardiac rehabilitation when stress makes it difficult - A patients perspective on what makes a difference

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Background: The author will present a case study of a patient (Pt A) a 63 year old married father of two adult children, who in June 2017 was referred to an acute hospital in Dublin with chest pain diagnosis STEMI. He had a Primary PCI 3 stents inserted, 2 to LAD (proximal and mid) and 1 to diagonal. No complications from procedure. As part of his care-plan he was referred to Cardiac Rehabilitation (CR).
During his pre CR assessment Pt A presented as very anxious. He completed the Hospital Anxiety Depression Scale

(HADS) and scored 16 (Indicating severe anxiety) and 9 (indicating mild depression). He struggled to engage in the CR Programme and initially did not attend significant parts of it, he himself identifying his stress and anxiety as the cause of this. Mr A appeared to be at significant risk of opting out. With support from the MDT, GP, his family and his fellow participants on the programme he re-engaged with the CR programme. This support was over the duration of weeks and by the time Pt A had fully re-engaged with the programme he had missed a large proportion of the programme. He was given the option of participating in the subsequent CR programme which he accepted and in this he fully participated and was able to offer support to other participants.

Conclusion: Previous research has shown that psychological distress makes completion of CR difficult. This case study examines Pt As perspective on his anxiety, CR and what factors empowered him to remain engaged with the programme

A multi-faceted approach in CR is beneficial in patients participation.

Methodology: Qualitative methodology. Case study

Funding Acknowledgements: none

On Behalf Of: self.

Reference:

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School to train cardiac patients implanted in the region of Andalusia: Spain

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Introduction: The Patients School is a program for training, exchange and mutual support in which the the patients who have been trained as experts, teach others. It came about through the objective to improve health and quality of life of those who have suffered a chronic illness. It is directed towards patients, family, care takers, professionals and patient associations. The patients, experts in their illness, teach others through personal experience accumulated during their health process.

Objective Improve the quality of life of people suffering from cardiovascular disease y making them capable of living with more information and training about care and self-care.

Material and Methods: An informative strategy is designed with patients: care takers, family, members of the cardiac association, general public, nurses, and cardiologists and an instructor from the School of Public Health; approximately 15 participants per session.

The patients are received from the hospital unit and outpatient visits. The program is initiated at the end of 2016. It is carried out in 2 different sessions and 2 distinct weeks. During the educational sessions they share experiences and knowledge through:

Written material, easy-to read audiovisuals, advisory videos, living with the illness, reflecting on how it affects their daily lives and what to do so that it affects their family relationships as little as possible, with their partners or treatment. Advice on diet, medication and physical exercise. The care takers transmit their knowledge and skills to other people who are beginning their treatment.

Large public participation, average aged 56.

Results: The care programs have demonstrated their efficiency in health improvement, quality of life, education between equals showing efficiency in the relationship between patients and professionals. Through training, the confidence in the Genera l Partitioning staff and Hospital staff and their medical visits have reduced 25%, as well as 51% hospital admissions by far.

Conclusion The care takers transmit their knowledge and skill to others who are beginning their treatment. The training strategy has had a positive impact on the use of health services and confidence in health personnel, detecting are for improvement from which recommendations are established. And the new information can be followed in Facebook, Twitter. The nursing department has a primordial role, as they are the professionals who the users feel closest to.

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Management of obesity as a risk factor in peripheral artery disease across countries: insights from the PORTRAIT Registry

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Background: Obesity, a major cardiovascular risk factor for PAD, is on the rise globally. However, the prevalence of obesity and its management among patients presenting with symptomatic PAD to specialty care clinics across countries remain unclear.

Purpose: To examine obesity rates, obesity management strategies, and 1-year >=5% weight loss rates in patients with PAD across countries.

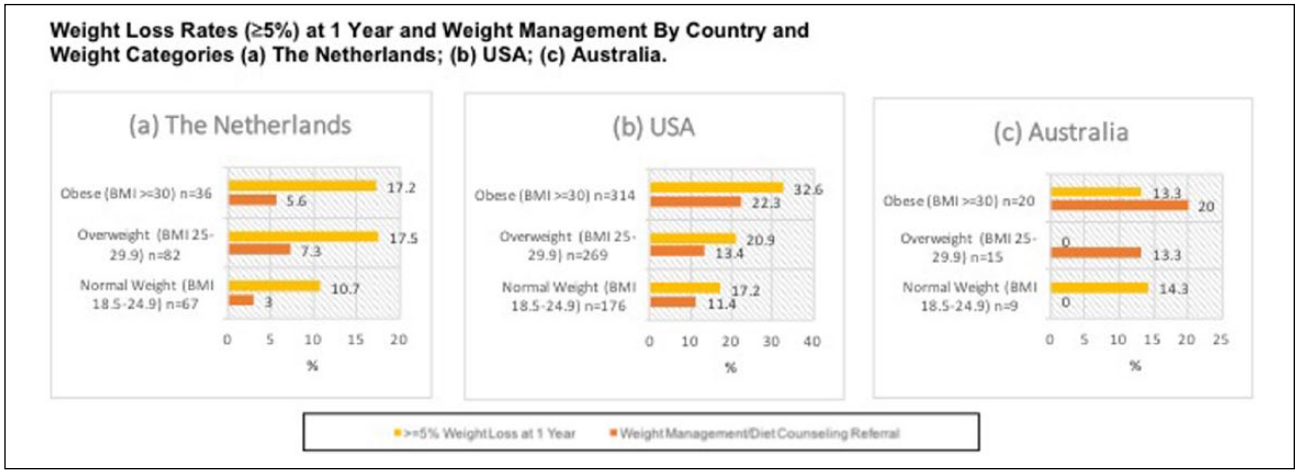
Methods: We enrolled patients presenting with new or worsening symptoms of PAD to 16 PAD-specialty clinics in the Netherlands, US, and Australia. Patients completed

interviews upon enrollment and 12 months later. BMI and weight management interventions at baseline were abstracted from patients medical records. Weight at 12 months follow-up was obtained from by patient interview.

Results: A total of 988 patients had weight information. Upon presentation, a total of 36.2%, 23.2%, and 20.5% had a normal weight (BMI 18.5-24.9) in the Netherlands, in the USA, and Australia, respectively. As for the overweight group (BMI 25-29.9), 44.3%, 35.4%, 34.1% of patients were categorized as such in the Netherlands, the USA, and Australia, respectively. Obesity (BMI >=30) was present in 19.5%, 41.4%, 45.5%, in the Netherlands, the USA, and Australia, respectively (Overall P-value <.0001). Referrals to weight management or diet counseling were underused across all countries (Figure) (P-value for interaction .0008). Weight loss >=5% over the course of 1 year was obtained in a very small minority of patients across countries (Figure) (P-value for interaction .0031). No overweight or obese patients were on FDA approved weight loss medications.

Conclusion: About 20-45% patients that presented with PAD were obese in our study, with another third being overweight. In this high-risk population, weight or diet management referrals were not routinely provided and less than a third of patients attained clinically-significant weight loss by 1 year. Pharmacotherapy for weight loss was not utilized among overweight/obese patients. Better weight and diet management strategies are needed as part of a successful risk-management strategy to optimize PAD management and outcomes.

Funding Acknowledgements: This research was funded through a Patient-Centered Outcomes Research Institute (PCORI) Award (CE-1304-6677)



Figure

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Nutritional food labelling awareness in the community

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Background: Diet is a modifiable risk factor for Cardiovascular Disease (CVD). Food labels (FLs) can help consumers to make informed and healthy dietary choices. However, FLs can be complex and confusing.

Purpose: The primary aim of this survey was to explore the awareness, understanding and use of food labelling in the prevention of lifestyle related disease in the community. The secondary aim was to encourage people to be more proactive in their nutritional choices based on enhanced food labelling knowledge.

Methods: This survey took place in Spring 2017 in a General Practice (GP) setting in the west of Ireland. A cross-sectional observational study design was used. A questionnaire was devised and piloted as a validated questionnaire was not sourced. During a one-month period, participants who attended the General Practice were invited to complete a questionnaire. Only persons aged eighteen years of age and older, who spoke English without the aid of an Interpreter, were invited and included.

Results: n=200 participants completed the survey. Mean age was 46 (16). Females read FLs more frequently than males ($p<0.005$). 56% (n=110) believed FLs were very important. Over 40% of males rarely or never read FLs. Participants with a higher level of education thought there was too much information about nutrition. Only 54% (n=107) reported they had a normal weight. There was no association between having an elevated cholesterol

level and always reading the fat content on the nutritional label (p=0.891). Taking anti-hypertensive medication was not associated with increased frequency of reading FLs (p=0.865) or salt content (p=0.524). Only 56% (n=31) of participants who had a family member with diabetes read the sugar and salt content on FLs. Most participants with CVD read about fat, however, only a third read about saturated fat, salt and fibre. Older participants aged up to eighty years read FLs. Most females read FLs before purchasing a product and read about sugar. Participants had difficulty analysing nutritional information and interpreting the Traffic Light Label (TFL). Most participants with CVD, diabetes or raised cholesterol were aware that the colour red was associated with an elevated level on the TFL. Overweight individuals read about carbohydrates, sugars, vitamin and minerals. Persons with food allergies read allergy information.

Conclusion: Like previous FL studies participants had difficulty understanding and interpreting FLs. Education and implementation of TFLs on the front of food packaging of all foods, in shops and on-line, may be beneficial for choosing healthy products. Food labelling needs to be improved especially for illiterate groups and people with colour and vision deficiency. The interpretation and appropriate use of FLs is poor especially in males and people with recognised CVD risk factors. Increased awareness of FLs is needed.

Funding Acknowledgements: No financial support was received

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Increased waist circumference is the main driver for the development of the metabolic syndrome in south african asian indians

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Introduction: There is no current evidence available on the prevalence of metabolic syndrome (MetS) in South African Asian Indians, who are at high risk for cardiovascular disease. The aim of our study was to determine the prevalence of the MetS in this group, between males and females, as well as in the different age-groups, using the harmonised criteria and determined the main components driving the development of MetS.

Design and methods: This cross-sectional study recruited randomly selected community participants between the ages of 15 and 65 years, in the community of Phoenix, in KwaZulu-Natal. All subjects had anthropometric variables and blood pressure measured, as well as blood drawn for blood glucose and lipids after overnight fasting. The MetS was determined using the harmonised criteria.

Results: There were 1378 subjects sampled, mean age 45.513 years and 1001 (72.6%) women. The age standardised prevalence for MetS was 39.9% and significantly higher (p <0.001) in women (49.9% versus 35.0% in men). The MetS was identified in 6.9% of young adults (15 24 years), with a four-fold increase in the 25-34 year olds, and 60.1% in the 55-64 year old group. Clustering of MetS components was present in all age-groups, but increased with advancing age. The independent contributors to the MetS were increased waist circumference, raised triglycerides and obesity.
This study highlights the high prevalence of MetS in this ethnic group and the emergence of MetS in our younger subjects. Urgent population-based awareness campaigns, focussing on correcting unhealthy lifestyle behaviours should begin in childhood.

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Acute myocardial infarction as a first time presentation of coronary artery disease in Poland in 2014-2016.

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Introduction: Acute myocardial infarction may be the first manifestation of coronary artery disease (CAD). The aim of this study was to compare demographics, past medical history and angiographic presentation of patients with myocardial infarction as a first or subsequent manifestation of CAD.

Methods: Patient with STEMI or NSTEMI treated with PCI were enrolled to this registry study in Poland in 2014-2016 (the national ORPKI registry).

Results: There were 123 965 patients who fulfilled inclusion criteria. Acute myocardial infarction as first CAD presentation was diagnosed in 77% of cases (Table 1).

Conclusions: Patients with acute myocardial infarction as first CAD manifestation constitute ca. 75% of all cases and are characterized by lower mean age, more frequent female gender and cigarette smokers. These patients are also prone to more frequent use of radial approach and are characterized by single vessel disease in angiography. The time from pain onset to angiography was significantly (by ca. 2 hours) lower in patients with first CAD manifestation.

Table 1.

	First manifestation of CAD	Subsequent manifestation of CAD	p
Age [years]	66 +/-12	69 +/- 11	<0.001
Gender - females	34%	30%	<0.001
Time from pain onset till angiography [min] - median	390	538	<0.001
Diabetes mellitus	19%	33%	<0.001
Smoking	28%	20%	<0.001
Arterial hypertension	61%	77%	<0.001
COPD	2%	4%	<0.001
Femoral access site	27%	36%	<0.001
1-vessel disease in angiography	46%	30%	<0.001

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Contemporary demographics and prevalence of cardiovascular risk factors with a special focus on age and gender in patients with myocardial infarction treated with PCI in Poland in 2014-2016

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Introduction: The prevalence of cardiovascular risk factors and comorbidities in patients with acute myocardial infarction, which may have direct impact on longterm outcome, has changed in Poland over the years. Previous studies in this population have detected differences with regard to age and gender. The aim of this study was to analyse contemporary prevalence of risk factors and comorbidities in patients undergoing PCI procedures for acute myocardial infarction in Poland.

Methods: Patient with STEMI or NSTEMI treated with PCI were enrolled to this registry study in Poland in 2014-2016 (the national ORPKI registry).

Results: We identified 123 965 patients fulfilling inclusion criteria. Women constituted 14% (<40 years), 20% (40-59 years), 34% (60-79 years) i 55% (>80 years) of the study population (p<0.001). There were 16% of patients aged 80 and more in our study group. Detailed information is presented in Table 1.

Conclusions: The overall percentage of women treated with PCI for acute myocardial infarction increases with age and in group of 80 years and older they constitute over half of patients. One in six patients treatd by PCI is older than 80 years. We observed a decrease of frequency of smoking habit (especially in women) and weight with age while an increase of diabetes and renal failure was observed in the elderly. The median time from pain onset to first medical contact was significantly higher in women regardless of age group with a mean of 3.5 hours in women over 80 years.

Table 1.

	< 40 years F M	40 - 59 years F M	60 - 79 years F M	>80 years F M
Diabetes mellitus	11% 6% *	16% 13% *	31% 22% *	31% 24% *
Cigarette smoking - current	45% 47%	40% 43% *	18% 26% *	3% 10% *
Arterial hypertension	34% 36%	59% 56% *	72% 66% *	74% 69% *
Prior stroke	1.5% 0.3% *	2% 1.5% *	4% 4%	6% 7%
Chronic kidney disease	3% 1.5%	2% 1.5% *	6% 5% *	12% 14% *
Weight [kg]	75 89 *	74 87 *	74 83 *	69 77 *
Time from pain onset to first medical contact [min]	144 135	168 150*	180 180 *	220 180*

* p<0.05M - malesF - females

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Nurse led clinic for secondary prevention of patients post percutaneous coronary intervention

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Background: Nurse-led clinics have been developed in multiple healthcare specialities in recent years. Patients treated with percutaneous coronary intervention (PCI) require continuity of care after discharge which includes education and aggressive follow up management of their risk factors to reduce cardiovascular mortality and events. A dedicated nurse-led PCI clinic offers a great opportunity to intervene in a timely and detailed manner.

Purpose: To assess efficiency of nurse led PCI clinics at identifying cardiovascular risk factors and intervening if appropriate.

Method: A retrospective review of parameters recorded at each clinic appointment from January 2015- December 2017. The data of 1325 patients were examined for baseline characteristics, interventions at their PCI clinic visits and patient satisfaction.

Results: Between January 2015- December 2017, 1325 patients attended an appointment in a nurse-led clinic at 6 weeks following PCI. The average length of a clinic appointment was 20 minutes. The mean age was 64 years and 78% of the patient cohort were males. The main indications for PCI were ST elevation myocardial infarction (STEMI) in 22.79%, non STEMI in 21.89% and angina in 43.09% of patients. Compliance with dual anti-platelet therapy (DAPT) was high at 1296 (97.81%) patients taking DAPT at six weeks. 182 (13.74%) patients were known to have diabetes mellitus (DM) and 76 (5.74%) patients had a new diagnosis of DM after measuring their HbA1C level. At the clinic appointment, 473 (35.70%) patients had pharmacological intervention which included change in dose, addition or discontinuation of medications. 57.58% of patients did not have pharmacological intervention but were offered lifestyle advice or non-pharmacological intervention, which included information on diet, exercise and smoking cessation. 712 (53.7%) patients had LDL-C above the recommended target level and their statin therapy was amended accordingly. 98.1% of the patients were happy to be reviewed by a nurse in the clinic and were satisfied with the service and the length of the appointment.

Conclusion: The nurse-led PCI clinic is a structured and efficient service that provides quality care for patients post PCI. These clinics offers satisfactory assessment and management of cardiovascular risk factors post PCI with a high level of patient satisfaction evident.

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Absolute cardiovascular disease (CVD) risk estimation within a consumer-focused eHealth programme

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Background: Absolute CVD risk estimation uses cohort-derived equations comprising several risk factors to assess an individuals probability of experiencing a CVD event over a particular time period. It is used in most guidelines internationally to inform management decisions. Risk estimation is also commonly used by health professionals to counsel patients about risk factor management, with the intention of positively influencing health-related behaviour.

Purpose: To explore perceptions of personalised, interactive risk estimation within a patient-facing multi-feature eHealth application (Fig. 1) for patients assessed at moderate to high absolute CVD risk.

Methods: Mixed methods study of participants in the intervention arm of the Consumer Navigation of Electronic Cardiovascular Tools (CONNECT) randomised controlled trial. Survey with 22 questions (Likert scale, n=10; categorical responses, n=6; multi-response, n=3; open-ended, n=3). Interview and focus group discussion guides included three open-ended questions exploring perceptions of the interactive risk estimation display. Focus groups and interviews were recorded, transcribed and thematically analysed.

Results: We obtained survey data (n=257, 91% response rate) and conducted individual patient interviews (n=18) and three focus groups (n=19). In total, 58% of survey respondents reported that the interactive risk estimation dial (see Figure) helped them understand how changing risk factors would affect their overall risk. However, only 10% of respondents reported the risk dial as the most useful feature within the overall programme, and 22% reported not using the dial. Mixed views were expressed in the qualitative data. Among those who reported engaging with and liking the risk score feature, themes identified were that the information created motivation; knowledge of risk encouraged goal-setting; seeing risk reduce over time was effort rewarded and personally satisfying; and visual representation communicated information effectively. Amongst participants who described drawbacks, themes identified were the perception of the score being too general and therefore less personally applicable; absence of family history in the score reducing the sense of personal relevance; distrust in the accuracy of the score in isolation

from other diagnostic information; frustration when an improved risk factor value minimally improved the risk score, creating a sense of futility; and perception of the score as frightening and limiting participation in everyday activities.

Conclusion: An interactive, personalised CVD risk score calculation was perceived as useful by many people with elevated risk, and has potential to motivate healthy behaviour. For others, such tools may lack the specificity to be of value and other strategies are likely necessary. Further research is needed to develop strategies that engage all who could benefit from estimation of their absolute CVD risk and actions to reduce it.

Funding Acknowledgements: The study is funded by the Australian National Health and Medical Research Council (Grant ID 1047508).

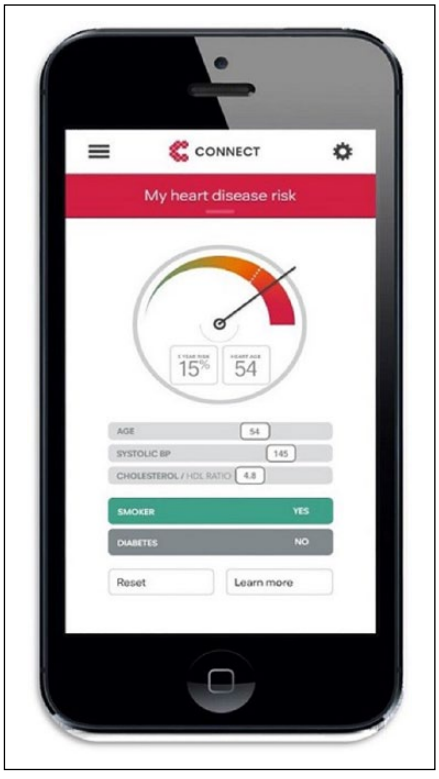


Fig. 1 Absolute CVD risk score interface

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Reducing delay in patients with Acute Coronary Syndrome and other time-critical conditions: a systematic review to identify the behaviour change techniques associated with effective interventions

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Background: Time to treatment in many conditions, particularly acute coronary syndrome is critical to reducing mortality. Delay between onset of symptoms and treatment remains a worldwide problem. Reducing patient delay has been particularly challenging. Embedding behaviour change techniques (BCTs) within interventions might lead to shorter delay.

Purpose: To identify which BCTs are associated with reductions in patient delay among people with symptoms or conditions where time to treatment is critical.

Methods: Data sources: Cochrane Library, MEDLINE, EMBASE, CINAHL and PsycInfo
Study eligibility criteria: Intervention evaluations (RCTs, controlled clinical trials and cohort studies) involving adults (aged >18yrs) and including an outcome measure of patient delay up to Aug 2016.
Study appraisal and synthesis methods: Potential studies were screened using a transparent, replicable process. Study characteristics, outcomes and BCTs were extracted from eligible studies.

Results: From 39 studies (200,538 participants), just over half (n=20) reported a significant reduction in delay. 19 BCTs were identified plus 5 additional techniques with a mean of 2 (SD=2.3) BCTs and 2 (SD=0.7) per intervention. No clear pattern between BCTs and effectiveness was found. In studies examining patient delay specifically, 3 of 4 studies that included two or more BCTs in addition to the two most commonly used additional techniques reported a significant reduction in delay.

Conclusions: Around half of interventions to reduce prehospital delay with time-critical symptoms report a significant reduction in delay time. It is not clear what differentiates effective from non-effective interventions although in relation to patient delay particularly, additional use of BCTs might be helpful.

Funding Acknowledgements: Chief Scientist Office CZH/4/1025 221668

On Behalf Of: RAPiD study group.

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Documentation and follow up of anthropometric measurements of hospitalised patients

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Background: Obesity has quickly become a grim epidemic for Irelands nation. It contributes to a 30% increase in overall mortality and is instrumental in many debilitating co-morbidities. Correctly identifying obesity permits access to mortality-reducing interventions. However, a dearth

of information exists surrounding the documentation of anthropometric measurements and follow-up care for those identified as overweight or obese.

Purpose: The aim of this research was to determine the frequency of in-patient obesity screening undertaken by healthcare professionals (HCPs). The studys objectives were to evaluate the percentage of patients with documented anthropometric measurements, a diagnosis of overweight or obesity and to explore if management options are offered to those identified as overweight or obese.

Methods: A pilot retrospective chart review was conducted. Data were collected from a stratified random sample of medical and surgical healthcare records of in-patients admitted to an Irish university teaching hospital during the calendar year 2016. The study used a pro forma to analyse variables such as: anthropometric measurements, obesity-related management recommendations and patient demographic characteristics.

Results: A total of 57 healthcare records were analysed. Of these, 37 (64.9%) had weight only, six (10.5%) had both weight and height and one (1.8%) had a Body Mass Index (BMI) recorded. No chart had a documented Waist Circumference (WC). During the set time period, ten (17.5%) in-patients were readmitted. Of these, five (50%) had their weight re-recorded and none had repeat height, BMI or WC measurements recorded. Nurses documented weight more often than doctors (p-value=0.038). In-patients with Cardiovascular Disease (CVD) were significantly more likely to be weighed than those without CVD (n=23, 62.2% versus n=14, 37.8%; p-value=0.05). There was no documented overweight diagnosis or treatment intervention offered to a patient with a recorded BMI of 29kg/m2.

Conclusion: Despite its importance as a public health priority, rates of documented obesity screening were sub-optimal. Nonetheless, such rates can be used to track HCPs improvement in obesity diagnosis and management in future studies. Thus, clinical-based interventions should target enhanced diagnosis as a first step toward improving care for overweight and obese patients.

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Coaching patients on achieving cardiovascular health (COACH): reducing the treatment gap between indigenous and non-indigenous Australians

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Background: Cardiovascular disease is the largest cause of death for Indigenous Australians that accounts for almost one quarter of the life expectancy gap between Indigenous and non-Indigenous populations.

Purpose: To compare changes in the cardiovascular risk factor status of a matched sample of Indigenous and non-Indigenous patients enrolled in The COACH Program; a telehealth program targeting cardiovascular risk reduction.

Methods: Indigenous and non-Indigenous coronary heart disease or diabetes patients (n=492) were matched on age, gender and principle diagnosis. Discrete variables were analysed via odds ratios (ORs), ?2 analysis or McNemars test.

Results: For Indigenous and non-Indigenous participants significant improvements in cardiovascular risk, from entry to graduation of The COACH Program, were found across: total cholesterol (Indigenous 32% to 59%, p<0.001; non-Indigenous 41% to 61%, p<0.001), LDL cholesterol (Indigenous 18% to 33%, p=0.041; non-Indigenous 28% to 52%, p<0.001), and physical activity (Indigenous 55% to 86%, p<0.001; non-Indigenous 57% to 78%, p<0.001). However, for smoking (OR=2.08, p< 0.001) and alcohol consumption (OR=2.95, p<0.000) Indigenous participants had higher rates than non-Indigenous participants at Program graduation, also Indigenous female participants recorded significantly higher total cholesterol to HDL cholesterol ratios than their non-Indigenous counterparts (x=3.84 vs x=3.30, p=0.002). Otherwise no significant differences were found between Indigenous and non-Indigenous patients on cardiovascular risk.

Conclusion: The COACH Program has shown to be beneficial in its ability to reach rural and remote communities. The potential to further reduce Indigenous disadvantage may lie in adapting the COACH Program to be more specific to the Indigenous context; cultural sensitivity and appropriateness.

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Clinical profile of young patients with acute myocardial infarction in durres district.

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Background: Acute Myocardial Infarction (AMI) is a relatively unusual phenomenon in young subjects (under 45 years old) and its incidence varies between 2% and 10%. This population is of particular interest because of the long life expectancy.

Purpose: The objective of our study was to determine the frequency of risk factors and in hospital outcome in young patients me AMI.

Methods: We enrolled in the study 499 patients consecutive with AMI admitted in cardiology department from October 2011 to October 2014.The baseline characteristics, traditional risk factors for CHD and in-hospital outcome were analyzed for all consecutive patients under 45 years of age. Statistical analyses were performed with SPSS 16.0. P value of <0.05 was considered statistically significant.

Results: Of 499 patients with AMI, 19(3.8%) belonged age group under 45 years old.The mean age was 39 yrs 0.87. Of them 2(10.5%) were female and 17(89.5%) were male. The young patients with AMI were male (89.5%), hypertensive (63.1%), had a higher percentage of history of smoking (63.1%), obesity (63%), higher levels of cholesterol (73.6%) while diabetes were less represented. The young patients represented with = 3 risk factors (42.1%) and =4 risk factors (15.8%). More frequently had an AMI of inferior localization (63.1% vs 36.8%), a higher percentage of rhythm disorders (15.7%), a few of them had pulmonary edema and congestive heart failure (3.2%). A significant proportion of young patients underwent coronary angiography (57.8%) and revascularization (100%). In hospital mortality were higher (15.7%).

Conclusions: The young patients with AMI were male, had a higher incidence of hypertension, smoking, obesity and hypercholesterolemia. Most of them had = 3 or 4 risk factors. The risk of in hospital mortality were higher in this age group. Regarding the long life expectancy of this age group population, these observations are important for primary prevention of such diseases in our district.
Key factors. Risk factors, young patients, outcomes, acute myocardial infarction.

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The results of intensive therapeutic monitoring program for patients who underwent extensive surgical interventions in a multidisciplinary hospital

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Introduction: surgery of large volume in patients with combined therapeutic pathology has a high risk of postoperative complications, in the first place - cardiac complications.
The aim of the study was to reduce the incidence of non-surgical complications in patients undergoing radical cystectomy.

Methods: from December 2011 to August 2017, 67 patients underwent surgery for musculo-invasive bladder cancer at the University Clinic of Urology of the City Clinical Hospital N1 named after N. I. Pirogov in Moscow. All patients were divided into two groups: 1-st group (n = 44) - patients who underwent radical cystectomy in the period from 2011 to 2015, 2-nd group (n = 23) - patients operated from 2016 to August 2017 included in the program of preoperative preparation of patients. The program consisted of assessing pre-operative cardiac risks, cardiac examination of patients, correction of drug therapy, and post-operative therapeutic monitoring in the settings of resuscitation and urology departments. Data are presented as median (Me) and interquartile range (25% and 75% percentile). Patients in the two groups did not differ significantly in age (67.5 [61.5-74] and 65.5 [62-71], p = 0.74), BMI (27.5 [24-31] and 26, 5 [24-29], p = 0.6), indices of Lee (0,9 [0,4-6,6] and 0,9 [0,9-6,6], p = 0,57) and Gupta (0.45 [0.41-0.51] and 0.44 [0.34-0.5], p = 0.29). Among the patients of the 1-st group were 31 men and 13 women, in the 2-nd group - 19 and 4, respectively. The main end points (cardiac death, acute myocardial infarction, acute cerebrovascular accident, pulmonary embolism) were evaluated within 30 days.

Results: in the retrospective group, 7 patients died during the 30 days after surgery (3 due to acute myocardial infarction developed in the postoperative period, 2 due to pulmonary embolism, 1 due to MI, 1 due to acute heart failure). In the group of patients included in the active monitoring program, 2 patients died (in both cases, sepsis and surgical complications were the cause of death). There were no cases of cardiac death. In one case, thromboembolism of the pulmonary artery was diagnosed, in another one - acute coronary syndrome, which required the stenting of the coronary vessels. When assessing additional endpoints, a significant decrease in the duration of hospitalization in the second group was revealed (20 [17-25] versus 9 [7-18], p = 0.0006), as well as the length of stay in the intensive care unit (5 [3,75-7] against 2 [2-2.25], p = 0.0001).

Conclusions: Thus, the introduction of a preoperative preparation program and active therapeutic post-operative monitoring led to a reduction in the incidence of cardiac death and duration of hospitalization in patients undergoing extensive surgical intervention.

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Determining the feasibility of following the mediterranean/predimed diet in a north american setting of patients attending a healthy heart program

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Background: Data are limited if Western populations can adhere to the Predimed Diet (PD), the Mediterranean Diet supplemented with olive oil or nuts

Purpose: The aim of the study was to determine if patients in a healthy heart program who are at high risk for cardiovascular disease (CVD), have CVD or have Type 2 Diabetes are able to adhere to the PD as measured by the validated 14 point Mediterranean Diet Questionnaire (MDQ) score. Factors were identified that improve or worsen dietary adherence to the PD in a Western population.

Methods: A 6 month qualitative diet study was conducted using the 14 point MDQ score and 3 day food record analyses. Thirty participants (20 women and 10 men) with an average age of 66 years completed the study. Most had completed some university or higher level of education (80%). A score =9 points indicated adherence to the PD. Factors affecting adherence were identified using a 10 question semi-structured interview.

Results: The MDQ average score was 5.6 2.2 at baseline and 9.2 2.4 ($p<0.001$) at completion. Initially, only 10% of the participants met the criteria of following the PD, and this increased to 63% by the end of the study. Upon completion, adherence was high for consuming olive oil as the main culinary fat (97%), the recommended amount of nuts (93%), limiting sweet carbonated beverages (93%) and commercial sweets and pastries (90%). Monounsaturated fat intake increased from 10 4.6 to14 6.0 percent of total energy ($p<0.001$). Adherence was low for consuming fish (53%), legumes (30%) and wine (27%). Most participants were satisfied with the diet, would continue to follow this diet and recommend it to friends and family. Participants scoring =9 stated the volume of vegetables was too large, missed consuming red meat frequently and were not accustomed to choosing the specified amount of legumes.

Conclusion: In this small study we found that 63% of our participants could adhere to the PD in this Western population. Further exploration is needed for lower adherence components. It is unknown if this program would be effective in a non-self-selected and lower educated group. Further research is needed.

Funding Acknowledgements: Providence Health Care Practice-based Research Challenge

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The prevalence and psychological impact of erectile dysfunction in male patients attending a phase 3 cardiac rehabilitation programme in an Irish General Hospital.

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Background: Links between erectile dysfunction (ED), cardiovascular disease, anxiety, and depression are recognised. ED is an important determinant of patients quality of life. Cardiac rehabilitation (CR) provides an ideal opportunity to identify and address ED and its accompanying psychological concerns.

Aims: We aimed to identify the prevalence and psychological impact of ED in a cohort of male patients attending a hospital-based CR programme.

Methods: Male participants attending phase 3 CR at Naas General Hospital between March 1st and May 31st 2017 were invited to participate. Risk factors for cardiovascular disease were recorded. Levels of physical activity, anxiety and depression, and the presence and psychological impact of ED were assessed using self-report questionnaires.

Results: 27 men (mean age 57.9 9.1 years) participated. 17 (63.0%) subjects were attending CR after an acute coronary syndrome. 15 (55.6%) participants had ED as assessed by the IIEF-5 questionnaire. Lower levels of physical activity on IPAQ and higher scores on the depression subscale of the HADS questionnaire were observed in those with ED ($p=0.02$ and $p=0.03$, respectively). Sexual relationship quality ($p<0.001$) and overall confidence ($p=0.001$) were lower in men with ED as assessed by the SEAR questionnaire (n=24). Risk factors for cardiovascular disease including obesity, smoking, hypertension, dyslipidaemia, diabetes, and alcohol use were not associated with ED in our cohort.

Conclusion: ED is prevalent in Irish CR and is related to self-reported physical inactivity and depression. ED negatively impacts upon the quality of sexual relationships and overall confidence of men attending phase 3 CR.

On Behalf Of: Naas General Hospital, Cardiac rehabilitation.

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Association between egg consumption and abnormal fasting glucose prevalence in relation to dietary patterns in selected group of Polish adults

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Introduction: The safety of frequent consumption of eggs is still controversial. Particular attention is paid to the relationship between egg intake and abnormal fasting glucose (FG) levels or diabetes. However, it appears that the association between egg consumption and health status should be assessed based on the overall diet, due to the synergistic effect of its components. A statistical method used to evaluate the comprehensive effect of the diet on health is called dietary patterns (DPs) analysis.

Purpose: Assessment of the relationship between egg consumption and abnormal FG levels according to the DPs derived in the study group.

Methods: The study group consisted of 1630 participants enrolled in the Polish arm of the Prospective Urban Rural Epidemiological (PURE) Study. Dietary intake was evaluated based on the data from the Food Frequency Questionnaire (FFQ). Egg consumption was assigned in the following categories: =1 per week, 2-4 per week and =5 per week. DPs were derived using principal component analysis. FG level higher than 100 mg/dl was considered abnormal. Participants who used antidiabetic drugs were included in the group with elevated FG level.

Results: Three DPs were derived in the study group. Western DP was associated with high (=0.50) factor loadings for fats, sweets, refined grains, high-fat cheese & cream, processed meat and sugar & honey, prudent pattern was related to high consumption of fruits, vegetables, nuts, seeds & raisins and milk & low-fat dairy, while traditional pattern was linked with high intake of mixed dishes, soups, red meat and fish. Egg intake was positively associated with Western (Q4 vs. Q1: 22.2 18.5 g per day vs. 11.7 12.1 g per day, p<0.0001) and traditional (Q4 vs. Q1: 19.7 19.5 g per day vs. 10.9 9.5 g per day, p<0.0001) DPs. Overall, higher egg intake was not associated with percentage of women with abnormal FG level (=5 eggs per week vs. =1 egg per week: 39.6% vs. 38.3%). However, higher percentage of women who consumed =5 eggs per week and simultaneously had high adherence to Western pattern (Q4) or low adherence to prudent pattern (Q1) had elevated FG level compared to women in analogous quartiles who consumed at most 1 egg per week (p=0.0412 and p=0.0386, respectively). Percentage of men who had abnormal FG level was higher in the group of individuals who consumed at least 5 eggs per week in comparison with those who ate at most 1 egg per week. Nonetheless, in the group of men who had low adherence to Western or traditional DPs (Q1) and high egg intake (=5 eggs per week), no association with elevated FG level prevalence was observed in comparison with men in analogous quartile who consumed at most 1 egg per week.

Conclusions: The relationship between egg intake and the prevalence of abnormal FG level depend on the overall diet. High egg consumption may be positively associated with abnormal FG prevalence in case of high adherence to unhealthy DPs.

Funding Acknowledgements: PURE Poland sub-study was funded by the Polish Ministry of Science and Higher Education (grant no. 290/W-PURE/2008/0), Wroclaw Medical University

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Association of social support and labor character in males of open urban population

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Purpose: To study correlation of social support and labor character in open urban population of males aged 25- 64 years.

Methods: The study was performed by representative selection of non-organized males and females of our city (2000 people) using algorithms of MONICA-psychosocial during cardiology screening with respond of 77.7% (85.0 % in males and 70.3% in females). Social support components (Index of Close Contacts (ICC) and Social Network Index (SNI)) were estimated using Berkman and Syme test. Labor character was estimated as per four parameters: pensioners and nonworkers, manual workers, specialists and engineers, managers. Statistical analysis was conducted by a package of programs SPSS, version 7.

Results: Depending on labor character Tyumen males aged 25 64 years had low (35.9% 45.8% of population), medium (41.1% 47.9% of population) and high (13.0% 20.1% of population) ICC which was almost the same in all professional groups. Low SNI was noticed more often in pensioners and nonworkers in comparison with managers and engineers (26.0% 12.5%, p<0.05 and 26.0% 12.6%, p<0.01, respectively). Among managers of different positions and in the group of engineers and specialists maximum part belonged to people with medium and medium-high SNI, and the least part to people with low SNI ((respectively, in managers: 38.9% 12.5%, p<0.001 and 37.5% 12.5%, p<0.001; in engineers and specialists: 38.6% 12.6%, p<0.001 and 34.6% 12.6%, p<0.001) and with high SNI (respectively, in managers: 38.9% 11.1%, p<0.001 and 37.5% 11.1%, p<0.001; in engineers: 38.6% 14.2%, p<0.001 and 34.6% 14.2%, p<0.001)). In the group of manual workers there is the same situation: low SNI (respectively, 34.3% 19.5%, p<0.001 and 34.0% 19.5%, p<0.001) and high SNI (respectively, 34.3% 12.2%, p<0.001 and 34.0% 12.2%, p<0.001), and besides, low SNI incidence was significantly higher than high SNI incidence (19.5% 12.2%, p<0.05). In the group of pensioners and nonworkers minimal part belonged to people with high SNI, where significant differences with incidence of low (7.6% 26.0%, p<0.01), medium (7.6% 40.5%, p<0.001) and medium-high SNI (7.6% 26.0%, p<0.01) were revealed.

Conclusion: Thus, depending on the labor character in Tyumen population ICC was almost the same, low ICC was noticed more often in the group of pensioners and nonworkers in comparison with managers and engineers. Results of the study of non-organized population of Tyumen may serve as scientific ground for planning of complex socially oriented programs for males of workable age and population of other middle urbanized cities.

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Dental and oral care behaviours of patients with coronary heart disease: an explorative, cross-sectional study

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Background: It is suggested that patients with periodontal disease have a higher risk for developing coronary heart disease. Studies investigating dental care behaviours of the general population have been conducted in several countries worldwide; however, studies investigating dental and mouth care behaviours in patients with coronary heart disease have not been conducted so far.

Aim: The aim of the present study was to explore coronary heart disease patients dental and mouth care behaviours.

Method: Cross-sectional study. Hospitalized patients with a diagnosis of coronary heart disease were eligible to take part in this study and received a self-administered questionnaire. In addition socio-demographic variables were assessed as influencing factors.

Results: Of 191 patients approached, 137 (71.7%) returned the questionnaire. Most patients brush their teeth at least two times a day (68.0%), visit a dentist for check-ups as recommended (81.0%), use fluoride toothpaste (57.7%), and replace their toothbrush at least once every three months (70.1%). Daily use of dental floss or interdental brushes was reported by only 31.4% of the patients. Adherence to those recommended measures was statistically significantly correlated with the educational level of the patient.

Conclusion: Patients with coronary heart disease show a lack of dental care behaviours. There is a need of improvement regarding dental care behaviours in patients with coronary heart disease, especially those with a low educational level. Cardiologists and cardiac nurses should incorporate educational programmes of dental behaviours in daily care.

Funding Acknowledgements: None

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Energy drinks as cardiovascular risk factor

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Background: Currently in Spain, cardiovascular diseases (CVD) are the leading cause of death and a public health problem, and huge consumption of health resources. Current habits and lifestyles give rise to new products of habitual consumption that may lead to an unknown cardiovascular risk such as energy drinks (ED).

Purpose: To analyze the possible consequences that ED consumption causes at the cardiovascular level in our population and to assess its consumption as a cardiovascular risk factor in our society.

Method: Comprehensive review of the sanitary databases (Cuiden, Web of Knowledge, PubMed, Cuiden Plus, LILACS, Cinahl, Scielo, Embase, and Cochrane Plus) obtaining 47 articles, after the application of quality filters, exclusion criteria and inclusion and we use a CASPe template. We used as search keywords (MeSH): Energy drink, ECV, Arrhythmias, Palpitations, Angina, Sudden cardiac death, Risk factors, Adverse effects.

Results: Many of the ED has in their composition a series of vasoactive metabolites in high concentrations that negatively affect our cardiovascular system.

There is a huge increase (more than 12,000 visits per year to emergency services).

Because of the high number of EDs consumed, those with the highest cardiovascular risk are adolescents and young adults, mostly men, who represent 71% of the total and between 57% - 60% ingest them with alcohol (to counteract its effects).

Side effects are: increased circulating catecholamines leading to ventricular arrhythmias, increased blood pressure (systolic and diastolic); favor endothelial dysfunction; increase platelet aggregation; and can lead to increased risk of thromboembolic disease, acute stroke. They also favor the appearance of arrhythmias and sudden cardiac death.

The consumption of ED together with alcohol produces the effect drunk but very awake. Highlight that they can be used as unmaskers of some heart diseases. It is surprising that in most EDs the concentration of the described components is not well specified, and their purchase is simple, not being limited by age or place of sale. The dishonest advertising and its marketing present benefits and unproven benefits (avoid fatigue, decrease appetite, improve physical performance, boost libido).

Conclusions: The consumption of ED can entail risks for the cardiovascular health of those who consume them the most. Health education is essential with risk groups, making health professionals aware of the risks that can be caused by their consumption and dissemination to the general population. Should be regulated sale, the limits of caffeine per serving, or set the recommended daily maximum amount. Prospective longitudinal studies considered necessary to establish its relationship with cardiovascular risk. The ED should be considered one risk factor for cardiovascular side effects at cardiovascular level causing, despite the low incidence of documented cases.

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Patient reported outcomes of the percieved impact and contribution of the united kingdoms leading home-based cardiac rehabilitation programme in relation to local, national and european guidelines.

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Background: The UKs leading home-based cardiac rehabilitation programme is regularly facilitated by healthcare professionals supporting individuals recovering from myocardial infarction and revascularisation. Since the seminal publication, studies have consistently supported the programmes positive health and psychosocial outcomes.

Purpose: To assess patient reported outcomes of the impact and contribution of the programme in relation to recommendations from scottish intercollegiate guideline network, british association for cardiovascular prevention and rehabilitation and european society of cardiology.

Methods: An audit was conducted on qualitative data returned by patients between 2011 and 2017. Analysis was guided by the framework approach whereby the key constructs from the recommendations guided initial deductive thematic analysis. This provided the basis for inductive patient reported sub-themes to emerge.

Results: Deductive themes included: (1) health behaviour change/modifiable risk reduction, (2) psychosocial support, (3) education, (4) support, (5) medical risk management, (6) vocational rehabilitation and (7) long term strategies/maintenance. Initial analysis of patient feedback indicated HBC/modifiable risk reduction (1) and psychosocial support (2) had the most impact on daily life. Inductive themes which emerged for (1) included: awareness, guidance, engaging or already engaged, positive and negative consequences, attitude, behaviour change techniques, engaging in multiple behaviour change, motivation and validation. Sub-themes for (2) included: stress management, relaxation, increased self-efficacy, mental health, negative impact on activities, self perception, and positive impact on relationships. It was reported that education (3) and support (4) were closely linked with (1) and (2). Patients found that the programme increased understanding and awareness of (1) and medication (3). Support was found through scenarios and their trained facilitator (4). Patients referred to medical risk management (5), vocational rehabilitation (6) and long term strategies/maintenance (7) less frequently. Additional sub-themes included patients referring to surgical interventions (5), reporting a reduction in work commitments (6) and many intending to maintain new or existing positive health behaviours (7). Patients reported that having a comprehensive programme, which combined all of the above themes, was the most beneficial aid to their recovery. Additional sub-themes which emerged in relation to the programme included: gratitude, presentation, manageable weekly structure, facilitator support, motivation and that it enabled routine.

Conclusion: Patients found the programme had a profound impact on their daily lives and proved advantageous for cardiac rehabilitation. The data highlighted the programme as comprehensive, and inclusive of all the key elements outlined in local, national and european cardiac rehabilitation guidelines.

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Does a nurse-led cardiac rehabilitation inpatient education following percutaneous coronary intervention reduce the rate of 28 day hospital re-admission

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Background: Inpatient Cardiac Rehabilitation (CR) or phase1 CR is an important part in the management of patients post Percutaneous Coronary Intervention (PCI). Phase 1 CR is a team approach that reassures and educates patients regarding coronary artery disease. Using motivational interviewing, the CR team aims to correct any cardiac misconceptions, address and manage risk factors in order to facilitate early discharge and reduce events.

Purpose: To determine the rate of 28 day hospital re-admission of patients post PCI following in-patient CR education programme in our institution.

Method: A retrospective review of data recorded at the PCI clinic from January 2014 to December 2017. The data was examined for baseline characteristics, re-admission rates, reasons for re-admission and number of patients who did not receive phase 1 CR prior to discharge.

Results: Between January 2014 and December 2017, 1783 patients had PCI and were eligible for phase 1 CR. The mean age was 62.7 years and 1393 (78%) were males. Indications for PCI were acute coronary syndrome in 43%, stable angina in 46.7%, and other reasons in 10.3%. The total number of re-admissions was 84 (4.7%), which is below the targeted national average of 9.6%. Only 28.5% (24 patients) of these admissions were due to cardiac causes and 71.5% (60 patients) were due to non cardiac reasons. In total, 31 (1.8%) patients had not received phase 1 CR prior to discharge and, of those, 11 (35.5%) were re-admitted. Out of the 31 patients who did not receive phase 1 CR, 11 received an early follow up telephone call after discharge and none of them were re-admitted within 28 days.

Conclusion: The rate of 28 day hospital re-admission in our cohort of patients who received phase 1 CR post PCI is very low and below the targeted national average. This

study emphasizes that all eligible patients post PCI should receive CR prior to discharge or via an early follow up telephone call to reduce re-admission rate.

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Experience from individuals with high cardiovascular risk participating in a structured lifestyle program

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Introduction: Lifestyle changes forms the basis in cardiovascular (CV) prevention and rehabilitation and different kinds of programs developed in healthcare has been proven to reduce the risk in individuals at increased CV risk. However, cardiovascular disease is still the leading cause of death in most societies and the prevalence of unhealthy lifestyle habits is high in patients at increased risk as well as in the general population. We need a better knowledge of how individuals perceive being involved in lifestyle programs provided by health care.

Purpose: To describe the experience of participating in a structured lifestyle program over one year in individuals with high CV risk.

Methods: Individuals with high cardiovascular risk participating in a structured lifestyle program at an outpatient clinic at a Department of Cardiology were included in this qualitative study. The program consisted of three individual visits (baseline, six months and one year) including a health check-up and a person-centered dialogue for support in behavioural change of unhealthy lifestyle habits, and five group education sessions with focus on lifestyle. The participant were also offered different tool i.e. data based lifestyle program, pedometer and a book on lifestyle changes.

Results: Fifteen individuals (mean age 58+ years at age) were interviewed. The results are presented in three categories; 1) What to know - the informants described how they perceived the program. In this category three subcategories were found; person-centered approach, group session and tools. 2) Staf who know how - which included the competence of the caregiver and the meeting between the caregiver and the patient. 3) Why feedback need to be included - the importance of feedback on the effect on change and the participants view on the feedback.

Conclusion: Individuals participating in a structured lifestyle program describe several factors as important; that the caregiver is competent, educated, and respectful. The program should include individual and group education, practical training and discussion between the participants. Lifestyle related tools and feed-back on change at an individual level were also important.

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Gender differences in attitude to physical activity in case of having and not having coronary artery disease in open population

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Purpose: To establish association of coronary artery disease (CAD) prevalence and attitude to physical activity among males and females aged 25-64 years of an open population.

Methods: The study was performed based on MONICA-psychosocial representative selection of 2000 non-organized males and females of Tyumen within cardiological screening with respond of 77.7% (85.0 % in males and 70.3% in females). Strictly standardized epidemiology methods were used. According to the results of Minnesota code analysis a certain CAD (CCAD), CAD as per expanded epidemiology criteria and no CAD (control group) were selected. A questionnaire of WHO Knowledge and attitude to health (including 33 questions on attitude to health and diseases prevention) was used to analyze attitude to physical activity. Statistical analysis was conducted by a package of programs SPSS, version 7.

Results: In open urban population females with CCAD and CAD as per expanded epidemiology criteria and also females from the control group (with no CAD) considered physical exercises necessary unlike males of the same groups. Thus, the question Do you do physical exercises (not the industrial) received answer I should do physical exercises among women more often (CCAD: 39.42% 61.2%, $p<0.05$; CAD: 43.11% 59.4%, $p<0.05$; with no CAD: 49.07% 56.1% $p<0.05$, respectively). Control groups also had gender differences in vain attempts of doing physical exercises females with no CAD gave this answer more often than males of the same groups (15.43% 21.47% $p<0.01$). Besides, males with CCAD, CAD and with no CADin open population in comparison with females of the same groups considered that they do not need physical exercises (16.9% 2.05%, $p<0.05$; 15.36% 2.7%, $p<0.01$; 14.87% 3.82% $p<0.001$, respectively). Answering the question about spending free time females of the control groups did it physically passively more often than males (19.1% 50.24%, $p<0.001$) or did not have free time at all (1.25% 3.5%, $p<0.01$), whereas groups with CAD did not have these differences. Speaking of changing of physical activity within 12 months it was revealed that males with CCAD and CAD as per expanded epidemiology criteria have become less movable in comparison with females of the same groups (52.1% 30.6%, $p<0.05$; 47.62% 29.8%, $p<0.05$, respectively). Males without CAD from the control groups estimated their physical activity in comparison with other people of the same age significantly

more passive than females without CAD (2.36% 4.92%, $p<0.05$); there were no statistically significant differences in groups with CAD.

Conclusions: Results of the study of non-organized population of Tyumen may be the scientific ground for planning of complex socially oriented programs also in other middle urbanized Siberian cities having priority risk groups of males with CCAD and CAD.

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Long-term follow-up on socially differentiated cardiac rehabilitation and depression: How do socially vulnerable cardiac patients apply health care services?

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Background: Cardiovascular disease is the leading cause of morbidity and mortality in Europe. Cardiac rehabilitation (CR) is highly effective in secondary cardiovascular disease prevention. Depression is a common condition post myocardial infarction (MI) and 20 % of patients with first-episode MI will experience depression in the first two years after admission. CR reduces depression in patients with MI, but it is known that socially vulnerable patients are more depressed than non-socially vulnerable patients. Whereas CR decreases the risk of hospital admissions, readmissions and in-patient days, depression is associated with a greater probability of readmissions, the number of in-patient days and contacts to general practice. These associations are also seen regarding social vulnerability. However a study found that MI-patients who are depressed, who have a low educational level or who are living alone have fewer contacts to general practice and hospital in the first two years after admission. A CR-intervention focusing on minimizing social inequalities in health was carried out from 2000-2004. An intervention group of socially vulnerable patients received a socially differentiated CR-intervention and were compared to a group of socially vulnerable patients who received standard care. The intervention showed significant results regarding adherence to secondary prevention guidelines at one-year follow-up. However no long-term effects were seen regarding morbidity and mortality at 10-year follow-up.

Purpose: Based on the non-significant long-term effects of the intervention and the inconclusive evidence on the association between social vulnerability, depression and the use of health care services, the aim of the present study is to investigate the long-term effects of a socially differentiated CR-intervention regarding use of health care services in a socially vulnerable population of patients diagnosed with MI with a focus on post-MI depression.

Methods: The study will be conducted as a prospective register based cohort study. The study population consists of 379 patients admitted with first-episode MI and who participated in a socially differentiated CR-intervention or received standard care at a university hospital in Denmark from 2000-2004. At a 10-year follow-up the outcomes of interest are:
All-cause hospitalizations
Cardiovascular readmissions
All-cause visits in general practice
Participation in yearly chronic care controls in general practice
The impact of post-MI depression

Expected results: The hypothesis is that socially vulnerable patients who participated in the socially differentiated intervention will have a lower prevalence of post-MI depression and show different patterns in their use of health care services when compared to socially vulnerable patients who received standard care.

Conclusion: The analyses of the study are conducted in February 2018 and will be presented at Euro Heart Care in June 2018.

Funding Acknowledgements: Aarhus University, Central Denmark Region, The Health Foundation, The Committee of Multipractice Studies in General Practice, Trygfonden.

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Patient perceptions of a hospital based phase 3 cardiac rehabilitation programme

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Background: Cardiac rehabilitation (CR) attendance reduces mortality, morbidity and unplanned hospital admissions and also improves exercise capacity and quality of life. (1) A comprehensive service incorporates medical evaluation, risk factor modification, exercise prescription and education. While the effectiveness has been well documented by international guidelines, the uptake remains less than 50 %.(2)

Purpose: The goal of this study was to evaluate the perception of recent graduates of an 8 week CR programme comprising 3 times weekly exercise sessions and once weekly education sessions. The multi-disciplinary team (MDT) included staff from nursing, physiotherapy (PT),

occupational therapy (OT), medical social work (MSW), dietetic and pharmacy departments.

Methods: Seventy three patients were asked to evaluate the programme and there was a 97% response rate. A six part anonymous questionnaire was utilised mixing both open and scaled questions. The questionnaire was filled out at the end of the last session of their 8 week programme and collected in a folder in a separate area. Data was input and analysed using Microsoft Excel 2010.

Results: Attendance on average at the education sessions was 76%, of those who completed the questionnaire. Findings are highlighted in Table 1.

Conclusion: This questionnaire reported patients were happy with both the exercise and education components of the CR programme including knowledge and accessibility of staff. As a result of poor staffing resources, some sessions were not offered or were re-arranged and this is likely why they had lower satisfaction ratings. This reiterates the importance of a full MDT to ensure a high quality, beneficial service. Patients perceive that the hospital based model of phase 3 of cardiac rehabilitation is both effective and enjoyable.

Table 1

	Strongly agree
I enjoyed the programme	96%
The programme length was right	98%
The staff were knowledgeable	99%
Supervision levels were good	100%
Education session regarding exercise was very satisfactory	84%
Confident to continue exercise after programme	91%

Positive outcomes

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Clinical profile of patients with acute coronary syndrome in phase ii cardiac rehabilitation: risk, diagnostic, cardiovascular risk factors and therapeutic approach

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Background: The acute coronary syndrome (ACS) is one of the leading causes of mortality and morbility in the world and a very important health problem.

Purpose: To describe the clinical profile of patients with ACS who participate in a phase II cardiac rehabilitation programme.

Methods: Cross-sectional study where 128 patients with ACS participated (85% men, average age 57.6936.16 years). The study was carried out 30 days after diagnostic, when starting a phase II cardiac rehabilitation programme. Anthropometric parameters, diagnostic, responsible arteries, affected arteries, revascularization procedures, left ventricle ejection fraction (LVEF), type of risk, cardiovascular risk factors, previous events and drug prescription were assessed. Data were analysed with SPSS v.22

Results: The average body mass index was 29.244.73 kg/m2 while the average waist circumference was 103.1212.89 cm. Regarding the diagnostic, a 44.1% presented ST-segment elevation acute coronary syndrome, while a 35.4% suffered a non-Q-wave myocardial infarction, and a 20.5% presented unstable angina. The responsible artery was the right coronary artery in 40.9% of cases, and revascularization was percutaneous in 94.5%. The 74% presented a complete revascularization. The average number of affected arteries was 1.650.81 and average LVEF was 61.039.45. On the other hand, 46.5% presented moderate risk, 37% low risk and 16.5% high risk. The most prevalent cardiovascular risk factors were smoking (69.3%), sedentarism (67.7%), dyslipaemia (58.3%), hyipertension (52%), diabetes mellitus (23.6%) and familial antecedents (20.5%). A 24.4% had suffered a previous cardiac event. With respect to medication prescription, 99.2% took antiplatelets, 93.7% beta-blockers, 94.5% statins, 69.3% angiotensin converting enzyme inhibitors, 27.7% angiotensin II receptor blockers and 11.2% mineralocorticoid receptor antagonists.

Conclusions: Our results show that patients who participated in a phase II cardiac rehabilitation programme suffered ST-segment elevation acute coronary syndrome with percutaneous revascularization and complete revascularization. The risk was mostly moderate and high cardiovascular risk factors were observed. Antiplatelets were the most frequent prescribed drug .

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Influence of the functional capacity of the withrawal of the inhibitors of the angiotensin converting enzyme. Treatment in non-hypertenses patients of cardiac rehabilitation.

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Introduction: The prescription of angiotensin-converting enzyme (ACE-INH) inhibitors after an acute coronary syndrome (ACS) is frequent. The use of ACE-INH could be considered in patients with atherosclerosis, but it would not be obligatory in normotensive patients without heart failure, left ventricular dysfunction or diabetes. The hypotension derived from its use in normotensive patients is a common complaint after the first two weeks of cardiac rehabilitation and involves intolerance to exercise and inability to achieve the objectives.

Methods: We analyzed the withdrawal of ACE-INH in patients with various degrees of coronary artery disease in our Cardiac Rehabilitation Unit. We consider hypotension (BP <100/60) and exercise intolerance as adverse effects. We perform measurements on the Borg scale, symptoms and blood pressure (BP).

Results: 204 of a total of 208 patients were prescribed ACE-INH at hospital discharge. Among them, 90 were normotensive (45.9%) and 50 had hypotension and exercise intolerance between the second and fifth weeks of rehabilitation, with values on the Borg scale higher than expected despite minimal doses. After withdrawing ACE-INH in these, 46 improved their tolerance to exercise: median improvement in 2.5 ($p < 0.01$) in the Borg scale and BP. The other 4 did not feel improvement on the Borg scale after two weeks and needed other treatment modifications.

Conclusions: The arterial hypotension secondary to ACE-INH in normotensive patients can affect exercise capacity. In our experience the withdrawal of this treatment results in a symptomatic and performance improvement.

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Exercise capacity changes following an 8 week hospital based cardiac rehabilitation programme.

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Exercise capacity changes following an 8 week hospital based cardiac rehabilitation programme.

Background: Low exercise capacity has been identified as an independent risk factor for all-cause and cardiovascular mortality. Those who exhibit low exercise capacity are also between 2 and 5 times more likely to die during follow up after a cardiac event. Cardiac rehabilitation (CR) attendance reduces mortality, morbidity and unplanned hospital admissions while improving exercise capacity. The Chester Step test is a valid sub-maximal functional capacity test for CR patients.

Purpose: This study aims to determine change in exercise capacity for patients following an eight week, 3 times weekly moderate intensity exercise programme, as measured using the Chester Step Test.

Method: Before commencing the 8 week CR programme, 48 patients were assessed using the Standard Chester step protocol, for up to a maximum of 10 minutes. Predicted heart rates were calculated using the Karvonian Method. Subjects were asked to step on to and off a 30cm step at a rate set by the metronome beat on a CD. The initial step rate was 15 per minute and the tempo increased every two minutes. The patient continued until they reached 80% of their maximum predicted Heart Rate or reported a rating of Hard/fifteen on the Borg Scale for their perceived exertion or reached the end of the test. Patients were advised to stop if there was a musculoskeletal issue or pain. The test was repeated at the end of the programme for all those that attended >75% of the exercise classes. Data was analysed using Microsoft Excel 2010.

Results: 36 patients were appropriate for re-testing. 10 patients completed the 10 minute test on first assessment. This indicates that their baseline fitness was moderate to high. There was no statistically significant difference in their resting or maximum heart rates from pre course assessment to post course assessment.

26 patients of low to moderate fitness began the course and their results are summarised in table 1.

Conclusion: Patients with low to moderate levels of fitness showed a statistically significant improvement in their exercise capacity following an 8 week hospital based 3 times weekly exercise based CR programme. More research is needed in the areas of high intensity training and those starting with moderate to high fitness levels.

Table 1.

	Pre test average	Standard deviation	Post test average	Standard deviation	P value
Level achieved on test	7.5	2.4	9.1	1.3	<0.001
Resting heart rate	113	11	70	14	.009
Maximum heart rate	63	18	114	18	0.9

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Coronary events during the cardiac rehabilitation program in patients with complete versus only infartarme-related artery revascularization.

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Introduction: The optimal treatment of patients with acute myocardial infarction and multivessel disease is a controversial issue. The current clinical practice guidelines recommend the revascularization of the infarct-related artery and the re-evaluation of the rest of the lesions in a second time. Many patients are admitted to cardiac rehabilitation programs (CRP) after clinical and electrical negative ergometry. However, angina may reappear during the CRP in both revascularization strategies. We evaluated the prevalence of rehospitalization by comparing the strategy of revascularization of the infarct related artery (IRA) and complete revascularization (CR).

Methods: We analyzed 216 patients admitted to CPR. We evaluated the prevalence of rehospitalization by comparing the infarct related artery (IRA) revascularization strategy and complete revascularization (CR).

Results: Of the 216 patients, 154 were classified in the RC group and 62 in the RV group. Within the RC group, 34 patients (22.07%) had thoracic discomfort but only 2 patients suffered an acute coronary syndrome (ACS) due to restenosis of the implanted stents, requiring hospital readmission. In the IRA group, 16 patients (25.8%) presented with a chest pain and 10 of them (16.12%) suffered an ACS, leaving the program. In these, lesions not previously revascularized were responsible for the new event. The IRA group had higher rates of emergency room visits for chest pain (OR: 3.83, 95% CI 1.25-11.68) and rehospitalization due to new ACS (OR 9, 95% CI 1.71-47, 48).

Conclusions: The CR strategy allows greater adherence in CRP and greater safety physical training. Patients with revascularization only from the infarct-related artery have higher rates of rehospitalization due to ACS, frequently requiring complete revascularization during the PRC. A rigorous evaluation of the coronary anatomy of the patient in the IRA group before inclusion in CRP would be advisable.

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Functional capacity, physical activity, presence of ischemia and time of ischemia in hypertensive patients with acute coronary syndrome: experience from a cardiac rehabilitation programme

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Background:. The improvement of functional capacity and physical activity is a milestone in the treatment of patients with acute coronary syndrome (ACS), since both are related to sedentarism, an important cardiovascular risk factor.

Purpose: To evaluate the effect of a cardiac rehabilitation programme on functional capacity, physical activity, presence of ischemia and time of ischemia in hypertensive and non-hypertensive patients with ACS.

Methods: 115 patients with ACS were consecutively recruited. Participants were divided in two groups by means of the diagnostic of hypertension: group 1 (hypertension, n=57, average age=56,336,03 years), group 2 (no hypertension, n=58, average age=51,998,54 years). Hypertension was defined as systolic blood pressure >140 mmHg and diastolic blood pressure >80 mmHg. All patients performed a cardiac rehabilitation programme and underwent an aerobic continuous training with treadmill for two months (16 sessions, 2 sessions/week) with a heart rate calculated from the maximum heart rate of the basal effort test, using Karvonen. In addition, warm-up and cool down included muscular stretching. Functional capacity by means of an effort test (METS, maximal heart rate), presence of ischemia, time of ischemia and physical activity (Caspersen y Powell) were measured at baseline and at the end of the programme.

Results: At two months, group 2 showed a significant higher value with respect to group 1 on METS (10,372,91 vs. 9,312,66; p=0,046) and on maximum heart rate (130,4123,76 vs. 116,7818,94; p=0,001). At the end of the programme, 2 patients with hypertension and 1 patient without hypertension presented ischemia detected by the electrocardiogram, whilst 1 participant without hypertension presented clinical ischemia. No double ischemia cases were reported. Time of ischemia at two months was 473 seconds in cases of clinical ischemia, and 426,3365,04 seconds in cases of electrocardiogram detection. No significant differences between groups in physical activity were observed.

Conclusions: The cardiac rehabilitation programme showed a higher effect on functional capacity of non-hipertensive patients with ACS, when comparing to hypertensive patients with ACS, whilst no differences on physical activity were shown

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Chronotropic response and reserve in ischemic cardiac rehabilitation patients treated with bisoprolol or ivabradine.

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Introduction" Beta-blockers can cause significant exercise intolerance. Our objective was to analyze the different chronotropic profiles of patients intolerant to beta-blockers, who were prescribed Ivabradine as a substitute.

Methods: We analyzed the 2017 data where 224 patients completed the cardiac rehabilitationprogram. Among them, 48 showed intolerance to the previous exercise despitereducing beta-blockers to a minimum dose. We evaluated the chronotropic response (maximal HR - baseline HR) and the chronotropic reserve (maximum HR - baseline HR / (220 - age - baseline HR) x100). Both were measured in the two groups at the beggining and end of the cardiac rehabilitation program. In the ivabradine group, a new measurement was made at the time of treatment change. There were no significant differences in age, sex and LVEF between the bisoprolol (GBIS) group and the ivabradine group (GIVBR).

Results: Although baseline HR was similar in both groups at the end of the cardiac rehabilitation program, significant differences were found in the maximum HR achievedin the final ergometry (GBIS 126.66 vs 138.15 bpm in the GIVBR group). The GIVBR showed an increase in the chronotropa reserve from 50.61% to 80.29%, whichrepresented a percentage increase of 29.68% vs 13.65% of the GIVBR (from 56.29 to 69.94% p <0 , 05). However, no statistically significant differences were found in the METS achieved in the final ergometry by both groups.

Conclusions: Ivabradine represents an alternative for patients with intense exercise intoleranceasociate with beta-blockers.

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A novel alternative to classic cardiac rehabilitation universally reduces cardiovascular risk factors in females. An appealing alternative?

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Title: A novel alternative to classic cardiac rehabilitation universally reduces cardiovascular risk factors in females. An appealing alternative?

Background: The National Audit of Cardiac Rehabilitation recently reported a lack of females undertaking cardiac rehabilitation (CR), with the proportion of women accessing CR just 30%. This disparity highlights the requirement for more interventions to use a different approach, such as a personalised 1-2-1 programme, in order to recruit a greater number of females requiring CR.

Purpose: This study sought to assess the effectiveness of a novel multi-disciplinary clinical exercise programme in reducing cardiovascular risk factors in females.

Methods: Twenty female participants (mean SD) (52.4 12.6 yrs) completed a 12-week bespoke exercise and nutrition programme comprising twice-weekly one-to-one resistance-based exercise sessions with an additional two aerobic exercise sessions per week, and continual monitoring of step count and nutritional intake. Participants underwent a pre- and post- programme assessment of systolic (SBP) and diastolic (DBP) blood pressure, body mass (BM), body fat percentage (BF%), waist circumference (WC) and cardio-respiratory fitness (VO2 peak). The programme was led by a clinical exercise specialist and overseen by a clinical nurse.

Results: There were significant reductions in SBP 7.3 12.5 mmHg ($p<0.05$) and DBP 6.1 10.9 mmHg ($p<0.05$), BM 1.5 2.2 kg ($p<0.05$), BF% 1.8 2.1 % ($p<0.05$), and WC 2.7 5.0 cm ($p<0.05$). A significant increase in VO2 peak 6.6 6.7 ml/kg/min ($p<0.05$) was also observed.

Conclusion: The current study highlights that cardiac rehabilitation undertaken in a 1-2-1 setting with a clinical exercise specialist is effective in reducing cardiovascular risk factors in females. These results suggest that this approach is more effective than CR within a group environment and may offer women a favourable alternative to the classical approach.

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Results of a multidisciplinary cardiac rehabilitation programme: improvement of the lipid profile in patients with ischemic heart disease

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Background:. Multidisciplinary cardiac rehabilitation programmes (MCRP) are important for ischemic heart

disease (IHD), especially if related to lifestyle changes. The lipid profile is usually altered in this group of patients and multidisciplinary approach can help to reduce the lipid values.

Purpose: To assess the effect of a MCRP on the lipid profile of patients with IHD.

Methods: 120 participants with hospital discharge after IHD were included in the study (23,04% women, average age=54,297,60 years). The MCRP included an aerobic continuous training with treadmill for 2 months (16 sessions, 2 sessions/week). Moreover, 8 workshops about cardiovascular risk factors, medication, healthy food and physical exercise were carried out. A blood analysis was performed at baseline and after 2 months. SPSS v.22 was used for statistical analysis.

Results: At 2 months, a significant improvement of total cholesterol, triglycerides, low density lipoproteins (LDLcholesterol), and high density lipoproteins (HDLcholesterol) was observed. Table 1 shows the results of the study.

Conclusions: Participating in a multidisciplinary cardiac rehabilitation programme improves significantly the lipid profile in patients with ischemic heart disease.

Table 1. Lipid profile of the sample

Variable	Baseline	2 months	p
Total cholesterol	170,0743,68	134,1129,20	0,000
LDLcholesterol	104,6234,59	70,2920,22	0,000
HDLcholesterol	38,2012,64	40,6010,48	0,011
Triglycerides	156,33103,57	70,2920,22	0,000

LDLcholesterol: low density lipoprotein cholesterol; HDLcholesterol: high density lipoprotein cholesterol

Oral abstract session - Doctoral Students

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Symptoms of anxiety and depression after percutaneous coronary intervention with comparison to a reference population

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Background: Psychological factors, such as anxiety and depression, are predictors for worsening the prognosis in patients with coronary heart disease (CHD).

Aim: To examine the prevalence of symptoms of anxiety and depression in patients three years after percutaneous coronary intervention (PCI) with comparison to a reference population and to identify predictors for symptomatic anxiety and depression.

Methods: This is a sub-study of the Norwegian Coronary Stent Trial, which included 9013 Norwegian patients undergoing first time PCI during September 2008 February 2011. Symptoms of anxiety and depression were measured after 3 years using the Hospital Anxiety and Depression Scale (HADS). Expected scores of HADS were calculated based on the Norwegian general population controlling for age, gender, educational level, and smoking habits.

Results: After 3 years, 7068 patients (82 % of those who were eligible) responded to the survey. The mean age was 63 years and 75 % were men. An acute coronary syndrome was the indication for the PCI in 70% of the patients. Three years after the PCI, the HADS-Anxiety score was significantly higher in PCI patients than in the reference population ((3.92 (SD: 3.63) vs 3.44 (SD: 0.45), $p<0.001$), while the HADS-Depression score was significantly lower in PCI patients than in the reference population (3.42 (SD: 3.44) vs. 3.85 (SD: 0.48), $p<0.001$). Younger age and female gender were associated with anxiety, whereas higher age and low educational level were associated with depression

Conclusion: PCI patients had a higher level of anxiety but lower level of depression than the reference population; Anxiety is particularly prevalent among young and female patients, whereas older age is associated with depression.

Funding Acknowledgements: This work was supported by the Northern Norway Regional Health Authority (Grand number SFP1233-15)

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Double trouble: Implications for care and self-management interventions when patients experience type 2 diabetes post-acute coronary syndrome - qualitative study of the patients perspective

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Background: Shared risk factors mean that Type 2 diabetes (T2D) and acute coronary syndrome (ACS) often co-exist, but little is known about how patients deal with a combined diagnosis. These conditions are particularly common in in low and middle-income countries, where the healthcare systems are ill-equipped to treat cardiac disease, diabetes and its risk factors; and the sense of individual responsibilities for health is low. Undoubtedly, patients with T2D are exposed to more serious health challenges and mortality risk following ACS and neither condition can be dealt with in isolation. Healthcare professionals need a better understanding of patients needs, experiences and preferences in coping with both conditions in order to develop more responsive care.

Aim: To explore the experiences of people with T2D and ACS following diagnosis with ACS, with the purpose of identifying their challenges, supportive care needs and features that can help in designing an integrated self-management intervention for patients with both conditions.

Methods: Semi-structured interviews (n=17) were conducted with a purposive sample of patients with T2D and who had been diagnosed with one of ACS spectrum (UA, NSTEMI and STEMI) within 312 months from diagnosis. All interviews were transcribed verbatim and analysed using a framework approach.

Results: Three underlying themes emerged from the interviews: (a) being frustrated after diagnosis with ACS due to a lack of health education and empowering support, lack of confidence to attain optimal disease control, confusion regarding management of multi-morbidity and cultural causes. (b) health knowledge and reasonable care seekers for managing their multi-morbidity in the period following diagnosis with ACS. (c) willing to learn in the hospital and after discharge about their health condition in simple and clear verbal communication style, especially with using a face-to-face delivery mood as they unanimously emphasized is their favourite style for education. Knowledge and adherence gaps were found and their dissatisfaction with the current care was pervasive, which emphasize the need for an integrated educational-behavioural intervention to improve their knowledge, self-esteem and confidence once they are

diagnosed with ACS. They considered their willingness, capacity and need to be involved in planning and prioritising their lifestyle changes goals during intervention as essential. Within these themes, unique perspectives specific to their challenges, needs, motivations and features for successful intervention emerged.

Conclusion: The data provide an insight into experiences of those with T2D following ACS and highlight the urgent need for integrated structures and services post-diagnosis with ACS. The robust findings of the study inform a limited evidence base on the experience of patients with T2D and ACS in the period following being diagnosed with ACS and makes clear recommendations to address these challenges.

Funding Acknowledgements: Ulster University

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Readmission and differences in self-reported health and lifestyle factors after heart valve surgery

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Background and purpose: The risk of unplanned readmissions after heart valve surgery is high, exceeding 50% in Denmark within the first year after surgery. Readmissions constitute a significant burden for the individual patient as well as the health care system, and have previously been shown to be associated with poor self-reported health.
The objectives of this study were in a population of patients undergoing heart valve surgery to i) describe readmission rates and ii) investigate causes of readmission in different time periods up to 180 days after surgery and to iii) describe differences in patient-reported outcomes (PROs) at hospital discharge among patients readmitted and patients not readmitted.

Methods: Demographic- and clinical information was obtained from national registers. PROs including SF-12 and EQ-5D were obtained at discharge as part of a national, cross-sectional study (DenHeart).

Students t-test and chi-squared test were used to compare baseline characteristics and patient-reported outcomes for patients who were readmitted and patients who were not readmitted. Causes of readmission assessed in different time periods after discharge.

Results: Among 1,084 patients (65% men, mean age: 68) 534 patients (49%) were readmitted. In the early period after discharge more patient were readmitted with pleural- and pericardial effusions whereas heart failure, pneumonia and atrial fibrillation where more prominent as readmission causes longer time after discharge, Figure 1. No significant differences were found in self-reported health status between patients readmitted and patients not readmitted except in smoking status where a higher proportion of former and current smokers were readmitted 61.4% vs 53.6%).

Conclusion and clinical implications: Readmission rates after heart valve surgery are high and causes for readmission vary depending on the time period after discharge, with effusions as a frequent cause in the early period. Former or current smoking status is more frequent among patients readmitted after heart valve surgery, but physical and mental health does not vary between groups.

Future interventions should aim at reducing the high readmission rates and incorporate the knowledge on different causes of readmissions at different time periods after discharge. Furthermore, nursing interventions during hospitalisation should be targeted smoking cessation combined with patient education to inform the patients of the readmission risk.

Funding Acknowledgements: Helsefonden and Odense University Hospital, PhD funding

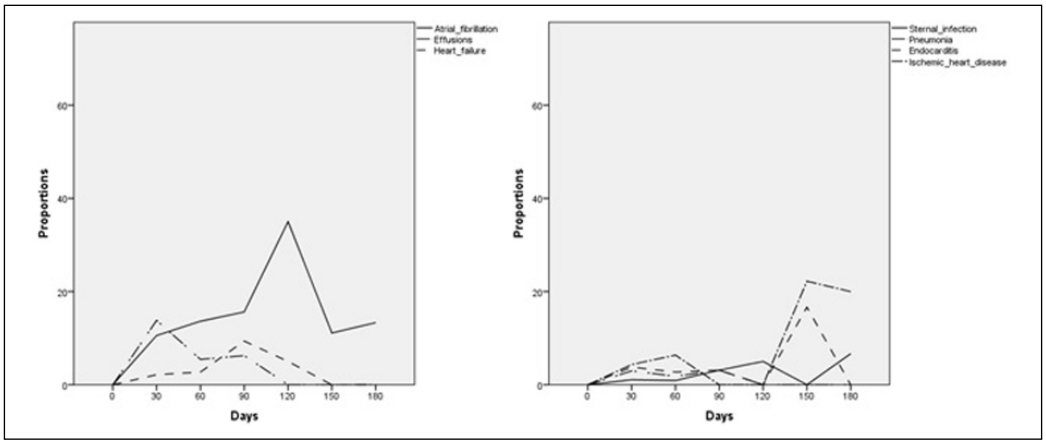


Figure 1

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Home based cardioversion in the Netherlands

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Background: Previous publications have shown beneficial effects of direct current (DC) electrical cardioversion (ECV) in hospitalised patients, or at the emergency department (ED) or at private practice settings on persistent atrial fibrillation (AF) patients performed by different health care professionals.

Methods: A prospective study of home-based DC-ECV under propofol sedation using Corpuls3 equipment conducted by specialized emergency care practitioners (ECPs) on site supported by well trained and certified sedation practitioners. ECG before and after home DC-ECV procedure is performed. Synchronized shocks of biphasic energy is applied by deployment of a maximum of four shocks of 200 Joules each with the electrode position placed at the anterolateral (AL) (= anterior-apex (AA)) site. Bedside monitoring and telephone consultation by an on-duty cardiologist and anesthesiologist is provided. Follow-up period of 6 weeks will be encountered comprising telephone and, when needed, personal contacts at 4 and 24 hours to monitor the recurrence of AF, complications and adverse events.

Endpoints: in this observational feasibility and safety study of 30 adult patients the (a) feasibility endpoint is completion of cardioversion (% of study patients with a recurrence in whom a home cardioversion is performed, i.e. to whom at least one DC countershock was administered while the patient was under sedation); (b) safety endpoint: a composite of MACCE occurring within 24 hours (subdivided in early MACCE, i.e. during one hour observation period and late MACCE, i.e. thereafter up till 24 hours).

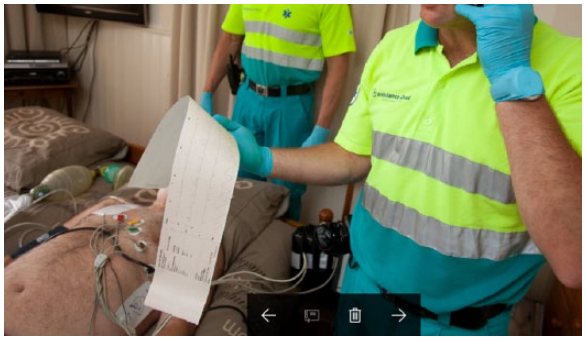
Secondary endpoints: MACCE occurring during 6 weeks follow-up; any hospitalisation and all-cause mortality during 6 weeks follow-up; number (%) of patients in sinus rhythm at the end of the procedure; idem at the end of 6 weeks follow-up.

Design: The study is designed as a pilot, open-label, non-controlled, non-randomised, single centre clinical study. The RACE-6 study is a prospective observational community study which will be carried out in the Netherlands by well-trained ECPs, initiated and coordinated by Ambulance Oost, Hengelo at the East region of the Netherlands in cooperation with Hospital Group Twente, University of Twente, Maastricht University Medical Centre and University Medical Centre Groningen.

Hypothesis: Home DC-ECV in (adult) general population patients with an episode of symptomatic recurrent persistent AF, carried out by ECPs, is feasible, safe, preferred by patients and is associated with reduced costs.

Expected results: The study will provide an answer for the feasibility of home DC-ECV. In addition, the safety, patient preference and the cost-effectiveness relationship of home versus hospital DC-ECV will be explored.

On Behalf Of: Pilot study on feasibility and safety (RACE-6 study).



Home based Cardioversion

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Discontinuation of drug treatment due to side effects after first-time percutaneous coronary intervention: a patient perspective.

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Background: Discontinuation of prescribed drug treatment after percutaneous coronary intervention (PCI) is common. Further, poor adherence to dual antiplatelet therapy (DAPT) may lead to immediate stent thrombosis within days or weeks with serious consequences. This is concerning as discontinuation of prescribed treatment is associated with poor clinical outcomes, higher readmission rates, increased health costs and increased morbidity and mortality. Accordingly, side effects are common causes of treatment discontinuation.

Purpose: To describe to what extent side effects from medications result in treatment discontinuation after first-time PCI.

Methods: Interviews of 22 patients purposefully selected from the Norwegian Registry for Invasive Cardiology were carried out 6-9 months after first-time PCI and

analysed by qualitative content analysis. The time interval was chosen as adherence to DAPT generally starts to decline after 6 months and has significantly declined by 12 months. Interviews were organized around a set of predetermined open-ended questions and were conducted between December 2016 and April 2017.

Findings: Patients experienced side effects from their cardiac medication, ranging from seemingly minor side effects, such as gastrointestinal discomfort, to more disabling side effects such as severe muscle and joint pain, fatigue and gastric ulcers. Severe muscle or joint pain or fatigue was ascribed to statin treatment, whereas gastric ulcers were ascribed to DAPT treatment. Nuisance bleedings (i.e. nosebleeds, bruising) were ascribed to DAPT treatment. Unlike other studies, patients in our study did not describe nuisance bleedings as a reason for treatment discontinuation. However, nuisance bleedings were described as troublesome and had an impact on the patients quality of life. Disabling side effects were described as a reason for treatment discontinuation.

Conclusion: To avoid treatment discontinuation, healthcare professionals have to consider side effect profiles of medications and discuss these in a plain language tailored to the individual patient as this may improve health literacy and medication adherence. Consequently, patients need to keep an open dialogue with their healthcare professionals about side effects they are experiencing so that dosages can be adjusted or new alternative drugs can be started.

Funding Acknowledgements: Haukeland University Hospital, Bergen, Norway

On Behalf Of: CONCARD Investigators.

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The effectiveness of an avatar-based education application on knowledge and response to heart attack symptoms-A pragmatic randomised trial in patients with acute coronary syndrome

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Background: Delay in seeking medical treatment is associated with poor understanding and difficulty in recognition of heart attack symptoms and it is associated with preventable death and complications. Digital health patient education interventions are needed to educate and support patient education and self-management.

Purpose: To test the effectiveness of an avatar-based education application (the app) on patients knowledge and response to heart attack symptoms.

Methods: A prospective, pragmatic randomised, non-blinded, single-centre study. A powered sample of 70 patients admitted with cardiovascular disease (CVD) and had experienced previous heart attack symptoms were consented and randomised. The usual care group received routine acute coronary syndrome (ACS) discharge education. The intervention group received routine ACS discharge education plus the app. The primary outcome was ACS symptoms knowledge. Secondary outcomes were attitudes, beliefs, Heart Attack Action Plan implementation rate, and Health Care Utilisation. The ACS Response Index was used to collect data on knowledge, attitudes and beliefs and Heart Attack Response Action Questionnaires was use to collect appropriates responses to symptoms at baseline, one and six-month for both groups.

Results: 70 patients were recruited, and 66 patients completed the follow-up. The median age of participants was 64.712 years, 63% male. The groups were equivalent at baseline. Significantly improved ACS symptom knowledge (95%CI; $p<0.001$), attitudes (95%CI; $p=0.004$), beliefs (95%CI; $p<0.001$) was sustained in the intervention group at six-months. There was a significant difference in Heart Attack Action Plan implementation on STOP (95%CI; $p=0.04$), TALK (95%CI; $p<0.001$) and CALL emergency number (95%CI; $p=0.02$) between group. There was no significant difference in TAKE nitrate ($p=0.20$) between group. There was a significant increase in Ambulance use (91.4%vs. 54.3%, $p<0.001$) compared with the usual care group. Cardiac hospitalisation was significantly lower on the intervention group then on the usual care group (3.6 2.8 vs. 6.4 4.4 days, $p=0.002$). Patients reported that the app has helped them to be more confident in recognising and managing heart attack symptoms in the future (85.14%).

Conclusion: Our avatar-based education application intervention had beneficial effect on all outcomes and this was sustained over the six months follow-up period.

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Predicting in-hospital functional decline in older patients who are admitted for acute cardiovascular disease: a prospective cohort study

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Introduction: The majority of older patients who are admitted to the hospital with cardiovascular disease suffer from one or more geriatric syndrome. These patients are

at high risk for developing hospitalization-associated functional decline which is associated with new onset disability, hospital readmissions and decreased survival.

Purpose: To develop and evaluate a clinical prediction model that identifies patients who are at risk for developing functional decline during hospitalization.

Methods: A prospective cohort study was performed on two cardiology units between September 2016 and June 2017. Patients were recruited on admission if they were admitted for non-surgical treatment of an acute cardiovascular disease and were aged 75 years or older. In-hospital functional decline was defined as any decrease on the Katz Index of Activities of Daily Living between hospital admission and discharge. Predictors were selected based on a review of the literature and were included in a multivariate logistic regression model.

Results: A total of 189 patients were recruited after screening 968 patients. The mean age was 84 years (SD = 5) and the largest group of patients presented with heart failure as primary reason for hospital admission. In total, 40% of the patients developed functional decline during hospitalization. A score chart was developed: use of ambulatory device = +8 points, cognitive impairment = +7 points, depressive symptoms = +5 points, decreased appetite = +5 points, use of physical restraints = +4 points. This model discriminated adequately between patients with and without functional decline (C-index = 0.74), was well calibrated (Hosmer-Lemeshow p = 0.458) and was clinically useful as a screening tool: negative predictive value = 85%, sensitivity = 83%, positive predictive value = 46%, specificity = 51%.

Conclusion: A brief geriatric assessment can accurately identify patients who are at risk for developing functional decline during hospitalization.

Funding Acknowledgements: This study was funded by the KU Leuven Internal Funds (REF 22/15/028). The KU Leuven Internal Funds had no role in the design, execution and analysis

On Behalf Of: G-COACH consortium.

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Disparities in cardiovascular risk factors among immigrants in Australia: Evidence from a large population-based cohort

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Introduction: Reducing disparities in cardiovascular disease (CVD) remains a major health issue globally. There are significant differences among immigrants in the burden of CVD in the Western countries and the overall prevalence of CVD risk factors vary among the subgroups of immigrants. However, little is known about the disparities of cardiovascular risk factors in immigrants despite over 28% of Australian population were born overseas.

Purpose: This study examined the cardiovascular risk factors among four major ethnically diverse groups of immigrants in Australia.

Methods: Using data from 266, 696 Australian participants from the 45 Up Study (2006-2009), the study investigated cardiovascular risk factors among immigrants from European countries (n=40,358), China (n=2690), South Asia (n=1822), the Middle East (n=1499) compared with Australia-born participants (n=199,806). Poisson regression models with a robust error variance were used to estimate prevalence ratio (PR) and 95% confidence intervals (CI) for six major cardiovascular risk factors (hypertension, diabetes, high cholesterol, current smoking, overweight/obesity, physical inactivity) using Australia-born participants as the reference group. Each outcome was adjusted for socio-demographic characteristics.

Results: Compared with Australia-born participants, immigrants from the Middle East had worse cardiovascular risk profiles followed by those from South Asia and China. Immigrants from Middle East countries had higher prevalence of diabetes (PR=1.88; p<0.001), smoking (PR=1.69, p<0.001), physical inactivity (PR=1.63, p<0.001), overweight/obesity (PR=1.11, p<0.001), and more than 3 risk factors (PR=1.51, p<0.001); South Asian immigrants had higher prevalence of diabetes (PR=2.59; p<0.001), high cholesterol (PR=1.24; p<0.001), physical inactivity (PR=1.26; p<0.001), and more than 3 risk factors (PR1.22; p<0.001); while immigrants from China had higher prevalence of diabetes (PR=1.15; p<0.05), smoking (PR=1.30; p<0.01), and physical inactivity (PR=1.54; p<0.001). The immigrants from European countries had the similar cardiovascular risk factors profiles to Australia-born participants.

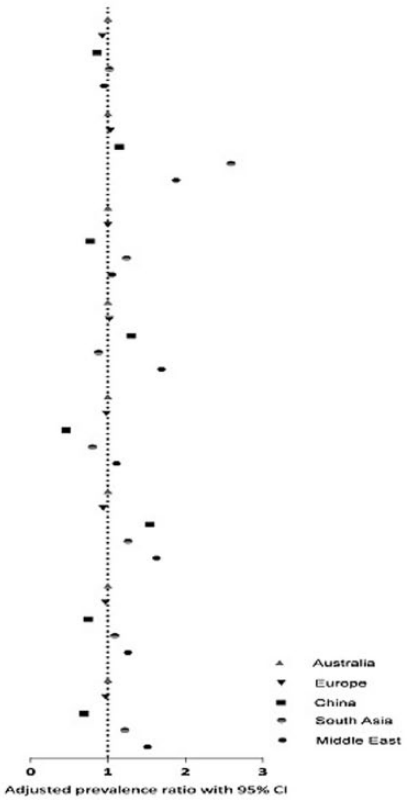
Conclusions: Generally, immigrants had worse cardiovascular risk factor profiles compared with Australia-born participants and there were significant differences of risk factors among subgroups of immigrants. These findings could provide important insights for policy intervention development to eliminate health disparities among the immigrants from culturally and linguistically diversely background in Australia.

Funding Acknowledgements: Nil

Figure: Prevalence of cardiovascular risk factors among immigrans in the 45 and Up Study (2006-2009)

CVD risk factors	Region of birth	Adjusted PR ‡ (95% CI)
Hypertension	Australia	1
	Europe	0.93 (0.92-0.94)***
	China	0.86 (0.81-0.91)***
	South Asia	1.02 (0.96-1.09)
	Middle East	0.95 (0.88-1.01)
Diabetes	Australia	1
	Europe	1.03 (1.00-1.07)
	China	1.15 (1.02-1.31)*
	South Asia	2.59 (2.36-2.85)***
	Middle East	1.88 (1.68-2.11)***
High cholesterol	Australia	1
	Europe	1.00 (0.98-1.03)
	China	0.77 (0.69-0.86)***
	South Asia	1.24 (1.13-1.37)***
	Middle East	1.05 (0.93-1.18)
Current smoking	Australia	1
	Europe	1.02 (0.98-1.05)
	China	1.30 (1.09-1.55)**
	South Asia	0.88 (0.71-1.10)
	Middle East	1.69 (1.51-1.89)***
Overweight/obesity	Australia	1
	Europe	0.98 (0.97-0.98)***
	China	0.46 (0.43-0.49)***
	South Asia	0.80 (0.77-0.84)***
	Middle East	1.11 (1.07-1.15)***
Physical inactivity	Australia	1
	Europe	0.94 (0.92-0.96)***
	China	1.54 (1.46-1.63)***
	South Asia	1.26 (1.27-1.46)***
	Middle East	1.63 (1.53-1.73)***
2 risk factors	Australia	1
	Europe	0.97 (0.95-0.98)***
	China	0.75 (0.71-0.79)***
	South Asia	1.09 (1.03-1.14)**
	Middle East	1.26 (1.21-1.32)***
≥3 risk factors	Australia	1
	Europe	0.97 (0.94-0.99)**
	China	0.69 (0.62-0.77)***
	South Asia	1.22 (1.11-1.33)***
	Middle East	1.51 (1.39-1.63)***

‡ PR Prevalence ratio, adjusted for age, sex, education, private insurance, marital status and remoteness.
*< 0.05 ; **<0.01; ***< 0.001



Prevalence of CVD risk factors

Moderated poster session 3

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The use of epicardial pacing wires following cardiac surgery and an examination of the link between their removal and delayed hospital discharge:an irish cross-sectional study.

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Background/Introduction: Following cardiac surgery, patients may have epicardial pacing wires inserted. These allow rapid commencement of atrial and /or ventricular pacing in the event of post-operative cardiac arrhythmia, which could cause significant haemodynamic compromise. Removal is usually on the fourth post operative day, via gentle transcutaneous retraction. Patients normally remain in hospital for 24 hours following wire removal, as complications may occur. These complications include arrhythmia, myocardial or pericardial injury.

Purpose: To examine the use of epicardial pacing wires following cardiac surgery and to determine if there is a link between the day of wire removal and delayed hospital discharge.

Methods: Data were collected prospectively for all cardiac surgical patients over a five-month period, between 2016-2017. Demographic and operative data relating to pacing wire insertion, use, removal, complications and day of discharge were recorded. The study was ethically approved.

Results: Pacing wires were inserted in 164 of the 167 patients who had cardiac surgery. The majority (74%) were never paced. Patients were subdivided into those who had AVR as a component of their operation (n=42) and those who did not (n=122).

Of those who had AVR, 26% (n=11) used their pacing wires and 9% (n=4) went on to have a permanent pace-maker inserted. 50% (n=21) of the patients in this group had their wires removed by day 4 post-operatively.

Of the non-AVR patients, 23% (n=28) used their pacing wires. Two of these patients required permanent pace-maker insertion. Of note, both these patients had tricuspid valve replacement. Of the non-AVR patients who required temporary pacing, 18 were paced for less than 12 hours, 2 were paced for 1 day, 4 for 2 days and 2 for 4 days. 54% (n=66) had wires removed by day 4.

At the time of data collection, the unit protocol was to remove pacing wires on day 4 post operatively, if they were not being used, but not to remove wires on Saturdays or Sundays. 53% (n=87) of all cases had wires removed by day 4, 18% (n=29) on day 5, 17% (n=28) on day 6 and 10% (n=16) on or after day 7. A small number of patients died with pacing wires in situ (n=4). There were no pacing wire related complications. As a consequence of the non-removal of wires at weekends, the removal of wires was delayed for 40 patients; of these, 28 were discharged the day after wire removal.

Conclusion: The majority of patients with pacing wires did not require pacing and wire removal was uncomplicated in this study. The finding that 17% of patients were discharged the day after delayed wire removal implies that the unit protocol of non-removal of wires at the weekends delayed discharge for these patients. As a consequence of this study, the unit protocol is under review and practice change is already underway in this research site.

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Anxiety and depression are associated with high readmission rates after ablation for atrial fibrillation

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Background: Observational studies have shown a connection between atrial fibrillation (AF) and risk factors such as smoking, high alcohol intake, diabetes, and anxiety. However, little is known about the association between risk factors and AF related readmissions.

Purpose: The aims of this study were to describe: 1) responder- and non-responder characteristics 2) the prevalence of risk factors, and 3) the associations between risk factors and readmission.

Methods: Patients treated with an ablation for AF included in the Danish DenHeart survey study was used and included patient-reported data on anxiety and depression, measured by the Hospital Anxiety and Depression Scale (HADS), and cardiac risk behaviour, as well as register data on co-morbidities and readmissions. As recurrence of AF within two months following treatment with ablation does not warrant hospitalization, data on readmission from 60 days after ablation for AF to one year after discharge were obtained. We included all acute-, all cardiovascular- and AF- readmissions and readmissions due to direct current cardioversion or ablation for AF. Logistic regression analyses adjusted for sex, age, marital status, educational level and comorbidity score were performed.

Results: Characteristics of responders (n=673) and non-responders (n=294) showed few differences between groups. Prevalence of risk factors was for HADS-D=8 n= 114, HADS-D =11 n=32. HADS-A=8 n= 236, HADS-A =11 n=103, current smoking n=58, BMI =30 n=148.

An association (odds ratio) between high scores on HADS and acute- (HADS-D =11: 3.56 (1.67-7.57), HADS-A =11: 1.85 (1.19-2.88), cardiovascular (HADS-D =11: 2.28 (1.10-4.74), HADS-A =11: 1.89 (1.23-2.92) - and AF-HADS-D =11: 2.10 (1.01-4.34), HADS-A =11: 1.81 (1.17-2.79) readmission 60 days to 1 year after ablation was found. Further, there was an association between ischemic heart disease and acute readmission. No associations were found for the following risk factors: Smoking, high alcohol intake, obesity (body mass index (BMI) = 30), diabetes, heart failure or chronic obstructive pulmonary disease.

Conclusion: The results showed few differences between responder- and non-responder characteristics which means that the survey results are generalizable in patients treated for AF with ablation. The prevalence of risk factors was prevalent and comparable to results of other studies. Symptoms of anxiety and depression were found to be associated with readmission, but not with readmissions for direct current cardioversion or ablation for AF. Thus, patients were not readmitted for treatment of AF. Surprisingly, no association was found between other risk factors such as smoking, obesity, high alcohol intake or co-morbidities and readmission up to one year after ablation for AF. According to these results, interventions should focus on reducing anxiety and depression in patients following ablation for AF.

On Behalf Of: DenHeart.

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The meaning of social living after transcatheter aortic valve implantation

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Background: Transcatheter aortic valve implantation (TAVI) is increasingly used to treat elderly patients with severe aortic stenosis with high surgical risk. This novel treatment has been shown to be effective in relieving symptoms, improving survival and prognosis, but its impact on patients daily life and social living, which often are motivations for TAVI, has been sparsely explored.

Purpose: To explore patients lived experiences of social life and relationships after TAVI.

Methods: Qualitative interviews were conducted in a purposeful sample of ten patients three-four months after TAVI in their home. A phenomenological hermeneutical approach comprised an epistemological stance and Ricoeurs work inspired the qualitative methodological foundation.

Findings: This study is the first to illuminate patients perception of social recovery after TAVI which can be interpreted in terms of the following three themes: The valued independence, the meaning of relationships and the significant activities. The experience of having a supportive network was significant in the period of recovery. Before TAVI the participants experienced a need for practical help from families and friends. However, experiences of independence in activities of daily living changed after TAVI where the participants were able to do much more by themselves than before. The participants were before treatment dependent on others which changed after TAVI and encouraged the participants to do things themselves. The participants were in high order able to live an independent life again. Resumption of social activities with families and friends contributed to the experience of being able to do the same as before. From experiencing limitations in daily life with heart valve disease, TAVI changed the lived experiences to a perception of being able to do something they liked and wanted again.

Conclusions: For elderly patients with aortic stenosis, TAVI gives the opportunity to engage in social relationships and live an independent life. Patients may be able to resume everyday activities following TAVI. Social recovery contributes to the experience of well-being.

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Parental perceptions of good care following congenital cardiac surgery, a qualitative study

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Introduction: Annually, around 4000 cardiac operations are undertaken on neonates and infants in the UK. Hospitalisation is known to have a negative impact on parental emotional well-being and stress levels, adding to the complexity of caring for this group. Recent evidence has highlighted a strong relationship between parental perception of risk in relation to surgery, and their perception of good care.

Aim: To explore parental perceptions of good care following congenital cardiac surgery.

Methods: A qualitative methodology was applied to generate narrative data. Twelve parents (nine mothers, three fathers) were recruited. Semi structured interviews were undertaken and transcribed verbatim on an ongoing basis. A systematic and iterative approach of analysis based on the constant comparative method was used, assisted by NVIVO software to organise the data. Ethical permission was granted by a local NRES.

Results: Three broad themes were identified that encompassed parental perception of good care: relationships, reflecting the interactions between staff, parents and child; environment, highlighting the impact of the care environment on parental perceptions of safety; and practicalities, which reflects the day to day complexities of parenting a hospitalised child.

Conclusion: Whilst the virtues of a good nurse are extoled through the 6Cs, parental perceptions of good care encompass a much wider definition.

Funding Acknowledgements: This study was supported by the Florence Nightingale Foundation

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Am I going to die now? The experience of being diagnosed with aortic dissection

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Background: Aortic dissection is a life threatening condition. Treatment in the acute phase consists of total bedrest until pain level and blood pressure has been stabilized and a plan for further treatment is established. Studies indicate that aortic dissection is associated with anxiety and decreased health-related quality of life. However, the studies include few patients and the results are ambiguous.

Aim: The aim of this study was to explore patients physical and mental health when diagnosed with aortic dissection, and their lived experience of diagnosis, hospitalization and subsequent life.

Method: An explanatory sequential mixed method was applied. Quantitative data regarding self-reported mental and physical health was obtained from 71 patients participating in the DenHeart survey and combined with qualitative data from interviews with 10 patients recently diagnosed with aortic dissection. Mental and physical health was measured by the Hospital Anxiety and Depression Scale (scores = 8 indicating clinically relevant anxiety/depression) and the mental and physical component scores of the Short-Form 12 (lower score indicating a poorer result). Interviews were analysed using a phenomenological approach.

Results: The prevalence of anxiety and depression was 41% and 25% respectively, and an adversely affected physical and mental health, with a Physical Component Score of (standard deviation (SD)) 41.1 (12.1), and Mental Component Score of 46.4 (10.4) was detected. The quantitative data was nuanced by results from the qualitative interviews that revealed four themes; this is serious, adapting to a compromised integrity, signals from the body, what can I do?. The physical impairment was explained by patients experiences of pain, feeling an extreme weakness and thoughts regarding blood pressure level. The mental deterioration was explained by a compromised integrity, fear of dying, not knowing what the future will bring and a bodily weakness which makes everyday life hard to manage. Conflicting information on the level of activity and the fear of doing something that makes the dissection worse also explains the mental impairment.

Conclusion: Fear of death, not knowing what the future will bring and a bodily weakness explains high prevalence of symptoms of anxiety and depression. Physical restrictions and conflicting information creates insecurity and describes the adversely affected self-reported health.

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The impact of the satisfaction of the anticoagulant treatment on the level of adherence to pharmacological recommendations in patients with atrial fibrillation

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Background:. Anticoagulant agents are effective and commonly used for the prevention of systemic embolism in patients with atrial fibrillation. Together with possible side effects anticoagulant treatment may negatively affect patients health-related quality of life and treatment satisfaction, which in turn is likely to result in the decrease of the treatment effectiveness and ultimately in its failure. The aim of the study was to evaluate the relationship between the satisfaction of the anticoagulant treatment and the level of adherence to therapeutic recommendations.

Material and methods: 102 patients were enrolled into the study, including 63 women, treated due to atrial fibrillation in the emergency department. The PACT questionnaire was used in order to evaluate the convenience and satisfaction of the anticoagulant treatment as well as the MMAS questionnaire in order to evaluate the level of adherence to pharmacological recommendations.

Results: The study proved that according to the PACT questionnaire the patients of high satisfaction of the treatment presented more often mean and high level of adherence to therapeutic recommendations in comparison

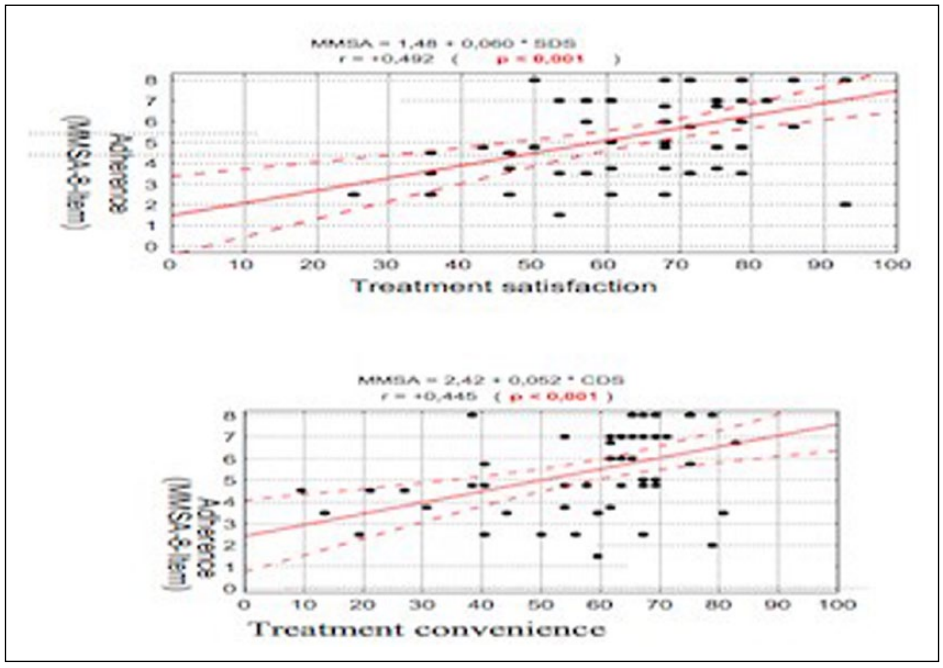
with the patients of the lack of satisfaction, respectively: low adherence level (68.8% lack of satisfaction vs 31.3% satisfaction), mean adherence level (25% lack of satisfaction vs 75% satisfaction), high adherence level (8.3% lack of satisfaction vs 91.7% satisfaction); p<0.001).

In the Spearmans rank correlation both the convenience (rho=+0.525; p<0.001), and the satisfaction of treatment (rho=+0.489; p<0.001) positively influenced the adherence of therapeutic recommendations. The higher satisfaction, the higher adherence. In regression analysis the independent predictors, influencing the adherence of therapeutic recommendations were: the convenience (=0.052; p<0.001) and the satisfaction (==0.060; p<0.001). Out of many determinants the independent predictors influencing the adherence to recommendations were: male gender (=1.42; p=0.004) and level of education (=0.55; p=0.030).

Conclusion: People with the higher level of convenience and satisfaction of the treatment have more often higher level of adherence to pharmacological recommendation. The convenience and satisfaction of the treatment are the independent determinants, influencing the adherence to anticoagulant treatment.

Funding Acknowledgements: NA

On Behalf Of: NA.



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Patient-reported outcomes at discharge predict acute and elective cardiac readmissions in patients with ICD

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Background: More and more emphasis is being put on patient-reported outcomes as credible and important measures of healthcare. Measures such as anxiety, depression and quality of life are linked to adverse outcomes in cardiac patients. More specifically, anxiety and quality of life has been found to predict mortality in patients with an implantable cardioverter defibrillator (ICD). In this study, we aim to investigate patient-reported outcomes as predictors of readmission among patients with ICD.

Purpose: To investigate whether perceived health, anxiety, depression, quality of life and symptom burden are predictors of all, acute and elective cardiac readmissions within 3 months of hospital discharge in patients with ICD.

Methods: In the national DenHeart survey patients with ICD answered Short Form-12 (SF-12), the Hospital Anxiety and Depression Scale (HADS), HeartQoL and the Edmonton Symptom Assessment Scale at hospital discharge. Two subscales were derived from the SF-12: the Physical Component Summary (PCS) and the Mental Component Summary (MCS). Questionnaire data were linked to national registers to obtain information on all,

acute and elective cardiac readmissions within the first 3 months since hospital discharge. Cox proportional hazard analyses were performed with age as underlying time scale and adjusted for sex, marital status and Tu co-morbidity index.

Results: A total of 998 patients with ICD answered the survey (response rate 58 %). Of those 80 % were male, mean age was 64 and 65 % were married. Within 3 months of hospital discharge 313 patients (31 %) were readmitted. Perceived physical health predicted readmission as 1 point increase on PCS resulted in a 2 % reduced risk of acute cardiac readmission. An increase on MCS also reduced the risk of all readmission as well as acute and elective cardiac readmissions. Having a HADS-A or HADS-D score=8 increased the risk of readmission with approximately 50 %. A 1 point increase on HeartQoL was associated with a reduced risk of all readmissions of 28 %, 31% for acute cardiac readmissions and 41 % for elective cardiac readmissions. Furthermore, higher Symptom Distress Score resulted in increased risk of all readmissions and acute and elective cardiac readmissions.

Conclusion: Patient-reported perceived health, anxiety, depression, quality of life and symptom burden are predictors of all, acute or elective cardiac readmissions in patients with ICD. This confirms that several patient-reported outcomes are important measures of health with substantial predictive value.

Table 1. Predictors of readmissions within 0-3 months after discharge

	All readmissions	Acute cardiac readmissions	Elective cardiac readmissions
	HR (CI) (1)	HR (CI) (1)	HR (CI) (1)
PCS (2)	0.99 (0.97-1.00)	0.98 (0.96-1.00)*	0.98 (0.96-1.01)
MCS (2)	0.98 (0.97-1.00)*	0.97 (0.96-0.99)*	0.98 (0.96-1.00)*
HADS-A≥8	1.50 (1.13-1.98)*	1.29 (0.90-1.84)	1.45 (0.92-2.27)
HADS-D≥8	1.47 (1.07-2.03)*	1.37 (0.92-2.04)	1.79 (1.09-2.95)*
HeartQoL global (2)	0.72 (0.60-0.86)**	0.69 (0.55-0.87)*	0.59 (0.44-0.79)**
Symptom Distress Score (2)	1.01 (1.01-1.02)*	1.02 (1.01-1.03)*	1.01 (1.00-1.03)*

PCS=physical component summary; MCS=mental component summary; HADS-A=Hospital Anxiety and Depression Scale-Anxiety; HADS-D=Hospital Anxiety and Depression Scale-Depression

*, p<0.05; **, p<0.001

(1) Cox regression model with age as underlying time and adjusted for sex, marital status and Tu co-morbidity index.

(2) The effect of increase by 1 on the SF-12, HeartQoL and Symptom Distress Score.

Oral abstract session: PPCI, risk factors and prevention

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Advancing the management of type 2 diabetes through an integrated community based cardiovascular disease prevention programme

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Background: With the prevalence of Type 2 diabetes increasing globally it is imperative that we explore models of care that seek to improve diabetes outcomes in accordance with the recommended total CVD risk approach to prevention.

Purpose: This study examines the effectiveness of a community-based CVD prevention programme on medical and lifestyle risk factor management in a cohort of patients with Type 2 diabetes.

Methods: Patients with Type 2 diabetes were invited to attend a 16- week programme consisting of a professional multi-disciplinary (nurse, dietician, physical activity specialist) lifestyle intervention, with appropriate risk factor and therapeutic management in a community setting. Risk factors such as blood pressure, lipids, smoking, blood glucose, BMI (body mass index), waist circumference and physical activity levels were assessed at baseline, end of programme and at 1 year.

Results: Data on patients who attended Initial Assessment (IA), End of Programme Assessment (EOP) and a 1-Year follow-up (1-yr) were analysed (Table 1.)

Conclusions: Data from this ongoing lifestyle intervention programme suggests that the management of diabetes and cardiovascular disease can be successfully integrated. In addition, this model of care can improve diabetes outcomes with improvements in biomedical, anthropometric and lifestyle risk factors not only being observed at EOP but being sustained at 1-yr.

Table 1. Table 1. Summary of outcomes for patient

	Patients IA (n=164)	Patients EOP (n=164)	Patients IA(n=107)	Patients 1-yr(n=107)
Mean BMI	35.7	34.6 (p<0.001)	35.9	34.8 (p<0.001)
Mean Mediterranean Diet Score (max 14)	4.1	7.2 (p<0.001)	4.0	8.0 (p<0.001)
% Achieving physical activity targets	9.2	56.6 (p<0.001)	12.6	8.0 (p<0.001)
% Smoking	15.3	10.4 (p=0.008)	15.9	13.1 (p=0.45)
% Blood Pressure to target (<140/85mmHg)	44.4	71.9 (p<0.001)	44.3	74.5 (p<0.001)
% LDL to target (<2.6mmol/l)	54.8	80.3 (p<0.001)	52.9	81.7 (p<0.001)
% HbA1c to target (<7%)	53	75 (p<0.001)	54.1	82.4 (p<0.001)
Mean FBG (mmol/l)	7.55	6.69 (p<0.001)	7.41	6.75 (p=0.003)

BMI(Body Mass Index), LDL (Low-Density Lipoprotein), FBG (Fasting Blood Sugar)

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Patients experience of risk communication after acute myocardial infarction: a meta-synthesis of qualitative studies

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Background: People with established coronary heart disease (CHD) and a history of acute myocardial infarction (AMI) have a high risk for further cardiac events. Effective communication about patients individual risk is a prerequisite for successful secondary prevention and CHD self-management. In this review we examine how patients experience the delivery of information and communication about CHD risk.

Purpose: To synthesize findings of qualitative studies about patients individual experiences of risk communication on secondary prevention after myocardial infarction.

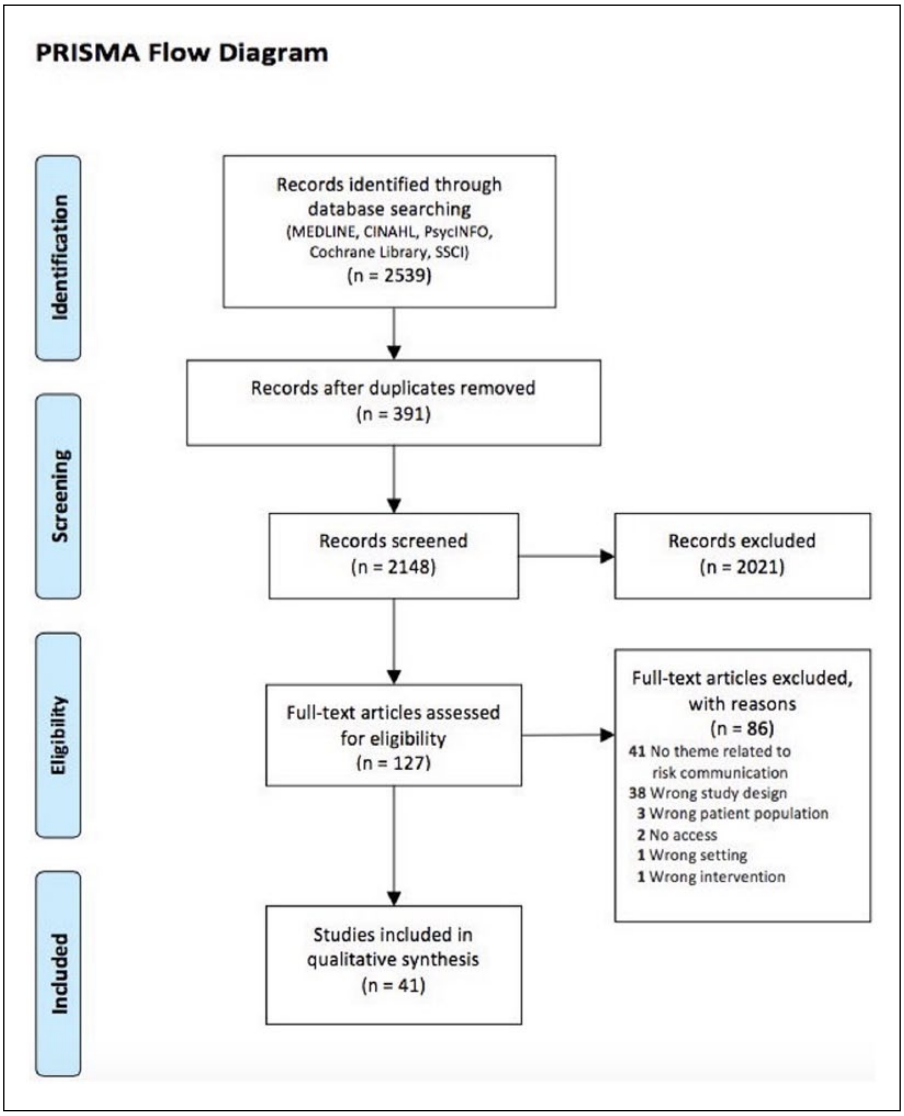
Methods: The qualitative synthesis was conducted using a meta-ethnography (Noblit and Hare); an approach widely used to provide robust evidence on patient beliefs and experiences. A pre-planned search was piloted and implemented across 5 databases (the Cochrane Library; MEDLINE via PubMed; PsycINFO; CINAHL; SSCI)

between January 1996 and October 2016. Inclusion criteria were; studies with qualitative or mixed methods design, recruiting participants with established CHD and a history of AMI, reporting findings with at least one category/theme about risk communication. Studies were independently assessed for inclusion by two researchers and a quality appraisal conducted.

Results: Of 2148 initial hits, 41 full-text papers were included, describing the experiences of over 850 participants. Six characteristics of risk information were valued by participants; consistency, individualisation, appropriate levels of detail, timing, location and modality (ie. how information was presented e.g. verbal, written, or pictorial format). Participants experiences of using the risk information were characterised by two overarching themes. Converting to context highlighted the complex ways in which participants applied their knowledge of risk within their everyday lives often adapting self-management recommendations to pre-existing preferences and habits. Dialogue with the self, on the other hand, showed how participants continued to try and make sense of their ongoing coronary risk, and in particular the controllability of their illness, long after communication with clinicians.

Conclusions: Understanding risk after AMI is a long-term process characterised by an internal dialogue in which patients translate the information from health professionals into their unique life situation. Clinicians need to follow up patients in the longer term to support patient learning and help them to manage their coronary risk with attention to everyday life context. Patients valued consistent, timely risk communication (ie. not necessarily in the immediate aftermath of AMI) delivered in a way that made sense to them.

Funding Acknowledgements: Dr Stefanie Mentrup received the Post-Doctoral Mentorship Award from the ESC Council on Cardiovascular Nursing and Allied Professions in 2016.



Prisma Flow Diagram

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Poor social network is associated with impaired self-rated health and symptoms of anxiety and depression across cardiac diagnoses.

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Background: Marital status and social network have previously been associated with the risk of future morbidity and mortality in patients with e.g. ischemic heart disease. Little is known about the causes of this association. A contributing factor could possibly be poor mental and physical health status among patients experiencing inadequate social network.

Purpose: To explore whether poor social network is associated with worsened patient-reported outcomes at hospital discharge across sex and cardiac diagnostic groups.

Methods: In the national DenHeart survey patients with cardiac disease answered Short Form-12 (SF-12) and the Hospital Anxiety and Depression Scale (HADS). Furthermore, they answered a question regarding whether they experienced having someone to talk to when they needed it. Information on cohabitation was derived from national registers. Linear regression was used for continuous outcomes and logistic regression was used for binary outcomes. All analyses were adjusted for age, educational level, co-morbidity, BMI, smoking and alcohol intake.

Results: In total, 13.463 patients (response rate 53 %) with ischemic heart disease (IHD), arrhythmia, heart valve disease and heart failure answered the questionnaire (70 % male, mean age 65 years). Having no one to talk to was associated with poor outcomes among both men and women and in all diagnostic groups (Table 1). Women with arrhythmia who lacked someone to talk to reported mental component scores that were 12 points lower than women who had someone to talk to (p<0.001). Similarly, men with heart valve disease who lacked someone to talk to reported physical component scores that were 6 points

Table 1. Association between social network and patient-reported outcomes.

		Mental component scale β (95% CI)[a]	Physical component scale β (95% CI)[a]	HADS-A OR (95% CI)[b]	HADS-D OR (95% CI)[b]
WOMEN					
IHD n=1975	*Living alone*	-0.89 (-2.21;0.43)	-1.14 (-2.35;0.06)	1.06 (0.85;1.32)	1.22 (0.94;1.59)
	No one to talk to	-6.34 (-8.17;-4.51)**	-2.95 (-4.65;-1.25)**	2.66 (1.96;3.60)**	3.96 (2.89;5.43)**
Arrhythmia n=1509	*Living alone*	-0.13 (-1.60;1.34)	0.19 (-1.19;1.56)	0.90 (0.70;1.16)	1.05 (0.77;1.45)
	No one to talk to	-9.02 (-11.19;-6.86)**	-4.38 (-6.45;-2.31)**	3.80 (2.58;5.60)**	4.84 (3.29;7.11)**
Heart failure n=269	*Living alone*	-2.20 (-6.49;2.09)	-1.12 (-4.68;2.44)	0.82 (0.43;1.58)	1.24 (0.61;2.51)
	No one to talk to	-12.23 (-18.14;-6.33)**	1.41 (-.84;6.65)	4.76 (1.82;12.44)*	3.00 (1.18;7.63)*
Heart valve disease n=329	*Living alone*	-3.57 (-7.11;-0.02)*	1.57 (-1.29;4.43)	1.00 (0.57;1.77)	0.85 (0.45;1.61)
	No one to talk to	-9.32 (-14.09;-4.55)**	-2.07 (-6.04;1.90)	2.04 (0.98;4.26)	3.73 (1.71;8.14)**
MEN					
IHD n=5204	*Living alone*	-2.67 (-3.51;-1.84)**	-1.11 (-1.93;-0.28)**	1.52 (0.98;1.36)	1.39 (1.15;1.68)**
	No one to talk to	-5.20 (-6.20;-4.20)**	-1.28 (-2.28;-0.28)*	2.02 (1.67;2.45)**	2.73 (2.23;3.35)**
Arrhythmia n=2813	*Living alone*	-2.73 (-0.86;-1.60)**	-1.05 (-2.11;0.02)	1.47 (1.17;1.86)*	1.56 (1.19;2.06)*
	No one to talk to	-6.78 (-8.26;-5.30)**	-1.72 (-3.14;-0.31)*	2.39 (1.79;3.18)**	3.75 (2.75;5.10)**
Heart failure n=718	*Living alone*	-3.12 (-5.31 ;-0.93)*	-0.83 (-2.78;1.12)	1.34 (0.88;2.02)	0.94 (0.59;1.50)
	No one to talk to	-2.42 (-5.53;0.67)	0.08 (-2.63;2.79)	2.00 (1.19;3.38)*	2.19 (1.27;3.79)*
Heart valve disease n=646	*Living alone*	-2.07 (-4.66;0.52)	-1.38 (-3.65;0.89)	1.21 (0.74;1.96)	1.06 (0.62;1.84)
	No one to talk to	-4.01 (-7.45;-0.57)*	-6.01 (-8.99;-3.02)**	1.89 (1.02;3.53)*	1.84 (0.94;3.61)

[a] Linear regression model adjusted for age, educational level, co-morbidity, BMI, smoking and alcohol intake.
[b] Logistic regression model adjusted for age, educational level, co-morbidity, BMI, smoking and alcohol intake.
* p<0.05, ** p<0.001

lower than men who had someone to talk to ($p<0.001$). Women with heart failure who experienced having no one to talk to were almost five times as likely to have a HADS-A score>8 compared to women who had someone to talk to ($p=0.0015$). Men with heart failure who lived alone reported a 3 points lower score on the mental component scale compared to men who lived with someone ($p=0.0053$) (Table 1). Finally, men with arrhythmia who lived alone were 56 % more likely to have a HADS-D score>8 men who lived with someone ($p=0.0015$).

Conclusions: Poor patient-reported social network is highly associated with worse self-rated mental and physical health and increased anxiety and depression scores in all diagnostic groups and among both men and women.

Funding Acknowledgements: The Heart Centre, Rigshospitalet, Helsefonden and Familien Hede Nielsens Fond

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Does depression affect outcomes in a clinical trial of a self-care cardiovascular disease risk reduction intervention conducted in a socioeconomically austere environment?

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Background: People living in rural Appalachian Kentucky have the highest rates of cardiovascular disease (CVD) risk, morbidity and mortality in the United States. Despite the marked CVD disparities seen in this area, efforts directed toward CVD risk reduction and prevention are limited. No intervention studies to date have considered the effect of the high rate of depression in this population on CVD risk reduction efforts.

Objective: To determine whether depression modifies the effect of an individualized, culturally appropriate, self-care CVD risk reduction intervention (HeartHealth) compared to referral of patients to a primary care provider for usual care on the following CVD risk factors: tobacco use, blood pressure, lipid profile, body mass index, depressive symptoms, and physical activity levels.

Methods: The study protocol and intervention were developed with a community advisory board that consisted of lay community members who were part of the targeted population, business owners, local government officials, church leaders, and healthcare providers. In this randomized trial, we enrolled 352 individuals living in Appalachia who were at high risk for CVD by virtue of having two or more CVD risk factors. The intervention was delivered in person to groups of 10 or fewer individuals over 12 weeks. Depression was measured using the PHQ-9. The HeartHealth intervention was designed to provide participants with successful self-care skills appropriate to CVD risk reduction while reducing barriers to risk reduction found in austere rural environments, and addressing the high rate of depression in the population. The targeted CVD risk factors were measured at baseline and 4 and 12 months post-intervention.

Results: More individuals in the intervention group compared to the control group met their lifestyle change goal (50% vs 16%, $p<0.001$), and the presence of depression at baseline did not modify this relationship. The intervention produced a positive impact on objectively measured systolic blood pressure, diastolic blood pressure, total cholesterol, high density lipoprotein, body mass index, smoking status, and self-reported depressive symptoms. Compared to the control group, improvement was seen at 4 months in these risk factors and the positive changes were maintained through 12 months. There were no differences seen across time by group in low density lipoprotein or triglyceride levels. The presence of depression at baseline did not modify the effect of the intervention.

Conclusion: Interventions like HeartHealth that focus on self-care of CVD risk factors and that address the presence of depression with active coping strategies are effective in medically underserved, socioeconomically distressed rural areas with high rates of depression.

Funding Acknowledgements: PCORI

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Combined use of a healthy lifestyle smartphone application and usual primary care counseling to improve arterial stiffness: A Randomized Controlled Trial (EVIDENT II Study).

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Introduction: The role of arterial stiffness in the prediction and development of cardiovascular events is widely developed in the literature. However, the effect of the use of mobile technology (mHealth) in the modification of arterial stiffness markers through the modification of lifestyles has not been analyzed.

Objective: To investigate the effect of an intervention consisting of brief advice on life habits added to the management of the EVIDENT II application, on the

modification of arterial stiffness markers (Peripheral augmentation index (PAIx75), cardio vascular vascular index (CAVI) and pulse wave velocity (baPWV).

Methods: Randomized clinical trial with two groups in parallel. Each participant made an initial visit and two follow-up visits at 3 and 12 months where the PAIx75 was evaluated by tonometry and the CAVI and the baPWV by oscillometry. Secondary variables included measurements of blood pressure, pulse pressure and heart rate. Both groups (intervention-IG and control-CG) received brief advice on diet and exercise at the first visit. The IG also received instructions for the use of the EVIDENT II application and a mobile was provided with the application for its use during the intervention period (3 months). These instructions included explanations on the specific sections of the application: daily record of food with the selection of food and quantities, daily record of physical activity (type and quantity) and the number of steps, visualization and comparison of all data included in front to reference values.

Results: The sample consisted of 597 people (291 IG, 306 CG), 64% women. The mean age was 52 11 years. There were no baseline differences between groups in any of the variables analyzed. The IG PAIx75 decreased at 3 months (-2.8%, 95%CI -0.5 -5.1 to), maintained at 12 (-2.5%, 95%CI -0.2 -4.8 to). The CAVI and baPWV did not change significantly. The CG increased the numbers of PAIx75 and baPWV at 3 and 12 months, reaching a significant increase at 12 months (0.25, 95%CI 0.11 to 0.39). Comparing groups, there was a decrease in the PAIx75 favorable to the IG at 3 months (-4.9%, 95%CI -7.7 to -2.1) and at 12 months (-3.9%, 95%CI -6.8 to -1.0). There is also a favorable effect on GI in the reduction of CAVI at 3 months without statistical significance. A group effect was observed in the evaluation of the PAIx75 over the 12 months of follow-up ($p = 0.003$), although only in women was this interaction observed ($p = 0.022$).

Conclusion: The use of EVIDENT application achieved, by improving lifestyles, a modification of the PAIx75. The impact of mobile technology to modify variables related to cardiovascular diseases was positive.

Funding Acknowledgements: This study was funded by the Spanish Ministry of Science and Innovation (MICINN) and Carlos III Health Institute

On Behalf Of: EVIDENT group.

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The efficacy and safety of simvastatin-fenofibrate fixed-dose combination in patients undergoing percutaneous coronary intervention

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Background: Dyslipidemia management situation in patients with high risk and very high risk has been demonstrated very low, despite the wide use of statins.

Purpose: The aim of this study was to evaluate the efficacy and safety of combination therapy with simvastatin and fenofibrate in patients after coronary artery stenting.

Methods: A total of 153 patients after coronary artery stenting were randomly assigned to receive 10 mg simvastatin (n = 71) and a combination of 10 mg simvastatin plus 200 mg fenofibrate (n = 82) for 1 months. In order to evaluate the clinical effects on lipids-lowering, systemic inflammation response and clinical safety, the follow-up of all patients was carried out at day 10th and 30th after treatment.

Results: Combination treatment was more effective in normalizing lipid profile than monotherapy. The level of low-density lipoprotein cholesterol (LDL-C) in combination group and statins group was 1.89 0.42 and 2.34 0.65 mmol/L at day 10th, 1.55 0.31 and 1.96 0.49 mmol/L at day 30th, respectively. The control rates of LDL-C level in the combination group and the statins group were 76% and 45% at day 30th, respectively. There was no significant improvement on high-density lipoprotein cholesterol (HDL-C) level during follow-up. The triglyceride (TG) levels were significantly reduced in both groups, while no obvious difference was observed between two groups. No significant difference on serum high-sensitivity C-reactive protein (hs-CRP) level between two groups was observed. Moreover, we did not observe any significant correlation between serum lipids levels and serum hs-CRP level during follow-up. The liver dysfunction and muscle related side effects (MRSE), creatine kinase (CK) and myopathy were not observed in both groups.

Conclusion: The results of this study demonstrated that combination therapy with fenofibrate and simvastatin is more effective than monotherapy in patients after coronary artery revasculirisation, and is generally safe and well tolerated.

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A single centred cross-sectional study of coronary reperfusion times in primary percutaneous coronary intervention (PPCI): an Irish perspective

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Background: The management of ST-elevation myocardial infarction (STEMI) in Ireland changed with the introduction of the National Acute Coronary Syndrome (ACS) model of care in 2012. The model heralded the implementation of a national Primary Percutaneous

Coronary Intervention (PPCI) Programme to minimise time to treatment using PPCI in STEMI patients. The programme mandates reperfusion to treat STEMI using PPCI within 120-minutes from first 12 lead ECG diagnosis. Irish data on times to PPCI is limited.

Purpose: The study established cross-sectional data of PPCI patients in an Irish PPCI centre. Objectives included;

1. Ascertain reperfusion time (RT) in all PPCI during the study period.
2. Identify whether patients achieved RT in<120-minutes.
3. Examine factors associated with RT.

Methods: The study was a non-experimental, cross-sectional descriptive design. To be included, patients were diagnosed with STEMI, based on the European Society of Cardiology (ESC 2012) criteria and admitted for emergency PPCI during the 3-month data collection period. Descriptive and inferential statistics were used. The study was ethically approved.

Results: There were 133 patients that met the inclusion criteria initially. Of these, 105 (79%) received PPCI, while the remaining 28 had differential diagnosis, based on their angiogram. The sample was 74% (N=99) male and the mean age was 62 +/- 11.97 years. 67% of PPCI patients achieved RT within 120-minutes from 12 lead ECG diagnosis, with a median RT of 96 minutes. The majority of STEMIs (46%) were diagnosed by paramedics. In this study, there was a significant difference (p=0.006) in the mean age of patients with a RT of <120 minutes (Mean: 59.6, SD: 11.1) and the mean age of those with a RT >120 minutes (Mean: 66.5, SD:13.26), suggesting that younger patients achieve RT in <120 minutes. Source of referral was also significant (p=0.001), in that patients (n=44, 81%) who were transferred directly to the Coronary catheterisation laboratory and bypassed Emergency Departments and non PPCI centres achieved reperfusion within the recommended 120 minutes.

Conclusion: The results suggest that a timely service to STEMI patients is being provided. However 33% fall outside the recommended RT timeframe of 120 minutes. There is scope to further improve these times. The results reported that both age and source of referral were found to be associating factors in achieving reperfusion times within 120 minutes. This study recommends a multi-centre study to represent the greater Irish STEMI population.

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The randomized physiologic assessment of thrombus aspiration in patients with acute myocardial infarction with ST-segment elevation (PATA STEMI)

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Background: Routine thrombus aspiration is superior to conventional primary percutaneous coronary intervention (PCI) in terms of improved myocardial perfusion in patients with acute myocardial infarction with ST-segment elevation (STEMI), but its clinical usefulness is still questionable. Myocardial perfusion after thrombus aspiration has not been evaluated by a quantitative index of microcirculatory resistance (IMR) in a randomised fashion.

Purpose: We performed a randomized, controlled clinical trial to evaluate impact of manual thrombus aspiration on microcirculatory resistance after primary PCI in 128 patients with the first STEMI randomly assigned to thrombus aspiration or conventional primary PCI group before coronary angiography.

Methods: The primary endpoint was defined as a mean value of IMRcorr in thrombus aspiration compared to conventional PCI group. Myocardial perfusion grade, resolution of ST-segment elevation, enzymatic infarct size, left ventricle remodeling and rate of adverse cardiac events were secondary endpoints.

Results: Manual thrombus aspiration, as compared with conventional PCI, resulted in significantly lower IMR corr (27.516,8 U vs. 39,932,7 U, P = 0,039). Treatment with thrombus aspiration, as compared with conventional PCI, resulted in similar rates of myocardial perfusion grade 0 or 1 (21,5% vs. 28,6%; RR 0,75; 95% CI, 0,41 to 1,38; P=0,36), complete resolution of ST-segment elevation (61,5% vs. 49,2%; RR 1,25; 95% CI, 0,91 to 1,71, P=0,16), similar infarct size (median AUC CK-MB: 4362 U/L (IQR: 696 to 15636 U/L) versus 4401 U/L (IQR: 996 to 15657 U/L), p=0.27), similar median value of WMSI (1,23 vs 1,23), LV sphericity volume index (0,43 vs. 0,41) and similar rate of LV remodeling (27,9 vs 18,5%, p=0,21). The rate of major adverse events (death, myocardial infarction, stroke or hospitalization for heart failure) between the groups was similar 4,6% vs, 11,1%, P=0,20. In a multiple regression model with the log-transformed IMR as dependent variable, after adjusting for clinical, angiographic and procedural variables, thrombus aspiration was not an independent predictor of lower IMR (28.4 U; 95% CI, 24.7 to 32.8 U, vs. 32.4 U; 95% CI, 28.1 to 37.4 U; estimate 0,877, 95%CI 0,715-1,077, P=0.21).

Conclusions: In our study, manual thrombus aspiration has nodeleterious effect on final infarct size. Although, routine thrombus aspiration leads to improvement in myocardial perfusion,it is not translated into increased myocardial salvage or lower final infarct size compared to standard pPCI.

Poster session 2

Arrhythmias, General

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Depression predicts mortality 7 years post implant in patients with an implantable cardioverter defibrillator

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Background: A paucity of studies have examined the impact of depression on mortality in patients with an implantable cardioverter defibrillator (ICD) with results being mixed. No studies have examined the long-term impact.

Purpose: To examine the impact of depression at the time of implant on all-cause mortality at 7 years follow-up.

Methods: A consecutive cohort of 405 patients (80% men; mean (SD) age=58 (12)) implanted with a first-time ICD at the Erasmus Medical Center in Rotterdam, the Netherlands, between 2003 and 2010 completed the Hospital Anxiety and Depression Scale (HADS) and the Type D Scale (DS14) at baseline. Survival status was assessed 7 years post implant.

Results: At the time of implant, 25% (103/405) of the patients had clinically relevant levels of depression (HADS score = 8). At 7 years, 34% (138/405) of the patients had died. As shown in Table 1, patients with depression had a close to 2-fold [HR: 1.87; 95% CI: 1.23-2.83] increased risk of mortality 7 years post implant, adjusting for relevant confounders including personality and shocks during follow-up.

Conclusion: Patients with depression at the time of implant were more likely to have died at 7 years follow-up as compared to patients not suffering from depression, with the risk being almost 2-fold. Screening patients with an ICD for depression in clinical practice is relevant and essential in order to identify this subset of high-risk patients and provide appropriate mental health treatment to enhance their survival.

Funding Acknowledgements: VENI 451-05-001 the Netherlands Organization for Scientific Research; VIDI 91710393 the Netherlands Organization for Health Research and Development

Table 1.

	Unadjusted HR [95% CI]	p	Adjusted HR [95% CI]	p
Depression (HADS =8)	1.82 [1.28-2.58]	.001	1.87 [1.23-2.83]	.003
Men	3.10 [1.72-5.61]	<.0001	2.66 [1.43-4.92]	.002
Age (years)	1.07 [1.05-1.09]	<.0001	1.06 [1.04-1.08]	<.0001
Low educational level	1.32 [0.93-1.87]	.120	1.06 [0.74-1.53]	.739
Type D personality	1.27 [0.87-1.85]	.214	0.84 [0.54-1.33]	.461
Primary prevention indication	0.90 [0.64-1.28]	.566	0.86 [0.57-1.30]	.471
Coronary artery disease	2.29 [1.56-3.37]	<.0001	1.42 [0.94-2.14]	.098
Symtomatic heart failure	2.17 [1.55-3.03]	<.0001	2.30 [1.56-3.40]	<.001
Amiodarone	3.05 [2.13-4.38]	<.0001	1.88 [1.28-2.77]	.001
Treatment for psychological problems	0.60 [0.22-1.63]	.316	1.36 [0.49-3.83	.556
Appropriate shocks during follow-up	1.73 [1.22-2.47]	.002	1.59 [1.10-2.32]	.015

Impact of depression on 7-year all-cause mortality (unadjusted and adjusted analyses)

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Arrhythmias and long-term survival - in-hospital telemetry monitoring in patients with acute coronary syndrome

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Introduction: In-hospital telemetry monitoring of patients at risk of serious arrhythmias is a joint collaboration between nurses and physicians at the ICCUs and at the medical and surgical wards. Inconsistent arrhythmia surveillance has the potential to compromise patient safety and care outcomes. Telemetry monitoring is recommended in all patients with acute coronary syndrome (ACS) to reveal severe arrhythmias and sudden cardiac death. According to the Practice Standards for Electrographic Monitoring by the American Heart Association (AHA)

all patients with preliminary ACS diagnoses have Class I indication for telemetry monitoring.

Purpose: The aims of the study were to investigate the number of in-hospital arrhythmias, and whether arrhythmias versus non-arrhythmias predict long-term survival in ACS patients. Les fonetisk Ordbok - Vis detaljert ordbokresultat

Methods: A prospective observational design was applied. All adult patients assigned to in-hospital telemetry monitoring at one university hospital during a three month period in 2009-2010 were consecutively enrolled (N=1194). A registration data sheet with sixty-four variables was developed, completed by monitor watchers at the central monitor station, and reviewed by the investigator. Data were collected 24/7. Medical records were reviewed in all patients and re-reviewed in the ACS population (n=422) seven years after hospital discharge.

Results: Of the 422 ACS patients, 69% were men and mean age was 65 years. Only 23% of the patients experienced arrhythmic events, of which 1.4% was serious adverse events like third degree AV-block, sustained ventricular tachycardia and asystole. Of the entire ACS population, 24% died within seven years after hospital discharge. There were no significant differences in survival rates in patients with and without arrhythmic events during hospital stay (OR 1.6, 95% CI 0.79-3.25, p=0.189).

Conclusion: ACS patients under in-hospital telemetry monitoring had low rates of adverse arrhythmia events. No significant differences in patients with and without in-hospital arrhythmias in long-term survival challenge the AHAs Practice Standard as cardiac monitoring is recommended in all ACS patients. Further investigations in a larger population of ACS patients are required.

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Flecainide overdose: clinical presentation

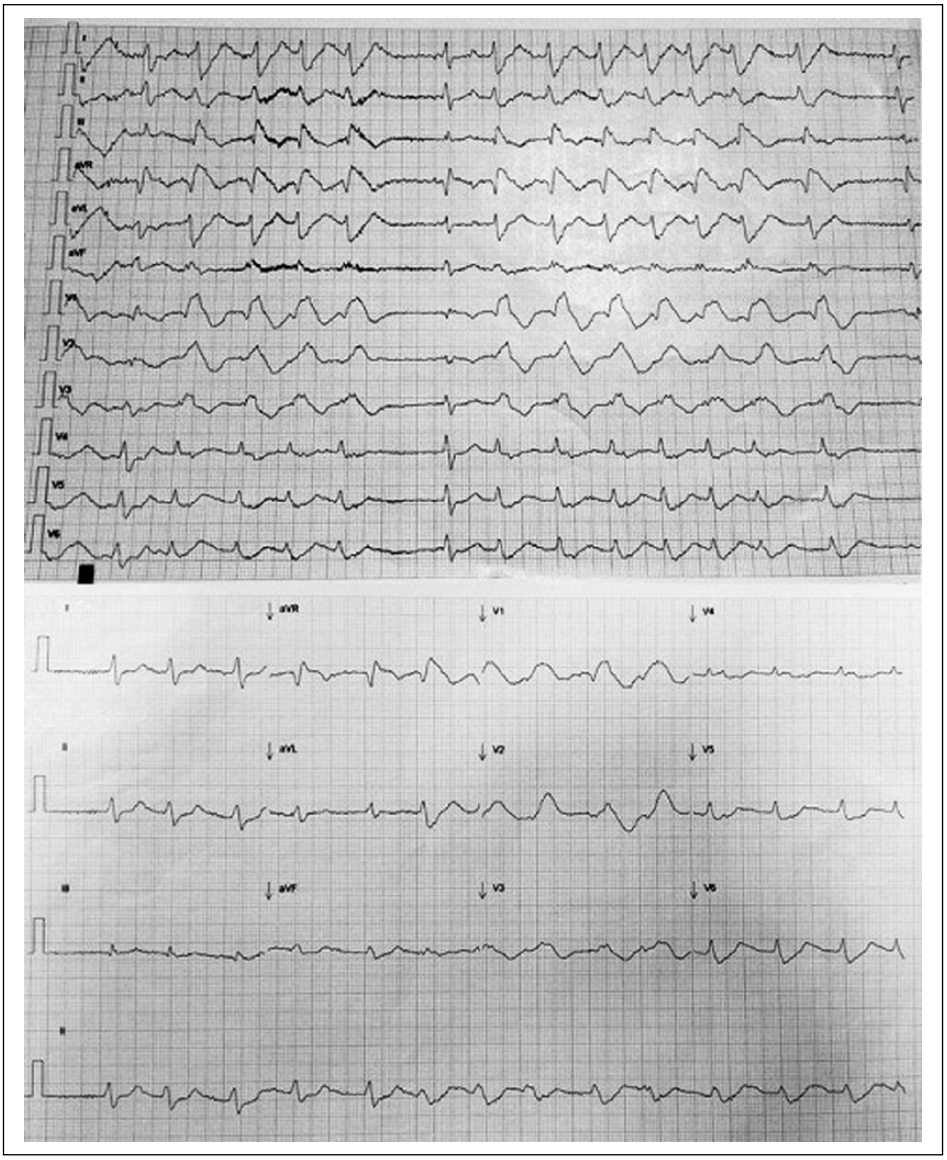
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We present the case of a 60-year-old woman, with a history of paroxysmal atrial fibrilation in cronic treatment with flecainide without follow-up, and chronic renal failure, who had been on dialysis for a year. She presented an atrial fibrilation with rapid ventricular response during the hemodyalisis session so another dose 300 mg of flecainide was administered after which she presented clinical worsening, hypotension and a syncopal episode. She had presented multiple syncopal episodes of two months evolution. EKG was performed, and after the findings the patient was transferred to the emergency department. During the stay in the emergency department, she presented cardiorespiratory arrest, secondary to ventricular tachycardia and electromechanical dissociation, and recovered after cardiopulmonary resuscitation maneuvers and circulatory support measures. The clinical and electrocardiographic findings were compatible with flecainide intoxication, a condition that was promoted by the presence of renal failure. Hydration and treatment with sodium bicarbonate were initiated with progressive normalization of QRS complex, PR interval and QT interval.

Flecainide is an antiarrhythmic drug that blocks sodium channels during phase 0 of cardiac action potential. Intoxication by this drug is not frecuent, but the risk of cardiac arrhythmias and death is high. Some of the electrocardiographic manifestations are a marked widening of the QRS complex and prolongation of QT and PR intervals. This situation promotes the appearance of complications such as severe bradycardia, asystole, advanced atrioventricular conduction disorders, tachycardia and ventricular fibrillation or electromechanical dissociation.

The management of this condition is based on few cases reported with sodium bicarbonate in order to reverse the effects of the blockade of Na + channels caused by flecainide, support measures and control of arrhythmic complications. Flecainide is metabolized by the liver and is eliminated mostly in the urine. In case of renal failure, the elimination half-life is variable, and hemodialysis is not effective.



Flecainide overdose

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An Irish cross sectional survey of patients knowledge of implantable cardioverter defibrillator (ICD) and their deactivation at end of life.

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An Irish cross sectional survey of patients knowledge of implantable cardioverter defibrillator (ICD) and their deactivation at end of life.

Background/Introduction: Implantable cardioverter defibrillator (ICD) is an established therapy for the prevention of sudden cardiac death. However, at the end of life, these devices can prolong the dying experience yet there are varying practices with respect to device deactivation. Patients are not always aware of their options regarding ICD management and deactivation at the end of life. Therefore, there is a requirement for health professionals to address these issues and have relevant discussions with patients.

Purpose: The purpose of this study was to identify patients levels of knowledge about their ICD and the potential to deactivate their device at the end of life.

Methods: Data were collected from patients attending an ICD clinic in a tertiary Dublin in Hospital, in 2017. To be included, patients needed to have their ICD inserted at least 12 months previously. Data on sociodemographic and clinical history were collected. Knowledge about ICDs and its deactivation was assessed using the End

of Life (EOL) ICD Questionnaire. Ethical approval was granted for the study.
Results Of the participants (N=30), 80% were male. The mean age was 61.8 + 12.6 years. While knowledge levels varied, 59% correctly answered questions about ICDs. However, only 10 participants had ever discussed turning off their ICD with their doctor/nurse and next-of kin. With respect to ICD deactivation, most (77%) would prefer that they or their physician make that decision while only 37% would want their next of kin to make that decision on their behalf. There was no relationship between knowledge of ICD deactivation and time since implantation (p=0.11), but there was a relationship between knowledge regarding ICD deactivation and age (p=0.008). Older patients had greater knowledge than younger patients.

Conclusion: This paper addressed patients knowledge of ICDs and their deactivation at the end of life. According to the literature, there are no standardised practices with respect to collaborative discussions between patients and health care providers regarding ICD deactivation at end of life. Discussing device deactivation is recommended prior to implantation and should comprise part of ongoing care. The evidence of limited knowledge of ICDs and the desire for discussions about deactivation indicates the importance of patient education and counselling throughout the patients illness trajectory.

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Subclavian venoplasty during CRT-D implantation - the importance of a heart team

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In October 2016 a female patient, aged 39 years, was admitted to the urgency with dry cough, dyspnea and chest tightness with three weeks of evolution and progressive aggravation. She has already completed four days of antibiotics due to a pneumonia, diagnosed at her residence area hospital, without improving her condition. She has been followed in our department since 2001 when collapsed with a syncope by complete atrioventricular block. Temporary first and permanent pacemaker after, was implanted at age of 24. Since then, until 2010, her sister and cousin suddenly died and she was diagnosed a Hypertrophic Cardiomyopathy (HCM). During follow up consultations, is described preserved global systolic function in echocardiography and ventricular extrassstoles in holter, so that she was hospitalized for an implantable cardioverter defibrillator (ICD) placement (primary prevention) at age of 33.
After knowing all this girl heavy personal and clinical history, new symptoms (a pneumonia) has brought her back to urgency. A new echocardiography brings up a 34% left ventricular ejection fraction (LVEF), a new congestive heart failure problem, confirmed by NT-proBNP 967,0 analysis. She continued antibiotics and was proposed to an ICD upgrade to cardiac resynchronization therapy-defibrillator (CRT-D) at age of 39.That is the moment I met her and her story. I accompanied her before, during and after the procedure. She was very anxious and fragile. The procedure was complicated since the left subclavian vein was occluded due to the two previous implants. The pacing team asked for help of the cath lab team who managed to perform a balloon venoplasty successfully the vein after many tries. Cannulation of the coronary sinus was equally difficult and the procedure took long three hours. Patient was very painful but happy with the result. A slight haemorrhage and haematoma happened after implantation with no further complications.

This is a typical HMC evolution case of a young adult girl who has been through many cardiac problems but also with luck and strength to overcome them well followed by all health professionals in our department (physicians, nurses and technicians). Follow ups are decisive. Team Work was also the key for this last complex procedure. What if we couldnt angioplasty the vein? Or control her anxiety and pain? The 6th month follow up, fortunately showed an LVEF improvement to 42% and was feeling much better. This is a case of a rare procedure performed by the heart team on a survival girl fighting for her life and mourning for hers sister death. It is impossible not to involve ourselves in such work stories.

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In-hospital telemetry monitoring practice, electrode placement, skin preparation, hygiene and patient information

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Background: Alarms released from central monitor stations must be recognized, interpreted and treated in a timely manner. Skilled monitor watchers are crucial to detect early warning signs that might predict complex adverse events. Correct electrode placement and proper skin preparation facilitated by cardiac ward nurses contributes to raise the quality of the arrhythmic surveillance, and is recommended in the Practice Standards for Electrocardiographic Monitoring in Hospital Settings by the America Heart Association (AHA). Internationally,

lack of knowledge in procedures of cardiac monitoring is revealed.

Purpose: The purpose of this study was to investigate Norwegian cardiovascular nurses level of knowledge and clinical practice in cardiac monitoring and to determine possible changes from 2011 to 2017.

Methods: A comparative study design was applied and data was obtained by survey methodology. Data was collected at the Annual National Congresses on Cardiovascular Nursing in Norway in 2011 and 2017. A standard data abstraction sheet specifically developed for this study was used to record knowledge in telemetry monitoring practice.

Results: Delegates from 44 hospitals in 2011 and 38 hospitals and primary care institutions in 2017 participated in the congresses. In total, 363 (70%) cardiac nurses responded to the questionnaires, of which 95% were female with a mean age of 41 years. Skin cleaning was frequently neglected, as 73 % of nurses never or seldom prepared skin for electrode placement. Skin shaving in male patients was often or always performed by 94% of the participants, and improved from 90% in 2011 to 98% in 2017 ($p = 0.001$). Overall, using disposable telemetry cover on telemetry units to prevent nosocomial infection was always performed by 65% of the delegates and increased from 49% in 2011 to 80% in 2017 ($p<0.001$). In total, 17-49 % of the limb electrodes and 44-47% of the V electrodes were placed incorrectly. Overall, 38% of the electrodes were misplaced. In total, 64 % always informed patients of the purpose of the cardiac monitoring with no significant changes from 2011 to 2017.

Conclusion: Non-adherence to recommendations in the AHA Practice Standards in electrode placement, skin preparation and patient information is concerning. However, increasing skin preparation as well as use of protective covers are promising findings.

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Self-reported quality of life predicts mortality 7 years post implant in patients with an implantable cardioverter defibrillator

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Background: An implantable cardioverter defibrillator (ICD) is a device used to treat life-threatening arrhythmias and prevent sudden cardiac death. The ICD can reduce the rate of all-cause mortality by 37%. Although the device has obvious medical benefits, the device also poses some challenges e.g. lead fractures and appropriate/inappropriate shocks. On top of this, patients have to deal with their underlying disease and may also have co-morbidities. These challenges can impact the patients well-being and quality of life (QoL). Studies have shown that QoL can predict mortality at 1-year follow-up. However, there is currently no knowledge of the long-term effects of QoL on mortality in patients with an ICD.

Purpose: To examine whether self-rated QoL at the time of implantation predicts mortality at 7 years follow up in patients with an ICD.

Methods: The sample consist of 392 patients (80% men; mean (SD) age=58 (12) consecutively implanted between 2003 and 2010. Patients completed the SF-36. The eight subscales and the physical and mental component summary scores were used as predictors of mortality 7 years post implant.

Results: At 7-year follow-up, 33.7% (132/392) of the patients had died. Patients with low QoL had an increased risk of mortality 7 years after implant. The QoL subscales physical functioning, role physical functioning, and vitality were associated with an increased risk of mortality (Table 1).

Conclusion: Patients with poor QoL on the domains of physical functioning, role physical functioning and vitality at the time of implant were more likely to have died at 7 years follow-up as compared to patients with good QoL on these domains. An assessment of the patients QoL at time of implant could help to identify patients at increased risk of mortality.

Funding Acknowledgements: VENI grant (451-05-001) and VIDI grant (91710393)

Table 1.

	Unadjusted HR [95% CI]	P	Adjusted HR [95% CI]	P
Physical functioning	1.51 [1.06-2.14]	.022	1.60 [1.11-2.31]	.012
Role physical functioning	1.59 [1.10-2.29]	.014	1.55 [1.06-2.25]	.023
Bodily pain	1.10 [0.78-1.54]	.597	1.04 [0.74-1.47]	.818
Social functioning	0.88 [0.62-1.25]	.478	1.21 [0.83-1.76]	.315
Mental health	1.18 [0.83-1.67]	.347	1.43 [0.99-2.04]	.053

(Continued)

Table 1. (Continued)

	Unadjusted HR [95% CI]	P	Adjusted HR [95% CI]	P
Role emotional functioning	1.34 [0.95-1.91]	.097	1.29 [0.90-1.84]	.169
Vitality	1.35 [0.95-1.93]	.096	1.51 [1.04-2.20]	.031
General health	1.65 [1.16-2.35]	.006	1.39 [0.96-2.01]	.080
Physical component score	1.36 [0.96-1.92]	.080	1.17 [0.81-1.68]	.398
Mental component score	1.26 [0.90-1.78]	.181	1.40 [0.99-1.99]	.060

Impact of QoL on 7-year mortality (unadjusted and adjusted analyses)

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ECG monitoring in patients with Fabry disease

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Introduction: Fabry disease (FD) is an X-linked lysosomal storage disease caused by a defect in the gene encoding lysosomal enzyme a-galactosidase. Side to hypertrophic cardiomyopathy, heart rhythm disorders are common cardiac complications of FD. The aim of study was to quantify cardiac arrhythmias by use of 24-hr ECG monitoring in patients with FD.

Methods: We performed prospective analysis of 24-hr ECG monitoring in 51 consecutive patients (27 males; 19 79 years) with diagnosed FD in one center.

Results: Baseline rhythm was sinus rhythm in 47 (92%) subjects. In rest of patients, 2 (4%) manifested sustained atrial fibrillation and 2 (2%) had paced rhythm for advanced AV block. Median value of ventricular premature beats was 4 (range 0 2632) per 24 hours. Frequent ventricular premature beats were detected in 7 (14%) patients (in one case more than one morphology). Three subjects manifested unsustain ventricular tachycardia. Median value of supraventricular premature beats was 27 (range 0 2477) per 24 hours. Out of 47 patients with sinus rhythm, 7 (15%) subjects suffered from frequent supraventricular premature beats and 23 (45%) patients had episodes of short supraventricular tachycardia. Four (8%) subjects had 1st and one more patient 2nd degree of AV block.
Medians (range) of heart rate variability parameters in evaluable subjects were: MEAN NN 902 (715 1212) ms; SDNN 133 (58 206) ms, pNN50 11 (0.5 50) % and low/high frequency ratio 1.7 (0.8 3.4) ms. It has been documented significant difference in low/high frequency ratio between males and females [1.9 (1.3 3.4) vs. 1.5 (0.8 2.4); $p<0.01$].

Conclusion: Existence of heart rhythm disorders (conduction abnormalities included) on 24-hr ECG monitoring is a result of underline serious structural heart disease.

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Depression and quality of life in implantable cardioverter defibrillator recipients: a comparative international perspective

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Background: Implantable cardioverter defibrillators (ICDs) are the primary treatment for individuals with a history of or high risk for sudden cardiac arrest. Depression predicts quality of life (QOL) in ICD recipients, however little is known about differences in the prevalence of depression and QOL in ICD recipients from an international perspective.

Objective: The purpose of this study was to examine the prevalence of depression and variables that predicted QoL in an international cohort.

Methods: ICD recipients from five countries completed the Patient Health Questionnaire-9 and the Euro-Qual 5-D. Participants were separated into East (South Korea) and West (other countries) for comparison of the prevalence of depression (PHQ 9 score>10). Hierarchical multiple linear regression was used to examine whether depressive symptoms predicted QOL while controlling for sociodemographic, clinical, and psychological variables in both East and West countries.

Results: The sample consisted of 168 ICD recipients (mean age 62 + 12, 22% Eastern, 28% female, and 47%

living alone). Regional differences were found in the prevalence of depression. Fewer Eastern participants reported depressive symptoms (16%) than Western participants (27.8%). There were however no differences in the mean of the PHQ-9 score by group. In the Eastern model significant predictors of worse QOL included symptoms of depression and anxiety, being female, and no cardiac resynchronization therapy. In the Western model significant predictors of worse QOL included symptoms of depression, living alone, and no cardiac resynchronization therapy. As depression symptoms increased QOL worsened in both models (Standardized Eastern = .559; p-value<.001; Western = .5.301; p-value<.004).

Conclusions: Quality of life in ICD recipients is multi-faceted and interventions to improve this outcome should be tailored to the specific needs of the participants. Cultural/country specific needs should be explored during the development of interventions.

Atrial Fibrillation

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Screening of obstructive sleep apnea in patients with atrial fibrillation

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Background: The relationship between obstructive sleep apnea (OSA) and atrial fibrillation is well known. The presence of OSA in patients with atrial fibrillation is about 62-75%. The mechanism behind is not fully elucidated but several theories have been developed such as increased intrathoracic pressure dilates the lung veins, hypoxia and hypercapnia but also increased levels of amyloid in the serum, and increased levels of inflammatory markers. We know that OSA increases the risk of atrial fibrillation, and studies show that patients respond less well to treatment with antiarrhythmic drugs. Patients also have a greater risk of relapse in atrial fibrillation after ablation therapy. Fortunately, several studies show that if these patients receive treatment with continuous positive airway pressure (CPAP) improves results significantly in the treatment of atrial fibrillation compared with the untreated. Evidence also suggests better heart rate control and an increased risk of progression to permanent atrial fibrillation compared with patients without CPAP.

Purpose: The aim is to identify OSA in patients with atrial fibrillation and to offer treatment for OSA in order to increase the chances for success in the treatment of symptomatic atrial fibrillation.

Method: A structured clinic for patients with atrial fibrillation was started in 2016, with focus on lifestyle intervention and treatment plan. The aim is to give patients a better understanding of their condition and give them the opportunity to influence their own situation. During a first visit the nurse identifies risk factors such as obesity, overconsumption of alcohol, lack of exercise and OSA. To identify patients with high risk for OSA, a Sleep Apnea Questionnaire is used. The patients with high risk outcomes receive a home sleep testing device for detecting apnoea and hypopnoea (AHI). Patients who during the testing exhibit a moderate (AHI 15-30) and severe sleep apnea (AHI>30) are referred on to the sleep lab for CPAP or mouthguard try-out.

Results: From May 2017 until Jan 2018, 31 patients used the home sleep testing device. Four of the tested patients had normal results, seven had mild OSA, nine moderate and eleven severe. Of these, 11 patients have been referred to sleep lab, six have had CPAP treatment prescribed, one patient mouthguard and six are still waiting to be assessed for treatment.

Conclusion: Before the structured clinic for patients with atrial fibrillation started, only few patients with atrial fibrillation were referred to sleep lab for evaluation and treatment. The waiting period for an assessment at the sleep lab was also long. With the new structure the patients are diagnosed with OSA already at the clinic visit and the waiting time for treatment try-out will then be shorter. This means better chances for successful treatment of atrial fibrillation and also better quality of life for patients with symptomatic atrial fibrillation.

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Perceptions and experiences of MediYoga among patients with paroxysmal atrial fibrillation- an interview study

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Background: Patients with paroxysmal atrial fibrillation (PAF) experience a deteriorated health-related quality of life (HRQoL), which can influence their social situation and working habits, and there is a need for new interventions to identify actions to prevent this. Yoga has been suggested as a self-management program to manage effects of symptoms and increase HRQoL. Therefore, it is valuable to describe the perceptions and experience of MediYoga among patients with PAF.

Purpose: To describe perceptions and experiences of MediYoga among patients with symptomatic PAF.

Methods: This study includes 12 participants and an inductive exploratory design was chosen with individual semi-structured interviews. The participants had performed MediYoga one hour, once a week during 12 weeks. The

data were analyzed with qualitative content analysis with an inductive method and a manifest approach.

Results: Three categories were found in the analysis: A time for a sense of existence and presence, A way of gaining comfort and increased consciousness and Access to a tool to gain willpower and relief of symptoms.

Conclusion: MediYoga may strengthen the self-management among patients with PAF. The results also showed that MediYoga may provide access to a tool for managing their situation which may lead to an increased feeling of security. Moreover, the results show perceptions from patients that their heart symptoms decreased after performing MediYoga.

Funding Acknowledgements: From KI Fondmedel 176, Capiostiftelsen, Stiftelsen Hjrtat, Lindhs Advokatbyr och Patientnra forskning vid Sophiahemmet Hgskola.

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The CHA2DS2-Vasc score as a predictor of dementia in elderly patients with atrial fibrillation.

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Introduction: It has been demonstrated than even among patients without history of clinical stroke atrial fibrillation (AF) is associated with dementia (D). Limited data is available on the use of the CHA2DS2-Vasc score as a predictor of D in patients with AF. Aim: To assess whether CHA2DS2-Vasc score can be a predictor of D in the elderly population with AF.

Methods: The study included 157 patients (mean age 73.5) with non-valvular AF and no history of stroke. The presence of D was defined as the Mini Mental State Examination (MMSE) questionnaire score = 23 points.

Results: 27% of patients had D. The univariate analysis revealed that CHA2DS2-Vasc score was significant determinant of D. Among the components of CHA2DS2-Vasc score age ($b=0.132$; $p<0.001$) and heart failure ($b=0.786$; $p=0.033$) were significant determinants of D. In multivariate analysis the CHA2SD2VASc score was proved to be an independent determinant of D ($b=0.385$; $p=0.003$). Prevalence of D was one and a half times higher in the group of patients with a CH2SD2VASc score>4 points (OR = 0.47) that in the group of patients with CH2SD2VASc score =4 points. CHA2DS2VASc score = 4 in the receiver-operator characteristic (ROC) was predictor of D (sensitivity 52.4%; specificity 73.0%, area under the cut-off AUC 0.648).

Conclusion: The CHA2DS2-VASc score is a useful predictor of D in elderly population with AF without clinical stroke.

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A pharmacist/nurse led clinic for patients with Atrial Fibrillation

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A rapid access atrial fibrillation (AF) clinic was set up in early 2018 with referrals from general practice and hospital physicians including referrals from the emergency department. The clinic is run by an arrhythmia nurse and a pharmacist and the inclusion criteria are: adult patients (> 18 years) with documented AF and no known coronary heart disease. Physicians are asked to undertake blood tests for known AF antecedents prior to the appointment such as Thyroid function tests and also known cardiovascular risk factors including plasma cholesterol.

During the clinic consultation with the arrhythmia nurse, patients are assessed for known cardiovascular and AF risk factors (raised body mass index, hypertension, smoking, physical activity level, sleep apnoea, diabetes for example) along with assessment of AF symptoms. As per the recent AF ESC guidelines, patients are given advice about their life-style related risk factors and goals will be set collaboratively between the healthcare professional and the patient with planned phone and face-to-face follow-up. The pharmacist undertakes an anti-coagulation assessment using the CHA2DS2VASC and HASBLED scores and prescribes medication as required. Where appropriate the AF manager app will be used and patients encouraged to use the patient version.

This presentation will report on the first six months of the innovative rapid access AF clinic in terms of patients seen, their demographics, clinical characteristics including AF symptoms and lifestyle-related risk factors, use of AF manager and referrals made.

Funding Acknowledgements: Nil

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The illness acceptance and the anxiety and depression occurrence in patients with atrial fibrillation

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Background:. Atrial fibrillation (AF) is a prevalent, life-complicating illness associated with the symptoms, which cause psychological distress and decrease the quality of life. The evidence suggests that illness acceptance, illness perceptions and coping strategies that contribute to psychological distress may be modified by psychoeducational interventions to reduce psychological distress. However, little is known about how illness acceptances, illness perceptions and coping strategies contribute to psychological distress in patients with AF.

The aim of the paper was to determine the correlation between the illness acceptance and the anxiety and depression occurrence in patients with atrial fibrillation.

Material and methods: 107 patients, including 60.7% of women, were hospitalized due to atrial fibrillation in emergency department. The Acceptance of Illness Scale and the Hospital Anxiety and Depression Scale were used. There were two groups of patients depending on the level of illness acceptance: high acceptance level (n=65) and mean acceptance level (n=42). There were no respondents who did not accept their illness.

Results: The study showed the statistically significant lower level of anxiety (4.33.4 vs 8.84.0) and depression (3.33.0 vs 7.54.2) in the group of high acceptance level in comparison with the mean acceptance level ($p<0.001$).

In regression analysis of the chosen determinants, which influence the anxiety and depression level, it was observed the statistically significant negative impact (symptoms decrease) of: the acceptance of illness, living in the city and high self-assessment of the health, but the positive impact (symptoms increase) of: the illness symptoms and treatment itself. In multiple regression analysis of independent predictors decreasing the anxiety level (=-0,27) and depression (=-0,34) were: the illness acceptance and high self-assessment of the health (=-1.31 for anxiety and =-1.40 for depression: $p<0.001$). The independent predictor increasing the level of anxiety were: the number of pharmacological cardioversions (=0.95;) and the number of taken drugs due to AF (=1.41; $p=0.010$).

Conclusions: The respondents with the higher acceptance level present the lower level of anxiety and depression in patients with atrial fibrillation.

The illness acceptance is the statistically significant and independent predictor influencing the anxiety and depression decrease in the patients with AF.

The independent predictors decreasing the anxiety and depression level were: high self-assessment of the health and the living in the city. The independent predictors increasing the anxiety and depression were: the number of electric cardioversions and the number of taken drugs due to AF.

Funding Acknowledgements: NA

On Behalf Of: NA.

Acute Coronary Syndromes

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Long term treatment plan for patients following non st-segment- myocardial infarction

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Background: A 30 year old gentleman brought in by ambulance on the 27.9.17 following chest pain, palpitations and increasing shortness of breath. An angiogram completed on admission illustrated Anterior NSTEMI with a thrombus present in the left anterior descending artery (LAD) which was then thrombolised and commenced on heparin and an 8F sheath was put in situ. On the 28.9.17 an angiogram was completed showing persistent minor filling defect in the left main coronary artery. A third angiogram completed on the 2.10.17 evaluated minor abnormality of the LAD. Cardiac risk factors for this gentleman were type 1 diabetes since 2011 which was very poorly managed, he was a smoker and had a family history of early myocardial infarction in this family. This patient also presented with significant bilateral lipoatrophy in abdomen due to subcutaneous injections for his diabetes.

Management of the patient (Holistic): During his admission he had a full endocrine review including a diabetes nurse specialist and the smoking cessation nurse reviewed patient during his admission. He was discharged on the 3.10.17 following a Transthoracic echocardiogram showing nil significant vascular abnormalities , and adequate ECG illustrating sinus rhythm with an ejection fraction of 55-60%. Patient was enrolled in Cardiac Rehab on the 3.10.17 prior to his discharge. He was not reviewed by physiotherapy throughout his admission as a referral was not sent. This patient then completed cardiac rehab in Jan 2018 starting with an 8 week programme with excellent compliance and nil complications. Patient continues to adhere to his medication and now has well controlled diabetes.

Funding Acknowledgements: No financial support

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Is racism a factor in emergency department nursing care of patients with suspected acute coronary syndrome?

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Background: Racial/ethnic differences in acute coronary syndrome (ACS) care have been reported, such as treatment-seeking delay. However, patient differences only partly explain differences in outcomes. Finding factors that contribute to such differences is vital, given global ethnic diversity. We asked: are there racial-identity-based variations in emergency department (ED) care of patients with possible ACS in Canadian hospitals?

Methods: We prospectively enrolled ED patients with possible ACS at 3 acute care sites. Research assistants conducted a standard interview on symptoms and self-reported racial identity and obtained clinical data via structured chart review. Racial identity was categorized as White, South Asian (SA), Asian or Other/Unknown. The main outcome was number of nursing assessments; 2 linear regression models were fit, adjusting for demographic and clinical factors.

Results: Of 433 participants, 199 (46%) reported White identity; 112 (26%) SA; 57 (13%) Asian, and 65 (15%) Other. There was no significant difference in number of nursing assessments between groups, but older age, greater symptom severity, being accompanied, higher triage score were associated with significantly more assessments after adjustment; ED stays >12 and < 6 hours were associated with significantly greater and fewer assessments respectively, relative to a total stay of 6 - 12 hours.

Conclusion: No racial/ethnicity-based differences were found in ED nursing care in a multicultural, urban setting. However, unaccompanied patients had relatively fewer assessments. Equity in the care given across racial-identity groups is encouraging; improvement in the care of patients arriving unaccompanied is warranted.

Funding Acknowledgements: Canadian Institutes of Health Research; Michael Smith Foundation for Health Research

Table 1. Estimates, Based on Linear Regression

Characteristic*	% Change, Mean # of RN Assessments**	95% CI	p
Racial Identity			
Asian vs White	–5.53	–24.36, 17.98	0.62
South Asian vs White	–1.76	–19.00, 19.15	0.86
Others/Unk vs White	–1.02	–18.86, 20.75	0.92
Age =56 and =70 vs =55	22.50	6.68, 40.65	<0.01
Age =70 vs =55	31.16	11.55, 54.23	<0.01
Symptom severity high vs none/low	25.77	1.93, 55.18	0.03
Accompanied vs alone	14.01	0.21, 29.71	0.05
CTAS 1-2 vs 3-4	44.90	23.24, 70.37	<0.01
ED LOS 0-6 vs 6-12 hrs	–32.74	–40.60, –23.85	<0.01
ED LOS =12 vs 6-12 hrs	64.23	35.62, 98.89	<0.01

Notes: CTAS, Canadian Triage Acuity Scale; ED, emergency department; *Also adjusted for site, sex, education, chest pain as main symptom, mode of arrival, immigrant status/ duration of residence in Canada & English spoken at home.**# of assessments is log-transformed: (e-1)100%

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Teamwork in advanced nursing practice: evidence of a safe nurse-led chest pain service. outcomes at 30 & 90 days

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Internationally chest pain is a common presentation to Emergency Departments (ED). Internationally 2%-4% of all chest pain patients discharged from ED may develop ACS. The advanced nurse led chest pain service consists of two Registered Advanced Nurse Practitioners (RANP) and two clinical nurse specialist (CNS). Non-ACS chest pain patients who present to the emergency department (ED) of a large teaching hospital in Dublin are assessed by the chest pain service nurse in the ED, with both the CNS and/or RANP undertaking the initial clinical assessment. The RANP is autonomous and may terminate an episode of care, and as such each case is managed cooperatively with the RANP and a management plan developed.

Clinical assessment consists of a comprehensive health history, advanced physical examination, ECG and bio marker interpretation, risk factors and risk stratification using the HEART score. Those who have potential coronary disease are followed up in an out-patient nurse led chest pain clinic within 72 hours, whilst patients deemed to have non-anginal chest pain are discharged to primary care.

Purpose: The aim of this study was to evaluate any major adverse cardiac events (MACE) of non-anginal chest pain patients discharged to primary care with-out follow up.

MACE is a composite of clinical events and end points reflecting safety and effectiveness.

Methods: Patients discharged directly by the cardiology nurse to primary care were posted a MACE questionnaire at 30 days. Endpoints were death, heart attack, stroke, cardiac admission or further chest pain at 30 and 90 days following discharge from the ED. Information was procured from the hospital iPims patient management system.

Results: From July 2012-Dec 2015 1,507 patients were assessed in the ED by the cardiology CNS/RANP. 150 patients were directly discharged back to primary care (10%). There were no deaths or cardiac readmissions for all 150 at 30 days. At 90 days there were no deaths or ACS. 1 patient was admitted by the cardiology nurse upon re presentation to ED with atypical chest pain and required a PCI. The MACE questionnaire was returned by 58% (n=88), 25% (n=38) were still experiencing chest pain since discharge, and 17% (n=26) had received a diagnosis for their symptoms only 11 of whom documented it.

Conclusion: Non-ACS chest pain can account for 9% of presentations to the ED. Following a comprehensive assessment by the cardiology nurse and managed as a cooperative team a proportion of patients are discharged with no further follow up. This study evidences safe and effective decision making with no MACE outcomes at 30 and 90 days. A percentage of patients continue to experience symptoms and this is recognised in the literature. All patients are advised to return to the ED if they are concerned. The MACE questionnaire is an integral clinical component of the advanced nurse-led chest pain team

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Perspectives of relatives' and nurses' on support and care in the first critical hours after admission of a patient with out-of-hospital cardiac arrest

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Introduction: When a patient is admitted after out-of-hospital cardiac arrest, it is an important nursing task to support and take care of the emotionally distressed relatives. Support and care from staff apparently make it easier for the relatives to endure the situation. However, nurses find it challenging to support the relatives in this situation. The purpose of this study was to investigate relatives and nurses perspectives of support and care for relatives of patients admitted after cardiac arrest.

Methods: The study was carried out within a constructivist research tradition and a qualitative approach was chosen to gain insights into different possible experiences and perceptions. Two focus group interviews were conducted with seven relatives to explore their experiences and perceptions concerning support and care in the first critical hours at the coronary care unit (CCU). The results from these interviews were presented in two workshops with 14 CCU nurses, exploring their perceptions and suggestions for improvements. The interviews and workshops were transcribed verbatim and a content analysis was performed based on all data.

Results: All relatives described it as important and positive to have a contact nurse. Additional aspects of importance to support and care for relatives were identified: To be offered a room they could stay in, that the nurse was visible and paid attention to their needs, that psychological support was offered, and nurses had experience supporting relatives in such situations. Receiving initially general information about the patients expected course of action was described as good, but the relatives underlined a need to gain more detailed information regularly and most described the time while waiting as long and awful. Nurses agreed on the importance of a contact nurse. They described the role as mentally challenging and time consuming especially when relatives were children or young adults. Nurses reported that it was difficult to provide information regularly about the patient as they did not always have the information. The nurses suggested that doctors could become more involved in providing ongoing information. Moreover, the nurses emphasized that intensive care nurses should be ready to take over when nurses accompanied and handed over the relatives to the intensive care staff so that relatives could be close to the patient.

Conclusion: Being a relative to a person admitted after out-of-hospital cardiac arrest is at challenging and stressful experience. The relatives need to be supported to cope with the situation, and nurses need to be aware of how different relatives perceive the situation, and to guide relatives during the first critical hours. The results emphasize the importance of the perspectives of the relatives and of staff collaborating in treating the patient during the first critical hours. Our results might help to optimize support and care for relatives of acute and critically ill patients.

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Cardiac arrest as a presentation of contained cardiac rupture: the importance of imaging tests in an emergency situation

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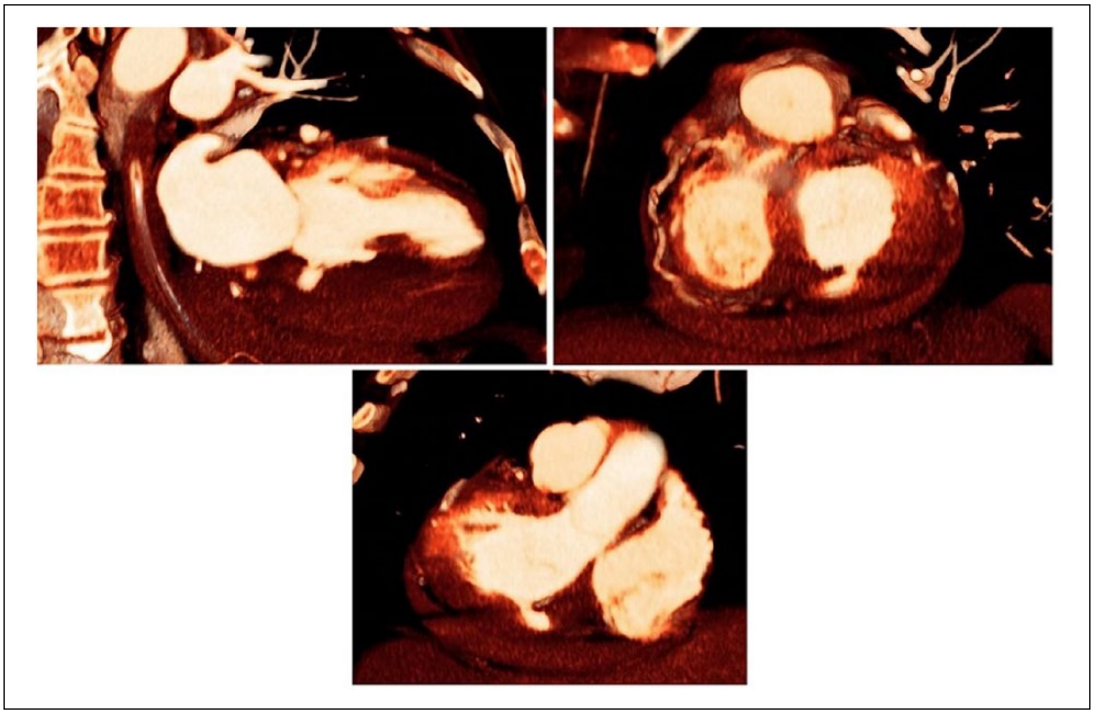
We present the case of an 82-year-old man, assisted by the ambulance due to sudden syncope. The emergency services showed severe hypotension, low level of consciousness and signs of distal hypoperfusion. An EKG was performed, evidencing ST elevation in leads II, III, aVF, v5, v6, with ST depression in v1-v3; so he was transferred to the hospital for emergent revascularization. Upon arrival at the hospital, the patient suffered a cardiac arrest with electromechanical dissociation, so he required orotracheal intubation and advanced cardiopulmonary resuscitation maneuvers. After 10 minutes, the patient recovered pulse, but required external stimulation with a transient pacemaker due to the development of complete AV block. Urgent echocardiography was performed: although the image was of very poor quality due to a deficient acoustic window, a severe pericardial effusion with a haematic appearance was evidenced in the subxiphoid plane. The left ventricle presented severe systolic dysfunction with hypokinesia of inferolateral segments; the right ventricle was collapsed suggesting cardiac tamponade. Given the limited vision, ascending aortic dissection could not be ruled out. Urgent pericardiocentesis was performed with extraction of 150 ml of blood, despite which persisted severe hypotension and the need for vasoactive drugs.

Due to echocardiographic findings no fybrinolisis was performed, and it was decided to perform CT angiography of the thorax that ruled out acute aortic syndrome. After analyzing 3D reconstruction, free-wall cardiac rupture was found at inferolateral level.

Despite the support measures, the patient persisted in a situation of refractory cardiogenic shock. Given the comorbidity, advanced age and the torpid evolution, surgical treatment was rejected and the patient died within 12 hours of admission. It was later known that the patient had presented epigastric pain, discomfort and dizziness in the previous 72 hours; that he had associated with digestive problems.

Free wall rupture is one of the mechanical complications associated with evolved transmural infarction, currently less frequent due to the development of reperfusion therapies. One of its forms of presentation is cardiac tamponade secondary to hemopericardium. Differential diagnosis must be made with aortic dissection or cardiac tamponade due to other causes. Survival depends on the rapid recognition of this condition and immediate therapy implementation. Urgent surgery is indicated if the pericardiocentesis identifies blood.

This clinical case shows that imaging techniques can become determinants in the context of cardiogenic shock, as in this case, in which the clinical history may be limited by the patients situation and a quick and accurate action can determine short-term mortality.



Contained rupture/Pseudoaneurysm

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The worst christmas present: a rare form of cardiomyopathy

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Introduction: Left ventricular non compaction (LVNC) or spongiform cardiomyopathy is a rare congenital cardiomyopathy, a consequence of failure of myocardial development during embryogenesis. In early foetal development, heart muscle is a sponge-like meshwork of intertwined myocardial fibres. With normal development these trabeculated structures go through substantial compaction that converts them from a spongy to solid muscle wall. The prevalence is unknown but estimated at 0.014 to 1.3 percent of patients having echocardiography (ECHO). The most common presentation is heart failure, less commonly chest pain, or an abnormal electrocardiogram.

Purpose: To demonstrate timely and efficient diagnosis, initial management and psychosocial care of this rare condition by the advanced nurse led chest pain service.

Methods: An observational case study was chosen on a 38 year old female who presented to the emergency department with new onset palpitations, central chest tightness and pyrexia. Upon referral to the nurse-led chest pain service an advanced physical assessment revealed a new systolic murmur and initial ECG showed rate related ischaemia , elevated inflammatory markers and slight troponin leak. Comprehensive health history revealed new onset of central chest tightness and palpitations. Cardiovascular risks included ongoing stress as primary carer to four children, one with cerebral palsy, 2-4 litres of Coca-Cola per day and a smoker of 20/day for 26 years. No relevant familial history. Initially discharged from ED on oral antibiotic therapy and booked for chest pain clinic review.

Diagnosis: The review visit fell on Christmas Eve. She was anxious but felt improved. Repeat ECG showed a slower heart rate and revealed deep T wave changes suggestive of left ventricular hypertrophy. Trans Thoracic Echo was diagnostic of Left ventricular non compaction.

Management: This was a complicated diagnosis to deliver prior to Christmas to a woman who felt so well and was a significant shock. Initial management included beta blockade, Holter monitoring and cardiac magnetic resonance imaging with future implications of device insertion and familial screening. Psychosocial management proved more complex. In spite of education and scheduled follow up she found it difficult to accept the diagnosis, prioritising the care of her ill son. The nurse led service has endeavored to provide support and education, the family are now undertaking familial screening.

Conclusion: The nurse led chest pain service typically manages acute coronary presentations and this case was a challenge due to the atypical nature. What appeared to be a straight forward non cardiac chest pain turned out to be a rare congenital condition. The ECG expertise and experienced clinical suspicion guided the nurses towards timely diagnosis of a rare congenital life threatening condition in a seemingly benign presentation of non-cardiac chest pain.

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A case of ventricular septal rupture complicating acute myocardial infarction.

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Introduction: Ventricular septal rupture (VSR) is a rare but lethal complication of acute myocardial infarction (AMI). As acute reperfusion strategies for AMI have evolved, VSR has become increasingly rare and is identified earlier in the post-MI course. Despite significant improvements over the last two decades in overall mortality for patients with AMI, the outcome of patients who develop VSR remains poor. We present a case of ventricular septal rupture complicating acute myocardial infarction.

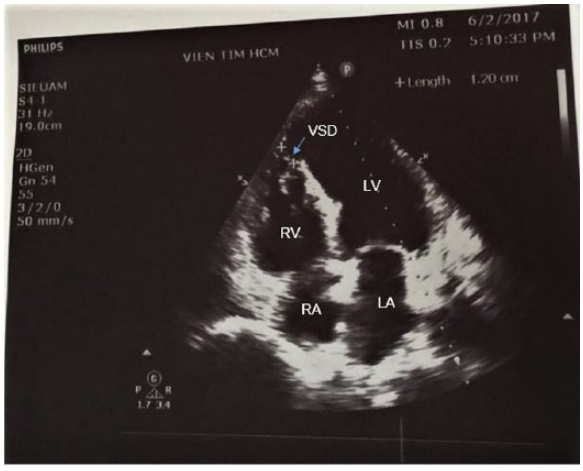
Case Presentation: A 49-year-old Cambodian, smoker, alcoholic, non-diabetic, hypertensive farmer presented with acute dyspnea after ten days acute myocardial infraction on medical therapy at a hospital in Cambodia. His blood pressure was 109/77 mm Hg, Pulse 113bpm, spO2 99% (air room). Cardiac auscultation revealed a harsh holosystolic murmur, which was heard over the entire precordium. Bibasilar crackles of the lungs.

Results: high sensivity Troponin T 167.9ng/L (<14ng/L), NT-proBNP 3568pg/ml (<125pg/ml). Electrocardiogarphy showed rapid sinus rhythm with ST elevation and T wave inversion in inferior wall. Chest X-ray: PA views showed increase in pulmonary blood flow, cardiac shadow was within normal limits. Left larger than right pleural effusion.Transthoracic echocardiography revealed a left ventricle (LV) with overall preserved systolic function and inferior hypokinesis, a dilated right ventricle, pulmonary hypertension with PAPs 55mmHg and a large, sharply demarcated interventricular septal defect with a large, turbulent left-to-right transseptal flow.

Discussion: the diagnosis is made by a prompt transthoracic echocardiogram identifying drop-out of the ventricular septum in the 2D image and demonstration of flow across the septum using colour Doppler. Evidence of right-ventricular dilation and pulmonary hypertension are also important clues to the diagnosis. The remaining portions of the left ventricle are often hyperdynamic unless

there is a large territory of infarction, or previous ischaemic insults have led to compromised function. Colour Doppler evaluation can also be useful to assess the anatomical size of the defect.

Conclusion: Rupture of the interventricular septum is an uncommon complication of MI. VSR occurs in a zone of necrotic myocardial tissue, usually within the first 10-14 days. A high index of suspicion is a loud systolic murmur is heard, usually within the first week after an acute myocardial infarction coincident with the onset of the murmur, the patients clinical course undergoes a sudden deterioration, with the development of congestive heart failure and, often, cardiogenic shock. Diagnosis is confirmed with the aid of echocardiography and the presence of a left-to-right shunt



Echocardiography

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Acute to chronic glycemic ratio at hospital admission in AMI patients and diabetes mellitus: a new indicator of assistance complexity

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Background:. Acute hyperglycemia is a powerful predictor of poor prognosis in acute myocardial infarction (AMI), particularly in patients without diabetes mellitus (DM). This emphasizes the importance of an acute glycemic rise, rather than glycemia level at admission alone. We investigated in AMI whether the combined evaluation of acute and chronic glycemic levels, as compared to admission glycemia alone, may have a better prognostic value.

Methods: We prospectively measured admission glycemia and estimated average chronic glucose levels (mg/dl) by the following formula: [(28.7 x glycosylated hemoglobin %) - 46.7], and calculated the acute on chronic (A/C) glycemic ratio in 1,553 consecutive AMI patients (age 6713 years). The primary endpoint was the combination of in-hospital mortality, acute pulmonary edema, and cardiogenic shock.

Results: The primary endpoint rate increased in parallel with A/C glycemic ratio tertiles (5%, 8% and 20%, respectively; P for trend <0.0001). A parallel increase was observed in troponin I peak value (1534 ng/ml, 3466 ng/ml, and 68131 ng/ml, respectively; P<0.0001). At multivariable analysis, A/C glycemic ratio remained an independent predictor of the primary endpoint and of troponin I peak value, even after adjustment for major confounders. At reclassification analyses, A/C glycemic ratio showed the best prognostic power in predicting the primary endpoint as compared to glycemia at admission in the entire population (net reclassification improvement [NRI] 12% [4-20], P=0.003) and, particularly, in DM patients (NRI 27% [14-40], P<0.0001).

Conclusions: In AMI patients with DM, A/C glycemic ratio is a better predictor of in-hospital morbidity and mortality than glycemia at admission. In AMI patients with DM, the detection of a high A/C glycemic ratio should prompt the early implementation of a tight glycemic control and a strict nurse surveillance and intensive monitoring of vital parameters.

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Acute case presentation of MINOCA - the challenges faced.

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As part of the National Acute Coronary Syndrome (ACS) programme, the authors workplace provides emergency cardiac care for approximately 1.2 million people. Pre-hospital treatment is standardised to ensure quick response, triage, treatment & transport straight to the team in the Cardiac Cath. Lab(CCL). A Cardiology multidisciplinary team is in place 24/7 to address the acute complexities of this population.

A 29 yr. old wakes up complaining of bad chest pain distressed, @05:00am

History of Presenting Illness: He had spent the night out drinking with his friends & woke up suddenly with an excruciating pain in his chest.

Cardiovascular Risk Factors: Type 1 Diabetic (poorly controlled), +Smoker, +Stress, +family history, Unknown cholesterol/blood pressure history on arrival to the Acute Cardiology team, no previous heart problems.

Initial Assessment/Diagnosis: As assessed by the patients GP: ECG performed immediately & the Emergency

Medical Service was alerted too the STEMI presentation (Strategy clock- Time 0commenced) as per ESC Guidelines 2017. Blood sugar at the time 10.6mmols/L.

Cardiac Cath Lab Team assessment: On arrival to the CCL a focused assessment was performed by the team including the Cardiology CNS & Consultant. As per National programme the patient had received dual antiplatelet therapy pre-arrival to the hospital, consistent with the diagnosis of an Inferior STEMI. A Primary Percutaneous Coronary Intervention(PPCI) was commenced via transradial approach by the Cardiology CNS.

Problem & Differential Diagnosis: MINOCA (Myocardial Infarction with Non-Obstructive Coronary Arteries) was demonstrated thereby requiring the differential aetiological diagnosis of: plaque disruption/dissection/ takotsubo cardiomyopathy/microvascular spasm/coronary thromboemblism.

MINOCA Algorithm was adhered too formulating a diagnosis of coronary thromboembolism.

Implications for Clinical Practice (Nurse-Patient relationship): The percieved physiological stressors were an initial priority to prevent further myocardial ischaemia & complications.

Immediate management consisted of aspirating the thrombus, intra-vascular ultrasound & a glycoprotein IIbIIIa followed by close monitoring in the Coronary Care Unit.

Day 2: Relook Coronary Angiogram followed by thrombophilia screening. It was also important to recognise/ acknowledge this young mans perception of the psychological,developmental, sociocultural and spiritual stressors on his current status.

Conclusion: An enhanced prothrombotic state leading to MINOCA in this young diabetic patient illustrates the hazards associated with poorly controlled diabetes. Approximately up to 13% of patients presenting with an Acute Myocardial Infarct (AMI) present with non-obstructive coronary arteries. The complexity of MINOCA creates important prognostic implications. Education and further research will lead to an improved multidisciplinary approach in the care of these challenging patients.

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Grow your own arteries: collateral coronary arteries and the complexities of care

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Introduction: Coronary collaterals are anastomotic connections without an intervening capillary bed between portions of the same coronary artery and between different coronary arteries. The benefit of collaterals is that they provide an alternative blood supply to myocardium compromised by gradual occlusion of the coronary artery. The mechanism of collateral growth is well defined as vasculogenesis, angiogenesis and arteriogenesis. The recruitment, however, of these natural bypasses is still not fully understood. It is clear that ischemia plays a role in the development of collateral circulation but the pathophysiology is unknown, we do know that sufficiently developed collaterals are present in one third of patients with coronary artery disease (CAD) and in one fifth of patients without CAD.

Purpose: To demonstrate the significance of collateral circulation in a patient with critical coronary artery disease and complex psychosocial needs.

Methods: An observational case study was chosen on a 55 year old male who presented to the ED with increasing exertional chest pain over three months, crescendo pattern with pain rating to his gums. A compressive health history and advanced physical assessment was performed. High sensitivity troponin was moderately elevated, with subtle ECG changes.

Psychosocial and lifestyle factors included; smoker 50g tobacco daily, elevated BMI, regular cannabis use, excess alcohol (22 units daily), father had an MI at 75, and chronic depression, couple with social isolation.

Differential diagnosis was unstable angina v NSTEMI and acute anxiety secondary to alcoholism. Initial treatment with DAPT, Statin, NRT, and anxiolytics commenced. The patient was reluctant to stay in hospital. Following extensive reassurance and explanation he agreed to be admitted to CCU for coronary angiogram.

Diagnosis: Coronary angiogram revealed right coronary artery (RCA) 90% proximal stenosis, and well-formed collaterals which appeared to supply his entire left system. Injection of the Left circumflex showed large OM, with a mid 100% occlusion.

Management options were Coronary Artery Bypass Graft vs Percutaneous Coronary Intervention (PCI). The patients lifestyle of excessive alcohol consumption and potential non-compliance put him at increased bleeding and in-stent thrombosis risk. Staged PCI was performed following extensive education and counselling.

Problems: Due to alcohol withdrawal and extreme anxiety he required expert psychological care, education, explanation and reassurance. Medication management of his anxiety presented a difficulty due to anxiolytic intolerance.

Implications for practice: The management of this case proved complex due to complicated coronary anatomy and multifaceted psychosocial factors.

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Nurse assessment based on clinical and prognostic relevance of renal replacement therapy in patients with acute myocardial infarction

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Objectives: We evaluated the rate of use, clinical predictors, and in-hospital outcome of renal replacement therapy (RRT) in acute myocardial infarction (AMI) patients.

Methods: All consecutive AMI patients admitted to the Coronary Care Unit between January 1st, 2005 and December 31st, 2015 were identified through a search of our prospectively collected clinical database. Patients were grouped according to whether they required RRT or not.

Results: Two-thousand-eight-hundred-thirty-nine AMI patients were included. Eighty-three (3%) AMI patients underwent RRT. Variables confirmed at cross validation analysis to be associated with RRT were: admission creatinine >1.5 mg/dl (OR 16.9, 95% CI 10.4-27.3), cardiogenic shock (OR 23.0, 95% CI 14.4-36.8), atrial fibrillation (OR 8.6, 95% CI 5.5-13.4), mechanical ventilation (OR 22.6, 95% CI 14.2-36.0), diabetes mellitus (OR 4.8, 95% CI 3.1-7.4), and left ventricular ejection fraction <40% (OR 9.1, 95% CI 5.6-14.7). The AUC for RRT with the combination of these predictors was 0.96 (95% CI 0.94-0.97; P<0.001). In-hospital mortality was significantly higher in RRT patients (41% vs. 2.1%, P<0.001). Oligoanuria as indication for RRT (OR 5.1, 95% CI 1.7-15.4), atrial fibrillation (OR 4.3, 95% CI 1.6-11.5), mechanical ventilation (OR 20.8, 95% CI 6.1-70-4), and cardiogenic shock (OR 12.9, 95% CI 4.4-38.3) independently predicted mortality in RRT-treated patients. The AUC for in-hospital mortality prediction with the combination of these variables was 0.92 (95% CI 0.87-0.98; P<0.001).

Conclusions: Patients with AMI undergoing RRT had strikingly high in-hospital mortality. As in AMI patients use of RRT can be accurately predicted by easily obtainable clinical variables, the detection of these factors should prompt an early implementation of a strict nurse surveillance and intensive monitoring of vital parameters and urine output. Thus, the nurse assistance of AMI patients should be primarily focused on this subset of very high-risk patients.

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Clinical characteristics of patients with asymptomatic aortic aneurysm admitted on hospital as emergency

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Background: Asymptomatic aortic aneurysm is one of the most important factor of morbidity and mortality in patients older than 50 years.

Purpose: The purpose of the study was to assess the cardiovascular risk in patients with aortic aneurysm and other comorbidities.

Methods: The retrospective study was performed on a group of 43 patients with aortic aneurysm admitted in a clinical hospital between June 2015 and October 2017.

Results: The patients included in the study were aged between 53 and 94 years, average age 73 years. Gender distribution: 30.23% female and 69.76% male. 72.09% of aneurysms were located on the abdominal aorta, 23.25% on ascending thoracic aorta, 11.62% on descending thoracic aorta. 6.9% of patients had multiple aortic aneurysms. The maximum diameter of the aneurysm was 53mm and the average diameter was 45mm. In 20.93% of cases were found signs of thrombosis of the aneurysm.

The most common comorbidities were: chronic kidney disease in 95.34% of cases (based on MDRD equation) and hypertension in 72.09% of cases. 27.9% of patients had atrial fibrillation. Type 2 diabetes mellitus was noticed in 18.6% of cases. Systemic atherosclerosis was found in 18.6% of patients. Regarding the state of nutrition, 72.09% of patients had normal weight and 27.90% were overweight or obese. Only 11.62% of patients have had hypercholesterolemia. 32.55% of patients were smokers and 27.9% were already diagnosed with chronic obstructive pulmonary disease. 11.62% of them were found with hyperuricemia. The SMART risk score included the patients in a high-risk zone.

Conclusions: Chronic kidney disease is the most common comorbidity in asymptomatic patients with aortic aneurysm. Hypertension and smoking are the most important risk factors in these patients.

Hypertension

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South Asians experience as they manage hypertension

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Background:. South Asians are one of Canadas fastest growing ethnic groups. South Asians are nearly three

times more likely to be hypertensive and at a younger age than European whites. Studies have suggested that south Asians may be less adherent to hypertensive medications and lifestyle prescriptions than European whites. Given the burden of hypertension (HTN) in south Asians and their vast migration outside of their home countries, it is imperative that a cultural understanding of how and why they manage (or not) their HTN be developed.

Purpose: We aimed to examine the process that south Asians undergo when managing their hypertension.

Methods: In depth interviews were undertaken with 22 community-dwelling participants (10 men, 12 women) who identified that a physician had told them they were hypertensive and were prescribed medication for their HTN. Interviews were conducted in English or Punjabi languages. Questions were focused on how participants understood and managed their HTN. Constant comparative methods were used to analyze the data.

Results: Participants first assessed their diagnosis and recommended treatment in the context of their current social/familial situation. Participants viewed the situation as serious and needing full attention; were too occupied with other aspects of their life to pay attention to it; or were resistant or dismissive of the diagnosis. Those who attended to their diagnosis (in whatever fashion) went through a process of finding resources and support. Their desire and ability, as well as the convenience of accessing the resources were important factors in their success. Finally, the participants aligned (or not) their lifestyle to living with HTN. They fully or partially embraced activities and attitudes associated with successful management of HTN; or they could not attend to their diagnosis identifying other social/familial factors as barriers. Time since diagnosis was a key factor in how participants managed their HTN. The longer the time, the more likely it was they appropriately managed their health.

Conclusions: There were different approaches to accepting and managing HTN in this sample of south Asians. Those who were resistant or dismissive of, or refused to acknowledge the diagnosis tended to position social/family responsibilities ahead of their own health. It is important for healthcare providers to consider these culturally-based barriers in their health teaching.

Funding Acknowledgements: Guru Nanak Dev Ji DIL Research Chair

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Use of biofeedback: preventing early hypertension in young adults

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Background:/Introduction: High blood pressure (BP) is a worldwide epidemic. This preventable heart disease accounts for one in eight deaths worldwide. Having high BP is often asymptomatic and often called the silent killer. In the United States, new high blood pressure guidelines were released in 2017 by the American Heart Association. The impact of these guidelines will impact younger people, as damage to blood vessels begin once the BP is elevated. Non-pharmacological interventions such as biofeedback are needed regardless of established guidelines, as the overall goal is to prevent the onset and progression of high BP. Heart Rate Variability biofeedback (HRV BF) increases baroreceptor sensitivity and the Standard Deviation normal to normal heart beat at the R wave. This could benefit those at risk. A pilot study targeting young adults 18-35 years of age will undergo a biofeedback intervention for respiratory vagal toning. This pilot study is on-going presently and will conclude in April 2018.

Purpose: The aim of this pilot study is to investigate continuous BP monitoring and heat rate variability (HRV) in young adults with a family history of CV to detect disturbances in BP regulation. The focus is to target those at risk to minimize damage to the blood vessel at earlier stages. Early identification can facilitate lifestyle treatment and early self-management interventions such as HRV-BF.

Methods: A convenience sample after an Institutional Review Board (IRB) approval will be utilized. Young adults between ages 18 to 35 will be the target population in the eastern region of the United States of America. East Carolina Universitys College of Nursing faculty and the Center of Applied Psychophysiology members will collect data: demographics, anxiety assessment, Continuous BP and HRV monitoring. Data will be analyzed calculating descriptive statistics, univariate linear, nonlinear and bivariate indices.

Results: Study is in progress, findings will be analyzed. Psychosocial stress is a risk factor for high BP. Nonpharmacological interventions such as biofeedback should be considered in developing preventive plans of care to save individuals from the onset of high blood pressure or to the progression of HTN.

Conclusion(s): Results from this study can be applicable to the worldwide population, as high blood pressure affects all. Early nonpharmacological interventions will be a valuable tool for those affected by high blood pressure, as well as clinicians caring for them.

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Effect of illness acceptance on compliance and adherence in elderly hypertensive patients

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Introduction: Hypertension is considered to be the most prevalent condition in the general population. In order to achieve the desired hypertension treatment outcomes, patients should adhere to medical recommendations and cooperate with medical personnel at every stage of treatment. Unfortunately, with many chronic diseases, lack of compliance and adherence to recommended treatment regimens is one of the most significant factors that contribute to low success rates of medical treatment. This problem constitutes a major barrier to obtaining treatment benefits based on the medical knowledge available. Acceptance of illness is an important factor affecting the levels of compliance and adherence.

Purpose: To assess the effect of illness acceptance on treatment compliance and adherence in elderly hypertensive patients.

Materials and methods: The study was conducted on 300 patients aged 65-91 (mean = 71.75, SD = 7.79 years) diagnosed with hypertension. We analysed medical documentation and used two questionnaires: Acceptance of Illness (AIS) and Hill-Bone High Blood Pressure Compliance Scale for assessing treatment compliance.

Results: The level of illness acceptance in the population studied was high, the mean score being 28.4 points (SD=7.2, Me=29). Illness acceptance had a significant effect on the total score in the Hill-Bone High Blood Pressure Compliance Scale (p<0,001) and its two domains: Appointment keeping (p<0.001) and Medication taking (p<0.001).

Conclusions: Acceptance of illness affects the levels of treatment compliance and adherence in elderly hypertensive patients. The higher the acceptance of illness, the higher compliance and adherence in the population studied.

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Influence of frailty syndrome on treatment compliance in elderly hypertensive patients

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Background: Hypertension is considered to be the most common condition in the general population. It is the most important risk factor for premature deaths in the world. Treatment compliance at every stage is a condition for successful antihypertensive therapy, and improving the effectiveness of treatment is a major goal in preventing cardiovascular incidents. Treatment noncompliance and lack of cooperation stem from numerous problems of older age, including frailty syndrome. The main objective was to evaluate the effect of frailty syndrome on treatment compliance in elderly patients with hypertension.

Methods: The study sample consisted of 160 patients (91 women, 69 men) with hypertension aged 65 to 78 (mean = 72.09, SD = 7.98 years), hospitalized at the University Clinical Hospital due to exacerbation of disease symptoms. Standardised research tools were used: the Tilburg Frailty Indicator questionnaire and the questionnaire for the assessment of treatment compliance in patients with hypertension, the Hill-Bone Compliance to High Blood Pressure Therapy Scale.

Results: Frailty syndrome was diagnosed in 65.62% of patients, 35.62% with mild, 29.38% with moderate, and 0.62% with severe frailty. The treatment compliance was 36.14%. The prevalence of the FS and its three components (physical, psychological, social) significantly affected (p <0.05) the global score of the Hill-Bone Compliance to High Blood Pressure Therapy Scale and all subscales: Reduced sodium intake, Appointment keeping and Antihypertensive medication taking.

Conclusion: The coexistence of frailty syndrome has a negative impact on the compliance of elderly patients with hypertension. Diagnosis of frailty and of the associated difficulties in adhering to treatment may allow for targeting the elderly patients with a poorer prognosis and at risk of complications from untreated or undertreated hypertension, and for planning interventions to improve hypertension control.

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The influence of sleep disorders on the quality of life of patients with hypertension

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Background: Sleep disorders, such as insomnia with objective short sleep duration, are associated with increased risk of hypertension.

Aims: To evaluate the effects of insomnia and daytime sleepiness on the quality of life of patients suffering from hypertension.

Methods: We carried out cross-sectional analysis of 100 people (mean age: 65.5 years 15.6) being treated for hypertension. Participants completed standardized questionnaires, i.e. the Epworth Sleepiness Scale (ESS), Athens Insomnia Scale (AIS) and Polish version of WHO Quality of Life-BREF questionnaire (WHOQOL-BREF) and a specially designed authorial questionnaire. The results were analysed statistically.

Results: The majority (59%) of patients suffered from insomnia (AIS score = 6) and 39% experienced daytime sleepiness. Daytime sleepiness was negatively associated with perceived quality of life ($r = -0.478$, $p < 0.001$).

Conclusion: Sleep disorders had a significant negative impact on the quality of life of patients with hypertension; the impact was greatest on physical quality of life. The occurrence of sleep disorders in patients with hypertension was influenced by age, education, occupational activity, BMI and duration of illness.

Cardiovascular Disease in Special Populations

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A rare cardiac primary cancer- Cardiac Leimyosarcoma

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The prevalence of primary cardiac tumours is low. I present a case, where a patient had multiple primary cardiac tumours, which were first detected on transthoracic echocardiogram (TTE). This patient subsequently underwent a transoesphageal echocardiogram (TOE), which showed multiple tumors within the left ventricle, which were intra cardiac metastases of a primary cardiac tumor. The images are of great detail showing tumours on the mitral valve and the left ventricle, which is very uncommon and a good learning tool for clinicians. The patient underwent cardiac surgery and the tumour was ultimately diagnosed as a cardiac leiomyosarcoma on histology, an extremely rare form of cardiac sarcoma with poor prognosis. Unfortunately, the patient suffered a cardiac arrest 3 weeks post operation. They presented with malaise and back pain. There was speculation patient may have had metastasis to the bone. Only 6 reports of bone metastasis have been reported from primary cardiac sarcomas in literature.

The commonest types of primary cardiac neoplasms (PCM) are cardiac myxomas, these being benign tumours of the heart. Cardiac sarcomas are the second most common type of primary cardiac neoplasms. Leimyosarcoma of the left atria is an extremely rare cardiac tumour, and leimyosarcoma accounts for 8% of all cardiac sarcomas. Given that the prevalence of primary cardiac malignancies (PCM) has been estimated at only 0.001% - 0.28%, we can appreciate just how rare this particular tumour is, with the estimations largely been made via autopsy. It is much more common to see metastases to the heart from different sites or via direct invasion. It has been concluded that roughly 75% of primary neoplasms in the heart are benign (25% are malignant) . Most common PCM are angiosarcoma that occurs in the right atrium.

Leiomyosarcoma is an aggressive soft tissue sarcoma (arise from mesenchymal cells) derived from smooth muscle cell tissue. Symptoms typically present late when the tumour is much more advanced. It is much more common to see metastases to the heart from different sites or via direct invasion. This case also highlights clinicians should consider bone metastases in patients who present with back pain in primary cardiac sarcomas. This case shows the importance of TOE once a tumor is found on TTE.

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Frailty syndrome and adherence to therapeutic recommendations in elderly patients with atrial fibrillation.

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Introduction: The incidence and prevalence of atrial fibrillation (AF) increase progressively with age and affects approximately 9% of patients over 80 years of age. Due to the increased risk of venous thromboembolism, in the population with AF, oral anticoagulant (OAC) therapy is strongly recommended. Aging is associated with the occurrence of frailty syndrome (FS). FS can negatively affect adherence to medical recommendations and the success of OAC therapy. There are currently few scientific data investigating the relationship between FS and adherence among patients with AF. Purpose. The evaluation of the influence of FS on the adherence phenomenon during OAC therapy in patients with diagnosed AF. Methods. The study included 96 patients with non-valvular AF treated with OAC hospitalized in an Emergency Department (ED). The presence of FS was assessed using the Tilburg Frailty Indicator (TFI) questionnaire and the level of adherence was evaluated using the 8-item Morisky Medication Adherence Scale (MMAS-8). The $p<0.05$ was considered statistically significant. Results. The FS was diagnosed in 66.7% of the study participants. The average level of adherence was observed among 40.62% of subjects, low level in 59.38%. There was no statistically significant relationship between FS and adherence to OAC therapy ($p = 0.143$, Mann-Whitney U test). However, a statistically significant relationship was found between the physical components of FS and adherence ($p = 0.008$, Spearmans Rho test). There were no statistically significant differences for the other FS components.

Conclusion: In the present study, FS did not negatively affect the adherence to OAC therapy among elderly patients with.

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Functional capacity and health-related quality of life outcomes post transcatheter aortic valve replacement: a systematic review and meta-analysis

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Background: Transcatheter aortic valve replacement (TAVR) provides prognostic benefit for high surgical-risk patients with severe aortic stenosis (AS), however impact to patient outcomes is far less understood.

Method: A systematic review and meta-analysis to evaluate functional capacity and health-related quality of life (HRQoL) outcomes for patients up to 12 months post TAVR. A total of 20 eligible publications, comprising randomised-controlled trials, observational studies and a registry study were identified from databases, including MEDLINE, EMBASE, Cochrane Library and others (inception to February 2017).

Results: Total sample was 2775 with a mean age of 81.82.1 years, 52% were female and of high surgical-risk mean STS 9.64.3% (Society of Thoracic Surgeons). Post TAVR, patients had significant improvement in functional capacity of >40m in the 6-minute walk test (6MWT) (95% confidence interval (CI) 9.69-73.28) and a clinically meaningful increase in ability to perform daily physical-based tasks (Duke Activity Status Index (DASI), mean difference (MD) increase 5.42 points, 95% CI 3.16-7.68). HRQoL improved consistently following TAVR regardless of measure used, with significant increases in the physical component scores.

Conclusion: Despite evolving patient selection criteria, functional capacity and HRQoL improved substantially post procedure, thus TAVR continues to provide a directly beneficial option for severe AS patients.

Cardiovascular Nursing

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Development of a smoking cessation ward nurse champion programme

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Background: Cigarette smoking is a well-established risk factor for cardiac disease. The national rate of smoking in Australian adults at 14.5% is low by international standards. Cardiology nurses are ideally placed to provide a brief intervention for smoking cessation to assist patients to reduce their cardiovascular disease risk. We set out to determine the prevalence of smokers in our cardiology wards and study differences in nurses knowledge, skills and behaviour before and after a tailored education programme.

Purpose: To establish how effective Smoking Cessation nurse champions were in two cardiology wards within two acute care hospitals in Central Coast Local Health District (CCLHD) in New South Wales (NSW), Australia.

Methods: Smoking prevalence data of patients admitted with myocardial infarction was obtained from the CCLHD ST Elevation Myocardial Infarction (STEMI) database. Surveys in both cardiology units were completed by nursing staff about their smoking cessation practices, knowledge and education. Nurses were asked to identify their learning needs in relation to smoking cessation and any barriers to patient education. Nurses attended an educational programme about brief interventions for smoking cessation with the content based around survey results and current best practice in smoking cessation. Six months later the nursing survey was repeated. NRT product provision rates were analysed before and after the educational programme.

Results: At 20.1% CCLHD has a higher overall rate of smokers than the Australian rate of 14.5% and the NSW LHD average of 13.5%. In the CCLHD STEMI database the rate of smokers was 42.9%, though this rose to 75% in the under 50s. A total of 49 of 100 nurses responded to the pre-survey, and 61 nurses answered the post-survey. Reported key barriers to providing brief interventions was a belief patients did not want to talk about smoking, fear of patient anger, lack of time and lack of knowledge. Instruction in a small group environment with hands on component had a positive impact on nurses confidence, knowledge and skills in smoking cessation brief interventions. Following the education programme nurses were more likely to perform brief interventions, offer NRT and refer patients to the telephone Quitline. Provision of NRT products increased by 9% from 2016 to 2017, 61% of which was in the six months following the education programme. Referrals to the Quitline did increase but nurses reported significant numbers of patients declined referral.

Conclusion: This study highlights the fact that acute care cardiology nurses have an important part to play in promoting smoking cessation. Six months after attendance at an educational program focused on the nurses role in supporting smoking cessation efforts, more nurses engaged in interventions to help smokers quit. However,

the program was less effective at promoting the NSW Quitline due to patients declining a referral.

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Cardiovascular nursing - what is expected from a competent nurse in a university hospital setting?

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Background: Nurses practicing in cardiovascular settings require a wide range of competencies. The care of patients ranges from treating acute, life threatening illness to the management of chronic cardiovascular disease and the end of life care. However, the competence requirements for cardiovascular nurses need concrete, practical definitions.

Purpose: The purpose of this study was to define the competence profile for competent level nurses practicing in cardiovascular settings.

Methods: A literature review and a Delphi study were conducted. Firstly, of 196 articles identified, 26 international studies discussing nursing competence or nursing actions in acute cardiac care, including the core curriculum by the education committee of the CCNAP, were analysed, identifying 244 cardiovascular nursing competencies. The data were analysed using deductive content analysis and Benners competency framework was used as a categorization matrix: helping role, teachingcoaching, diagnostic functions, managing situations, therapeutic interventions, ensuring quality and work role. A set of 93 cardiovascular nursing competencies was identified. Secondly, a panel of experts in this setting (9 experienced nurses and 1 cardiologist) analysed the content validity of these competencies. The level of consensus sought was >75%.

Results: After two rounds of Delphi also new competencies were identified and a set of 120 cardiovascular nursing competencies was agreed at the consensus level of =90%. The cardiovascular nursing competencies (n=120) were distributed to competence categories: diagnostic functions (n=33), teachingcoaching (n=31), helping role (n=22), therapeutic interventions (n=14), work role (n=10), ensuring quality (n=5) and managing situations (n=5) competencies.

Conclusion: This competency description provides a concrete tool for nurses and managers to identify learning objectives and to prioritise further training programs in cardiovascular settings. Transferability of these findings to other contexts should be examined in the future.

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Pre-assessment and anxiety : a complex issue in the frail elderly patient undergoing transcatheter aortic valve implantation (TAVI)

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Pre-operative anxiety is well-documented in patients undergoing cardiac procedures, with negative physiological and psychological consequences. TAVI is indicated for severe aortic stenosis in frail elderly patients and mainly undertaken with little or no sedation but there is limited guidance on anxiety management in this context.

This 88 year old lady was admitted with chest pain to Emergency Dept following a road traffic accident. Previously fit and well, the patient reported no angina, palpitations, oedema or syncope but had noticed increasing shortness of breath and decreased exercise tolerance over the last year. Auscultation revealed an ejection systolic murmur, Echo showed a peak aortic valve gradient of 97mmHg, a mean gradient of 60 mmHg and aortic valve area of 0.4cm2. Diagnosis of severe aortic stenosis was confirmed and chest pain was attributed to fractured sternum. Coronary angiogram revealed a narrowed right coronary artery and percutaneous Coronary Intervention (PCI) was planned followed by TAVI 4-6 weeks later. Technical challenges to this included a small left ventricular cavity and a significantly calcified aortic valve and annulus.

Successful PCI was undertaken and 5 weeks later the patient was admitted for TAVI. Extreme pre-operative anxiety was treated with 2mg of oral Diazepam, with little effect except agitation and drowsiness. To avoid annular rupture or LV perforation caused by movement the procedure was postponed.

Three months later she attended a newly set-up TAVI pre-assessment clinic run by structural heart specialist nurses. The nurse holistically assessed the patient, taking into account past experience, fears and expectations. It emerged that never having been hospitalised previously despite having four children, the patient feared a stroke and being incontinent during procedure. After nursing interventions offered at the pre-assessment clinic the patient and her family reported marked reduction in anxiety and she attended for successful TAVI a few weeks later.

This case study illustrates the impact of an innovative Nurse-led pre-assessment clinic on managing pre-procedural problems such as anxiety in this vulnerable group of patients. It demonstrates that skilled nursing interventions can have high impact on the safety, efficiency and patient satisfaction concerning even the most complex of cardiology procedures.

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Giving consent for percutaneous coronary intervention: the patient perspective of a complex process

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Introduction: Percutaneous coronary intervention (PCI) is the most common revascularization procedure performed for coronary artery disease. All medical procedures carry a risk and therefore patients are required to give informed consent (IC). This process is a part of good clinical practice, is a universal right, and reflects ethical principles. There are several stages to the IC process making it complex, yet little is known of the patient experience of IC for PCI.

Purpose: To evaluate patient understanding of the IC process and PCI outcomes.

Methods: A prospective cross-sectional survey was administered to a convenience sample treated with elective or urgent PCI at a single center in USA. Subjects completed the 36-item questionnaire to assess their understanding of the IC process, the risks benefits and potential outcomes of PCI. Items were rated on a scale of 1 completely agree to 5 completely disagree.

Results: Eighty-two subjects, mean age of 65 years, 64 (78%) males, 59 (72%) college-educated, completed the questionnaire after PCI. Forty-nine subjects (60%) were urgent cases. Forty seven percent received written information pre-PCI. Most (82%) recognized the key components of IC (choice, risk/benefit, alternatives), but 55% did not remember and 42% did not understand all the information provided to them as a part of IC. Eighty-three percent wanted information about all possible risks associated with PCI. Over 80% of elective PCI participants had misconceptions about the outcomes of PCI, which did not match clinical trial evidence.

Conclusion: Subjects understood the general components of IC but did not precisely understand, or remember details, about information and the outcomes of PCI. Participants wanted to know both common and uncommon risks adding to the complexity of IC. Participants requested more family involvement in IC and information given in advance to help them to understand and remember information given during IC.

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Towards higher professional competence in cardiovascular setting

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Background: Nurses professional competence is essential to safe and effective patient care. Nurses professional competence level was measured in 2014 by using the generic Nurse Competence Scale (NCS). The 73-item NCS measures seven categories: Helping role, Teaching-coaching, Diagnostic functions, Managing situations, Therapeutic interventions, Ensuring quality, and Work role competencies. Competencies are assessed by using Visual Analogue Scale (VAS 0-100). All registered nurses in the clinic participated in the study. The response rate was 83 % (n=207). Overall nurses level of competence was self-assessed on good level (VAS mean 66.4). Nurses assessed themselves most competent in Helping role (VAS 71.2). However, all competencies related to evidence based nursing practices were assessed on lower level (VAS mean 55). Due to this, the tailored education program for nurses were started in 2015.

Purpose: The aim of this study was to evaluate nurses professional competence level before and after a tailored education program in 2015-2016. This program was based on a Core Curriculum for the Continuing Professional Development of Nurses Working in Cardiovascular Settings, developed by the Education Committee of the Council on Cardiovascular Nursing and Allied Professions. The objectives of the tailored education program was to deepen and extend the professional competence in various fields of nursing and to strengthen the expertise of evidence-based activities in nursing.

Methods: Education included five sections: (1) identification of your competence, work role, (2) evidence based clinical competence, diagnostic functions and managing situations, (3) teaching-coaching; principles of health promotion and prevention of diseases in specialized medical care, (4) development and management skills, therapeutic interventions and ensuring quality. Also (5) clinical practice learning was included. 20 nurses started the education and 14 finished it. The education lasted for one year and was 30 ECTS credits.

Results: After the tailored education, nurses competence was measured again with NCS. Ten nurses completed before and after measurements. The main interested was on competence related to evidence based nursing, which were assessed better (VAS mean 55 -> 78.9) after education. All other areas of competences were also assessed better after the education (73.4 -> 83.9).

Conclusions: The main result was that the education intervention is needed to expand nurses competence both in evidence based practice development and clinical practice. After the tailored education program, the self-assessed level of competence increased. The level of competence

will be measured again after one year from education. Results will be used on the planning the second tailored education program, which will be started in January 2018.

Funding Acknowledgements: None

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Disease-related knowledge of patients with coronary heart disease and correlation to risk factors

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Introduction: Coronary heart disease (CHD) remains the leading cause of death and disability in Europe. The disease is strongly related to lifestyle and evidence suggests that the disease progress can be slowed or reversed through lifestyle changes. Research has demonstrated the benefits of patient education to individuals with CHD with increased knowledge and positive behavioral changes regarding risk factors. To tailor the patient education to the patients needs it is imperative to explore the status of their disease-related knowledge.

Purpose: The aim of this study was to explore disease-related knowledge of patients admitted to hospital for CHD and investigate if risk factors and repeated CHD incidence were associated with disease specific knowledge.

Methods: Data was collected from October to December 2017, with the Coronary Artery Disease Education Questionnaire short version (CADE-Q-SV), from patients admitted to hospital for CHD. The patients answered the questionnaire before discharge from a hospital or within 24 hours of discharge.

The CADE-Q-SV questionnaire is designed to assess patients knowledge about CHD in 20 items and five domains: Medical condition, risk factors, exercise, nutrition and psychosocial risk. Each of the 20 items have true/false/I dont know answers. Each correct answer gives one point, with maximum score of 20.

Results: Of 111 patients who accepted to participate in the study, 97 completed the CADE-Q-SV questionnaire. The mean age was 66 years (42-79 years), 77% were male and 43% had a first time incidence of CHD. The mean BMI was 30 (SD 5.4), 44% of the patients were overweight (BMI = 25 and =29.9) and 45% were obese (BMI =30). Active smoking was reported by 25% of the patients.

The mean score of patient knowledge was 13.9 (SD 3.3). There was not a significant difference in knowledge scores between the five knowledge domains. The highest average score was in knowledge about nutrition or 3,2 (SD 0.97) and the lowest in Medical knowledge or 2.5 (SD=0.81). There was a significant difference in knowledge scores between smokers and non-smokers ($p<0.05$). However, there was not a difference in knowledge between patients who had a first time incidence or those who had been hospitalized before related to CHD.

Conclusion(s): Majority of the patients had good disease related knowledge. It is however interesting that there was no significant difference in knowledge level between those who had first time incidence or those who had lived with the disease for some time. Regardless, of having good knowledge regarding nutrition, majority of this patient population is overweight or obese. As the smokers had lower knowledge than non-smokers, nurses need to pay special attention to this patient group regarding patient education. The results indicate that there is a room for improvement in patient education and lifestyle management to this patient group.

Funding Acknowledgements: University of Akureyri, Landspitali, University Hospital, Akureyri Hospital, Icelandic Nurses association Research fund

On Behalf Of: KRANS-Study.

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Are there any gender differences in sexual activity of patients supported with an implantable left ventricular assist device?

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Introduction: Little is known about sexual activity among patients supported with an implantable left ventricular assist device (LVAD). The impact of an LVAD implantation on their sexual activity can be different between the male and female patients.

Purpose: We aimed (1) to describe sexual activity among patients after LVAD implantation, (2) to examine whether there were any gender differences in their sexual activity, and (3) to assess the relationship between the satisfaction with their sexual life and quality of life (QoL) of patients living at home with an implantable LVAD.

Methods: A cross-sectional study was performed and data were collected with a self-administered questionnaire between July 2016 and July 2017 in a university hospital in Japan. A questionnaire regarding sexual activity was developed on the basis of previous studies and administered when the patient was at home. QoL was assessed by a visual analog scale (0-100, with higher scores indicating better QoL). To compare variables between the male and

female patients, Students t-test, Chi-square test, or Fishers exact test was performed.

Results: Data from 54 patients were analyzed (age 4111 years, male 72%). Twenty-seven patients were supported with HeartMate II (50%), 18 with Jarvik2000 (33%) and 5 with EVAHEART (9%). All patients had the LVAD implanted as a bridge to transplant. Half of patients were married and 63% had a partner (male 69%, female 47%). Forty-four percent of the patients reported that their disease were causing problems with their partners (male 39%, female 58%). In total 76% felt loss of interest in sexual activity and this was observed in more male patients (81%) than female ones (58%, p=0.13). Regardless of gender, most of the patients had a problem with a pleasure or satisfaction from sexual activity (male 83%, female 92%). Half of the patients (47%) reported disturbance in sexual activity and 13% of the patients (male 8.6%, female 25%) reported that they could not perform sexual activity. The main reasons that both male and female patients reported to cause a disturbance in their sexual activity were a problem with the driveline or batteries (65%), and fear of injury or deteriorating my health with sexual activity (44%). The average level of satisfaction with their sexual life (0=very dissatisfied to 10=very satisfied) in the male and female patients was rated as 5.22.7 and 5.63.2 before and 3.92.8 and 3.22.5 after the LVAD implantation, respectively. No significant gender differences in these scores were observed. There was a positive relationship between the level of satisfaction with their sexual life and their QoL score (r=0.32, p=0.03).

Conclusions: Regardless of gender, patients with an implantable LVAD reported problems with their sexual activity. These problems seem to be related to practical and/or psychological problems. Providing adequate information and counseling regarding their sexual activity is necessary for these patients.

Funding Acknowledgements: A Grant-in-Aid for Young Scientist (B) to N.P.K. from the Japan Society for the Promotion Science KAKENHI (JP15K20693)

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Experience of transition from hospital to home in enlderly "real world" patientes with heart failure

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Introduction: The period after hospitalization due to deterioration of heart failure (HF) is described as a time of high generalized risk due to post-discharge instability.

Purpose: The aim of this study was to describe how elderly patients with HF experience the discharge process from hospital to home.

Methods: The study had a cross-sectional design. Patients with HF that had been hospitalized at a county hospital were consecutively included. Data were collected thorough structured telephone interviews one week after discharge and from medical chart reviews.

Results: A total of 121 patients were included (mean age 82,56,8 years, 49%women, 48% cohabiting, 2,9 additional co-morbidities). Length of stay in hospital was 5,74,8 days and the number of hospitalizations during the past 6 months prior to the index hospitalization was 1,8. A follow up plan was documented in 90% of the medical charts. A total of 86% of the patients had received written information regarding their discharge and planned follow up, and 89% had received a list of medications. Two thirds of the patient stated they had participated in the planning of their discharge, but 43% were not satisfied with the discharge conversations. Half of the patients described that their situation at home after discharge was unsatisfactory to some extent and 20% of them felt unstable and symptomatic. One third of the patients did not know which health care provider to contact if they needed care or a consult. Two thirds of the patients reported not feeling safe with the current health care and community care after discharge.

Conclusion: A seamless health care journey across hospital and primary/community care is advocated with structured follow up and facilitated access to care to improve quality, safety and patient satisfaction. This real-world study revealed that despite most patients had received written information on medications and follow up and that their discharge plan was documented in the chart, many of the HF patients were not satisfied with their discharge procedures. The patients felt unsafe after discharge and many lacked knowledge on which health care provider to consult in terms of deterioration or complications.

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An insight on self-care determinates amongst de novo Acute Heart Failure (AHF) patients prior to their discharge: a descriptive study

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Background: Among Europeans aged 60 and above, heart failure prevalence is above 10% in men and 8% in women. Patients presenting for the first time with typical symptoms and signs of acute heart failure (AHF) are classified as de novo AHF, which is a potentially life-threatening

condition, requiring hospitalisation, and emergency treatment. Once the patients were stabilized and treated, their discharge plays a paramount role to address their follow-ups and educational strategies to enhance their self-care behaviours. Despite the important role of discharge, there is currently a lack in describing those patients self-care when they can be discharged from hospital.

Purpose: To describe the self-care behaviours amongst de novo AHF patients and the assess the impact of clinical determinants on their self-care.

Methods: This study was descriptive, cross-sectional and mono-centric, using a convenience sampling approach. Patients were enrolled in a cardiac hospital of northern Italy within the 2017 and their self-care was assessed when they could be discharged from the hospital. The data were collected using validated tools, and the main variables were: socio-demographics, clinical determinants (e.g., NYHA, comorbidities) self-care maintenance (behaviours used to maintain stability), self-care management (response to signs and symptoms) and self-care confidence (self-efficacy), quality of life (QoL), and Activities of Daily Living (ADL). Multiple Logistic regressions were used to describe the relations between determinates and self-care.

Results: From the final sample (n = 406 patients, 66% males, age DS = 65,56 13,47 years), only the 18,5% had an adequate self-care maintenance, 7,1% had an adequate management and 35,5% had an adequate confidence. Males had twice than females the likelihood to have inadequate levels of maintenance (ORadjusted = 2,093; 95%CI = 1,1093,950). Moreover, every point of perception of better QoL (using EuroQoL from zero to 100) was associated to an increase of the 4% in the likelihood of performing adequate self-care management behaviours (ORadjusted = 1,040; 95%CI = 1,0051,075).

Conclusion: This study clearly showed the issues related of discharge for de novo AHF patients. Their self-care behaviours need to be supported and re-evaluated during their follow-ups. Further studies should deeply describe the investigated phenomena, using a longitudinal approach to detect the self-care trajectory over time

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Determinants of satisfaction with nursing care amongst hospitalised heart failure patients: a structural equation modelling (SEM) approach

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Background: Literature shows how satisfaction with nursing care is the most important predictor of inpatients overall satisfaction. Indeed, it seems to predict positive outcomes amongst hospitalised heart failure (HHF) patients (e.g. better therapy adherence, improved self-care). Previous studies suggest that carelessness, emotional support, relationships, and caring times may have a direct relationship with patients satisfaction. However, there is little empirical research aimed to describe what influence HHF patients satisfaction with nursing care. A deeper understanding of its determinants should help nurses and health professionals to optimize HHF patients education before their discharge.

Purpose: The purpose of this study was to describe the direct and indirect influence of carelessness, emotional support, relationships, and caring times on HHF patients satisfaction with nursing care.

Methods: A cross-sectional study design with a convenience sampling was used, and the data were collected in an Italian cardiac rehabilitation ward between 2014 and 2016. HHF patients satisfaction was assessed using the Newcastle Satisfaction with Nursing Scales (Italian version), measuring five domains (i.e. satisfaction with nursing care, carelessness, emotional support, relationships, and caring times) and collecting socio-demographic, and hospitalization duration. The purpose was tested with structural equation modelling (SEM) approach, theoretically guided by Donabedian theory as well as previous empirical study findings.

Results: Patients were mainly males (61,6%; n = 453), with an average age of 66,82 years (SD = 12,42), and with an average duration of hospitalization of 20,19 days (SD = 8,95). The final SEM model (?2 = 2664,938; d.f. = 937; P-value<0,000; GFI = 0,88; AGFI = 0,84; RMR = 0,05; CFI = 0,91; TLI =0,90) showed a significant direct effect of emotional support and relationships on satisfaction with nursing care, and a slight negative indirect effect of caring times on satisfaction. The effect of carelessness on satisfaction seemed to be partially mediated by emotional support.

Conclusions: This study findings show that HHF patients satisfaction with nursing care is mainly influenced by emotional support and relationships domains. Patients perception of nurses carelessness had no negative direct effect on satisfaction, suggesting the strategic role of emotional support. This study helps to clearly understand the aspects underpinning HHF patients satisfaction.

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Patients' self-care and knowledge about heart failure improves following a educational intervention A prospective study from the Faroe Islands

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Patients self-care and knowledge about heart failure improves following nurse education intervention. A prospective study from the Faroe Islands Abstract

Introduction: Longer life expectancies and improvements in diagnosing and treating cardiovascular disease has led to a global increase in the incidence of heart failure. Treatment of heart failure is based on pharmacological and non-pharmacological treatment options, including self-care which is recognized as an important non-pharmacological intervention and a component of standard treatment plans.

Purpose: To evaluate if self-care and heart failure knowledge among patients with heart failure changes after nurse intervention in an outpatient clinic in the Faroe Islands.

Methods: Our study was a prospective, educational intervention study in an outpatient clinic. Patients with a recent heart failure diagnose were recruited (January 2015 - January 2017) during hospitalization for symptomatic heart failure or after a consultation with a cardiologist. All patients were evaluated at baseline, after 3 months, and after 9 months using The European Heart Failure Self-Care Behaviour Scale and the Dutch Heart Failure Knowledge Scale. Relevant clinical and demographic information was collected.

Results: Our study sample included 7 (15%) women and 40 (85%) men. There was an overall improvement in patients self-care from baseline to 3 months and from baseline to 9 months (both $p<0.001$), and a slight worsening from 3 months to 9 months, but this was not statistically significant. Self-care and knowledge were correlated at baseline ($p<0.05$), but not at follow up. Whether patients were living alone was associated with worse self-care, and lower heart failure knowledge was associated with higher age.

Conclusions: In heart failure patients self-care and knowledge on heart failure increases after nurse intervention in an outpatient clinic in the Faroe Islands. Furthermore, our results indicate that patients with high age or patients living alone, need extra attention and tailored intervention.

Funding Acknowledgements: The study was supported by a grant from the Faroese Research Council

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Quality of life and use of hospital services in the caregiver/heart failure patient dyad.

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Background:/Introduction: The situation of heart failure in the current European context offers an epidemiological setting that involves a true challenge for health services. The aim of the study is to analyse the relationship between the use of hospital services by patients with heart failure and health-related quality of life of patients and family caregivers.

Methodology: We proceeded to perform an ambispective analytical longitudinal observational cohort study. Perceived health (outcome) and the history of hospitalisations and emergency events in the previous years (presentation), as well as health-related quality of life of patients and caregivers, were retrospectively and prospectively analysed, respectively.

Results: Main results founded are: a risk of deterioration in patients quality of life was found, which was associated with previous emergency events (odds ratio [OR]: 2.82; 95% confidence interval [95% CI]: 1.47-5.41) and with hospital admissions (OR: 4.66; 95% CI: 1.67-12.99). Among caregivers, the deterioration in their mental quality of life was associated with more hospital admissions (OR: 2.61; 95% CI: 1.06-6.45).

Conclusions: There is a relationship between the use of hospital services and health-related quality of life of patients and their family caregivers. Patients with the worst physical health status made a greater use of hospital services. These findings seem to confirm the need to measure patients state of health, as well as their family caregivers, the latter becoming a group of risk because of deterioration in their own health.

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Being support for patients with chronic heart failure and/or chronic obstructive pulmonary disease - the relatives perspective

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Background: Living life with a chronic condition such as chronic heart failure (CHF) and/or chronic obstructive pulmonary disease (COPD) does not only effect the patient, it also effects relatives, spouses or children, but their role as support is rarely documented.

Purpose: The aim of this study was to explore the meaning of support for relatives to someone with CHF and / or COPD.

Methods: The informants were asked to participate in this study since they were identified as next of kin to patients diagnosed with CHF and/or COPD who took part in a six-month long intervention consisting of person-centred support via telephone.
Semi-structured interviews were conducted over telephone, tape-recorded, and then transcribed verbatim. In total 14 interviews with 12 informants were conducted. The interviews was analysed using a phenomenological-hermeneutical approach.

Findings: The tentative findings of this study indicates that supporting someone with a chronic condition can be satisfactory and self-evident and also provide a sense of being the most important person in someone elses life. Although it might at the same time mean adapting your own life after the chronic condition in both larger and smaller ways, for example to not be able to travel or avoiding to light candles.

Conclusion: Healthcare should be conducted in a way that also includes the perspectives of the relatives and it is important to value their contribution in the care process.

Funding Acknowledgements: Swedish Research Council; ALFGBG; Research and Development Unit, Primary Health Care, Region Vstra Gtaland

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Registered nurses attitudes toward family importance in heart failure care

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Support from the family positively affects self-management, patient outcomes and the incidence of hospitalizations among patients with heart failure. To involve family members in heart failure care is thus valuable for the patients. Registered nurses frequently meet family members of patients with heart failure and the quality of these encounters is likely to be influenced by the attitudes registered nurses hold toward families. The aims of this study were to explore registered nurses attitudes toward the importance of families involvement in heart failure nursing care and to identify factors that predict the most supportive attitudes. This study is a cross-sectional, multicentre web-survey study. A sample of 303 registered nurses from 47 hospitals and 30 primary health care centres completed the instrument Families Importance in Nursing Care Nurses Attitudes. Overall, registered nurses were supportive of families involvement. Nonetheless, attitudes toward inviting families to actively take part in heart failure nursing care and involve families in planning of care were less supportive. Factors predicting the most supportive attitudes were to work in a primary health care centre, a heart failure clinic, a workplace with a general approach toward families, to have a postgraduate specialization, education in cardiac and/or heart failure nursing care, and a competence to work with families.

In conclusions, experienced registered nurses in heart failure nursing care can be encouraged to mentor their younger and less experienced colleagues to strengthen their supportive attitudes toward families. Registered nurses who have designated consultation time with patients and families, as in a nurse-led heart failure clinic, may have the most favourable condition for implementing a more supportive approach to families.

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Patients with heart failure conceptions of social palliation - a critical discourse analysis.

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Background: Danish patients with heart failure rarely have access to palliative treatment. The palliative treatment is a collection of treatment options including social services. In palliative care, the role of the patient is defined passive.

The purpose: This study aims to explore and compare role expectations reported by patients and relatives and within the Danish Health Boards recommendations on social palliation 2011.

Method: The study design is a document analysis. Empirical material constitutes a semi-structured group interview with six participants and documents from the Danish National Recommendation for palliative action. A critical discourse analysis was conducted according to Normann Fairclough frame.

Findings: The analysis testifies an active role for relatives even though different roles in the material. The differences point also towards a change of patient role from a passive role to an active and with the desire for responsibility.

Conclusion: In the social palliation, it is stated the relatives are found in an active role. While there is a change in the patients role, it appears as more active than previously stated.

N. Faircloughs critical discourse analysis points to the change of role understanding. It calls for a proactive approach to social palliation for patients with heart failure, with the earlier involvement of the patient.

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Information and Communication Technology (ICT) as a supportive aid; perceptions amongst family caregivers to persons with heart failure

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Background/Introduction: Much research has been performed in order to improve the life situation for persons affected by heart failure (HF), while research focusing on the family caregivers situation and their need for education and support is sparse. It seems that family caregivers have unmet needs that unfulfilled could lead to worsening health and well-being. Information and Communication Technology (ICT) solutions have the potential to reach many, and also include family caregivers who otherwise would not seek support.

Purpose: The aim was to describe perceptions about ICT solutions as a supportive aid, amongst family caregivers to persons with heart failure.

Methods: Focus group interviews were performed between March 2015 and January 2017 with family caregivers to persons with HF. The interviews were led by a moderator using an interview guide, and questions were accompanied with a presentation of examples to promote discussion, e.g. possible ICT solutions. An observer supporting the data collection also attended. The interviews were tape-recorded, transcribed verbatim and analysed using qualitative content analysis.

Results: The analysis is based on eight focus group interviews including 22 spouses and 1 child family caregiver (78% female, mean age 61.4, range 26-85). Four categories were identified capturing the family caregivers perceptions about pros and cons of ICT as a supportive aid; (1) ICT can be inclusive, timely and anonymous, (2) ICT is not useful for everyone or everything, (3) Family caregivers can see concrete solutions for how ICT could support them or others, and (4) Important with specific and interactive ICT support from health care personnel and from other family caregivers.

Conclusions: Family caregivers provided concrete suggestions about what specific information and support they felt a need for. Even though these did not always exclude other sources for support than ICT, it seemed that timely and prompt access was important for some caregivers. Participants had diverse opinions about which support was needed and they stated that ICT is not for everyone. Some also described ICT as solutions better suited for the future. In designing interventions aimed at family caregivers to persons with heart failure it is important to take the concrete suggestions on supportive needs into consideration. Our findings indicated that it could be difficult for family caregivers to see a use of ICT in their everyday life. This knowledge could be used when implementing an ICT intervention in the future.

Funding Acknowledgements: Swedish National Science Council (VR) and Swedish National Science Council/ Swedish research council for health, working life and welfare (VR-FORTE)

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Nurses' barriers to the use of cardiovascular guidelines in practice

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Background: Guidelines are updated on a regular basis based on updates in empirical evidence. Previous research has indicated that there are major barriers to implementation, however, little research has been conducted with staff nurses and practice nurses.

Aim: The aim of this study was to ascertain nurses use and knowledge of guidelines and the factors that influenced these.

Methods: A cross-sectional prospective survey design recruited qualified nurses working with patients with cardiovascular disease (CVD) from across Ireland in 2017-18. A previously validated anonymous questionnaire was given to the participants via a gatekeeper and returned by post. Analysis used SPSS V 22, descriptive statistics and logistic regression.

Results: The profile of the 445 respondents was: 7% male, 58% were staff nurses, 45% had a postgraduate diploma or higher, 44% rated their knowledge of European Society of Cardiology (ESC) guidelines as poor/average and 51% had consulted ESC guidelines in the last year. Barriers to use of guidelines included time (66%), resources (66%) and workload (57%). A high proportion of participants perceived that they were not in a position to challenge others (59%), needed further education (76%), no leadership (64%), not in a position to influence practice (49%), with regard to guidelines and their implementation. Logistic regression analyses examining 9 factors and leadership and workload were significant ($p<0.001$). Those who agreed leadership was a barrier were more likely not to have read ESC prevention guidelines recently and cited that they had poor knowledge of guidelines. Those who cited workload as a barrier to implementation

were more likely to be younger, not have a degree, and not be a member of the national cardiac nursing association.

Conclusions: In this cohort of nurses, from all levels, knowledge and use of guidelines was poor. In addition, the common barriers cited in the literature to the use and implementation of guidelines were further supported. Initiatives on a large scale such as Be Guideline Smart from CCNAP have started to work on these barriers. Now is the time to also start influencing change at a local level. Developing local practice changes, having more guideline updates at national conferences, using national nursing websites and communications such as twitter to start the conversation about guideline implementation. Initiatives are needed to increase knowledge and empowerment to ensure the optimal use of guidelines in assisting to achieve patient outcome goals.

Funding Acknowledgements: Irish Nurses Cardiac Association

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Feasibility of smartphone app use for secondary prevention in cardiac patients

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Background: Secondary prevention is crucial to decreasing recurrence of cardiac events in cardiovascular disease (CVD). However, access to effective programs, such a cardiac rehabilitation (CR) is limited. Smartphone apps have the potential to overcome barriers to access and promote secondary prevention, but little is known if apps are feasible to use in CVD patients.

Purpose: The study aimed to determine the prevalence and predictors of smartphone app use in CVD patients and their perceptions and experiences using an app designed for CVD patients.

Methods: Mixed-methods were used to 1) survey CVD patients eligible for CR (n=282) their use of technology; and 2) semi-structured focus group interviews to collect data from a subgroup of the survey study (n=13) on perspectives and experiences after two weeks of using an app developed for CVD patients (MyHeartMyLife National Heart Foundation of Australia openly available app).

Results: Survey participants were aged 66.510.6 years, mostly male (72.3%), had secondary school or higher education (63.1%) and 30.0% were employed. Survey participants who were regular app users (38.3%) were younger (aged <56 years: OR 4.70, 95% CI 1.92, 11.51), employed (OR 3.07, 95% CI 1.63, 5.77) and had secondary school or higher education (OR 2.37, 95% CI 1.30, 4.34), and were more likely than non-users to use: the internet to access health information (38.0% vs 16.7%, p<0.001), health-related apps (76.9% vs 41.4%, p<0.001) and activity trackers (26.9% vs 6.4%, p<0.001).

App subgroup participants were aged 41-79 years and 83.0% were male; none knew of the app before the study. All entered personal details, height, weight, BP and medications and 91% entered at least 4 medications.

Aspects of the app valued most were the convenient accessible information on medications (name, appearance, actions and side effects) and their medication list to prompt discussions with the doctor and for use also in emergency situations. Similarly, The Heart Attack Warning Signs information was used in symptom episodes. The medication reminder was reported as very useful to prompt medication taking. Whereas tracking of health data in the app while valuable for self-monitoring health and response to medications, lacked normal range indicators which meant uncertainty if action was needed. Users less familiar with apps missed some features and as they did not carry their phone, missed reminders. Modifications suggested included including activity tracking, synchronising with other devices, and additional storage for important medical data such as photos of test results and medical history.

Conclusion: The use of apps to improve access to secondary prevention support for CVD patients is feasible and likely to provide benefits for medication knowledge and taking. However, feasibility and acceptability is likely to be highest in patients who are younger, better educated, employed and familiar with apps.

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Exploration of cardiovascular risk factors on affection and erectile dysfunction among a portuguese population

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Background: Patients with erectile dysfunction (ED) concomitant with coronary artery disease (CAD) experience multifactorial psychological and physical implications that need multidisciplinary therapeutic responses which are not always available in every hospital.

Aims: To understand the feelings of men with ED and CAD, to find the relationship between cardiovascular risk factors and levels of affection, therefore drawing the attention to health care providers on this issue.

Methods: We recruited 132 patients aged 70 years or less admitted to our hospital for a coronary angioplasty procedure both elective and emergency. Patients were

asked to participate in the study. The participants answered a screening question Have you noticed any difficulties in sustaining an erection? If this question was answered yes, these patients were issued with the questionnaire IIEF-5 to confirm actual erectile dysfunction. A Portuguese reduced version of PANAS scale was used to evaluate affection.

Results: In total, 104 participants returned valid questionnaires (78,8% response rate) of which 53 answered affirmatively in the screening question (51%) but only 50 were included in the study. Age was the only factor negatively associated with ED severity and, in most of the cases (76%), ED was considered a predictor marker for CAD. Regarding the participants beliefs, 85,7% would like that health professionals to talk about this issue, 43,5% says ED interferes with their relationship and 81% want to participate in an ED intervention program.

Conclusions: Data shows that, apart from age, cardiovascular, psychological and relational factors are not separately relevant, but interact with each other on ED evolution and maintenance. Multidisciplinary intervention in which sexual counseling and therapy play an important role and are desired by our patients. We confirmed the need of an intervention program to our patients.

Funding Acknowledgements: No funding

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Cardiac pain and symptoms in women: a qualitative meta-summary

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Purpose: Coronary artery disease (CAD) accounts for 20% of all deaths among women. Cardiac pain is the primary indicator of CAD, however, symptoms of CAD manifests differently in women than in men. This contributes to treatment seeking delays and greater cardiovascular morbidity and mortality in women compared to men. Clinical guidelines recommend active involvement from healthcare providers to support women in making informed decisions related to symptom recognition and disease-management. To better direct treatment and support strategies, there is a need to synthesize the perceptions, experiences, and meaning of cardiac pain symptoms in women living with CAD through a qualitative meta-summary.

Methods: A comprehensive search of OVID Medline, OVID Embase, OVID PsycINFO, EBSCO CINAHL Plus, OVID AMED, and ProQuest Sociological Abstracts from database establishments to January 2, 2017, using keywords and MeSH headings. Women with cardiac pain greater than 18 years of age and managed in community, primary care or outpatient settings were included. A strong theoretical framework supported data extraction and analysis. The ENTREQ statement guided the review process, the methodological quality of the studies was assessed utilizing the Joanna Briggs Institute (JBI) critical appraisal tool, and the GRADE-CERqual was used to assess the confidence of the findings.

Results: In total, 22,402 eligible citations were identified. Of these, 35 studies were included in a final narrative meta-summary, comprising data from 769 participants, including 437 (57%) women. Based on womens experiences, a number of relevant strategies to improve cardiac health and alleviate symptoms were identified. Across studies, women described approaches that included knowledge acquisition, goal setting and action planning, management of physical and emotional responses, and social facilitation provided through social support from family and friends. There was moderate confidence in the evidence for the findings related to obstructive cardiac pain, post-procedural pain, and symptoms of fatigue. There was low confidence in the findings for non-obstructive cardiac pain and for symptoms of dyspnea.

Conclusions: Results from this meta-summary suggest that self-regulation and social facilitation improved outcomes for women with cardiac pain related to obstructive CAD. Few studies investigated how women manage non-obstructive cardiac pain and post-procedural pain and further research is warranted.

Funding Acknowledgements: Study funded by Canadian Institutes of Health Research (CIHR) Knowledge Synthesis Grant 362774.

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Investigation of pain intensity during radio frequency ablation for atrial fibrillation

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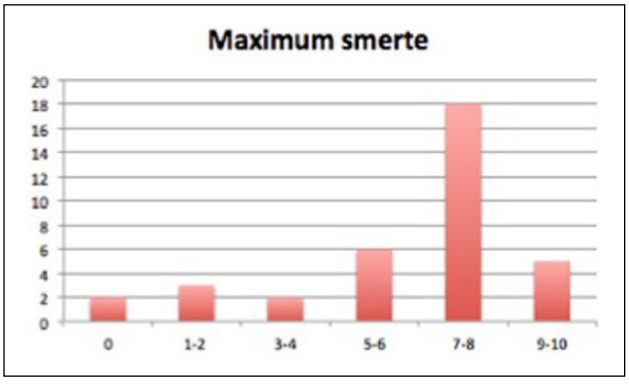
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Patients with atrial fibrillation frequently undergo RFA in order to convert heart rhythm into sinus rhythm. The patients may experience pain, our patients receive an analgeticum and/or a sedativum intravenously during RFA, which are given repeatedly by nurses and follow the local guidelines. We experienced that many of our patients expressed pain more often than expected, despite the medications given. However, we neither measured nor documented the intensities or frequencies of pain. These pain breakthroughs may add risks to the ablation. Our purpose was to investigate the pain intensities using Numeric Rating Scale (NRS) and to test for possible associations. Quantitative NRS was used repeatedly during RFA and scores were registered as well by a technician as

a nurse. Forty-seven patients with AFLI/AFLA >18 years of age were included before RFA at our institution within a random period of 5 weeks. However, 11 patients were excluded. Midazolam and Fentanyl were used to treat pain. All patients underwent an eccocardiography before the RFA. The demographics are shown in Table 1. For gender, the mean NRS registered was higher for females vs. men (5.0 vs 3.9, p=0.15). Type of arythmi: the mean NRS was lower for AFLI vs. AFLI/AFLA (4,02 vs 4.92, p=0.29). The medications: Fentanyl (n=16) average given was 286 g (spread 100-500). Fentanyl and Midazolam (n=20) average given were 311 g (150-525) and 0.5 mg (0,2-1.0). The mean NRS were similar 4.20 and 4.23. The locations of RFA and NRS means registrated: Right posterior wall 5.0, right anterior wall 4.3, left posterior wall 4.4. and left anterior wall 4.0 (p>0.05). During all ablations the mean NRS was 4.2 (1.8;6.52). The minimal and maximal NRS scores during ablations are shown in Figure 1 and 2. The figures show that 28% of the patients experienced minimum NRS >3 during ablations, whereas 81% of patients experienced maximum NRS >5. The results are preliminary due to the low number of patients participating and due to the difficulties in synchronizing the dialogues between patient-nurse-cardiologist because of the irregularities in the flow of ablations/procedure. These results confirm our observations, that many patients experienced pain during RFA despite medications given. These administrations were given by nurses with individual variation, partly explainable by compromised abilities for dialogues between patient-nurse-cardiologist. The literature suggests that NRS scores below 5 is acceptable to proceed with ablations. The obtained results have urged us to implement NRS into our monitoring of pain experience, to proceed with the ablations in close dialogue with both patients and cardiologists. Finally, we seek to improve the safety of our patients by premedication to be administered routinely, and by timely coordination between NRS scores, ablations and effect of medications.

Funding Acknowledgements: No support

On Behalf Of: Not on behalf of.



Maximum pain during ablation

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Predictors of blood pressure control and medication adherence among primary hypertensive patients

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Background: In Turkey, hypertension has been estimated to be the leading risk factor for death There is scarcity of data regarding Turkish patients adherence to antihypertensive medications and factors affecting blood pressure control, especially within Family Health Center.

Purpose: To assess the level of medication adherence and to investigate predictors of blood pressure control among hypertensive patients

Methods: This crossectional study was conducted between March 2017 and June 2017 at Family Health Center located in the northwest of Turkey. A total of 231 hypertensive patients were participated in the study. Ethics committee approval and institutional permit were taken to perform the study. Moreover patients were informed about the study and it was told that participation was on voluntary basis. Written and oral consents were obtained from the patients who approved to participate in the study. Data of the study were collected by Patient Description Information Form and Medication Adherence Self-Efficacy Scale-Short Form (MASES-SF). Blood pressures measurements were performed at patients home according to standart protocol. Kolmogorov-smirnov test, student t test, ANOVA test, tukey test and binary logistic regression analysis were used to assess data. Controlled hypertension was defined as blood pressure = 140/90 mmHg.

Results: Mean score of the patients from the MASES-SF was found to be at a moderate level (28.410.3). It was found that mean the MASES-SF scores of working, sufficient income, use one antihypertensive drug and high school and above education level were higher than the others (p<0,05). It was found that mean the MASES-SF scores of the females were higer than the males, but these difference were not statistically significant (p>0,05). Only 61.5 % of patients had their mean blood pressure controlled (BP =140/90 mmHg). Physical activity (OR 0.35[95% Cl: 0.13-9.90; p=0.03], diet (OR 0.30 [95% CI: 0.11-0.84; P = 0.02], and number of antihypertensive drugs (OR 1.76 [95% CI: 0.46-1.35; P = 0.02] were found to be independent predictors of blood pressure control

Conclusion: Almost more half of the hypertensive patients on follow up had controlled blood pressure. I recommend better health education and care of patients to improve the rate of blood pressure control at Family Health Center.

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Nurses' use of monitors in surveilling patients: an ethnographic study on a coronary care unit

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Background: Physiological monitors are increasingly used for patients surveillance and diagnosis, as well as for assessment and treatment purposes. Nurses have a vital role in the analysis and use of information obtained from such devices. Monitors are widely used in the healthcare system and are extremely important in maintaining patients well-being, but their ineffective use coupled with the large frequency of unnecessary warning bells can be a threat to patient safety.

Aim: The aim of this study was to explore how nurses use monitors in surveilling patients and the effect monitors have on their work with the purpose of promoting more effective monitor use and ensuring patient safety and security.

Methodology: This is a qualitative study, using a ethnographic design with semi-structured interviews and a field observation at a 35 bed coronary care unit. Purposive sample was used and data was gathered from November 2016 to May 2017. Data was analysed using systematic text condensation according to Malterud.

Findings: Participants were eight registered nurses, all women, aged 27 to 49. Five themes emerged. Specialised skill described professional knowlede in using monitors. The theme Aiding device discussed how nurses utilise monitors, their attitude towards their use and how important they are when surveilling patients. Collaboration described how nurses trust and depend on each other during monitor surveillance. False security discussed how monitor surveillance is insufficient due to work conditions, work arrangements and scattered responsibility. Finally the theme Stressfullness discussed the strain monitors cause both patients and nurses.

Discussion and Conclusions: Monitors helped nurses when surveilling critically ill coronary patients and allowed them to respond to life-threatening changes. Monitors were used in a diverse manner and nurses relied on each other with their supervison. But current work arrangements diminish the reliability of monitor surveillance, causing it to be in some respects inadequate. The monitor surveillance made high demands on nurses time and concentration and their focus was directed from other important responsibilities such as direct patient care, drug preparation and nursing documentation. Therefore it is urgent to revise its structure in order to enhance patients safety.

Funding Acknowledgements: The Icelandic Nurses Association

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Octogenarian patients experiences with hypnotics in relation to sleep disturbances and delirium after aortic valve therapy

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Background: Sleep disturbance and delirium are complications after surgical aortic valve replacement (SAVR) and transcutaneous aortic valve replacement (TAVI), especially in octogenarian patients. Sedatives and z-hypnotics are medications distributed to promote sleep. However, a knowledge-gap exists on patient experiences with these medications, and sleep and delirium after the cardiac treatment.

Aim: To explore and describe how octogenarians suffering from delirium after SAVR/TAVI experience their sleep situation related to sedatives and z-hypnotics, in a long-term perspective.

Methods An explorative and descriptive design with a longitudinal qualitative approach was applied. Inclusion criteria; age 80+, treated with SAVR or TAVI and had experienced delirium. Information about administration of sedatives and z-hypnotics was collected from the patients journals. The Confusion Assessment Method (CAM) was used to assess delirium, the Sleep Sufficient Index (SSI) and Minimal Insomnia Symptom Scale (MISS) were used to document self-reported sleep and insomnia. All measures were performed at baseline and daily the five first postoperative days. Ten patients were interviewed 6-12 months after treatment with focus on delirium. Five of these patients were re-interviewed four years later, focusing on their sleep situation.

Findings: For the initial interview, five men and five woman, four after TAVI and six after SAVR, mean age 83 were included. One overarching theme revealed; hours in bed represented an emotional chaos. Three sub-themes described the patients experiences with sleep and delirium, a cascade of distressful experiences, the struggle between sleep and activity and elements influencing sleep. In the category physical sleep distractions, sleep medications emerged as a sleep disturbing element but also to evoke delirium. Patients described to be offered sedatives and z-hypnotics in hospital. However, they did not have a positive experience with this as the medication did not make them sleep better. Moreover, they associated the nightmares by the sedatives Four years after the cardiac treatment, the octogenarian patients described that

medication did not have a sleep promoting effect, and they did not want it.

Conclusion: Octogenarian patients are vulnerable to complications like sleep disturbances and delirium. In preventing and treating these conditions, health-care professionals should be aware of the effect and side-effect of sedatives and z-hypnotics in the octogenarian patients. Our findings show that medications should be cautiously used within this group of patients.

Funding Acknowledgements: Bergen Health Trust

On Behalf Of: CARDELIR.

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The associations between psychological distress and health-related quality of life in patients with non-cardiac chest pain

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Background: Patients with non-cardiac chest pain (NCCP) suffer from recurrent chest pain that may have a negative impact on patients psychological wellbeing and health-related quality of life (HRQoL), and lead to greater healthcare use and societal costs. Patients with NCCP might have previous experience of Cardiac Disease (CD). However, there is today a lack of knowledge on how CD influences the association between psychological wellbeing and HRQoL in patients with NCCP.

Aim: To describe HRQoL in patients with NCCP, with or without history of CD, and to explore the association between HRQoL and cardiac anxiety, depressive symptoms, fear of body sensations and somatization.

Methods: The study had a descriptive cross-sectional design. In total, 552 patients discharged with NCCP from four hospitals in Southeast Sweden completed the EQ-5D, Cardiac Anxiety Questionnaire, Patient Health Questionnaire-9, Body Sensations Questionnaire, and Patient Health Questionnaire-15.

Results: Half of the study population (n=277) reported at least moderate problems regarding pain/discomfort and 25 % (n=136-139) reported at least moderate problems in the HRQoL dimensions mobility, usual activities, and anxiety/depression. Patients with NCCP, who had history of CD, reported significantly lower HRQoL (p= 0.05) compared to patients with NCCP without CD. In the total study population, cardiac anxiety, depressive symptoms, and somatization had weak significant negative associations (beta=0.187-0.284, $p<0.001$) with HRQoL. In patients with history of CD, the association between depressive symptoms and HRQoL was moderate (beta=-0.339, $p<0.001$), whereas this association was weak in patients without CD (beta=-0.193, $p<0.001$). Vice versa, in patients with no history of CD the association between cardiac anxiety and HRQoL was stronger (beta=-0.229, $p<0.001$) than in those with history of CD (beta=-0.156, p=0.05). Still, none of the differences in strength of the associations were significant using Fisher r-to z transformation, p=0.08 and p=0.40.

Conclusions: Patients with NCCP, in particular those with a history of CD, reported low levels of HRQoL. Cardiac anxiety, depressive symptoms and somatization were all independently associated with HRQoL. This highlights the diversity of the NCCP group and that different aspects of psychological distress may be influenced by previous experience of CD, which should be considered in the development of psychological interventions aiming to improve HRQoL in patients with NCCP.

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Self-reported residual symptoms: a comparison between people affected by takotsubo syndrome and myocardial infarction

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Introduction: Takotsubo syndrome is a form of acute revisable heart failure that mimics myocardial infarction at onset with chest pain, breathlessness and fatigue. Coronary angiography shows ballooning of the left ventricle and subsequent reduced pumping ability. Symptoms have been considered to be transient but knowledge is sparse regarding self-reported symptoms after discharge.

Purpose: The aim of this study was to measure and compare self-reported symptoms eight weeks after discharge between patients with takotsubo syndrome and myocardial infarction.

Method: The Somatic Health Complaints Questionnaire was distributed to 46 people with takotsubo syndrome (43 women, 3 men, mean age 67) and 78 people with myocardial infarction (67 women, 11 men, mean age 70) eight weeks after discharge. The questionnaire consists of four dimensions (fatigue, pain, breathlessness and unrest) and a total score (health complaints). Comparisons between the groups were calculated with Mann-Whitney U test.

Results: Self-reported symptoms eight weeks after discharge differed little between people with takotsubo syndrome and myocardial infarction. Both groups reported

symptoms, including pain, fatigue, breathlessness, unrest; and overall health complaints. People with takotsubo syndrome reported significantly more symptoms in the pain dimension (p=0,018) than people with myocardial infarction. No significant differences were found in the remaining dimensions: fatigue (p=0,249); breathlessness (p=0,441); unrest (p=0,077), or the total score: health complaints (p=0,186).

Conclusion: Patients with takotsubo syndrome experience residual symptoms after discharge and these need to be acknowledged. Symptom management should be integrated into follow-up care for patients with takotsubo syndrome.

Funding Acknowledgements: Centre for Person-Centred Care (GPCC), University of Gothenburg, Sweden.

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"patients experiences of transcatheter aortic valve implantation in local anaesthesia"?

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Background: Transcatheter Aortic Valve Implantation (TAVI) is a procedure offered to patients with severe aortic stenosis who, due to age and fragility, have a high risk of complications related to open heart surgery. TAVI has been shown to be as effective as surgical replacement of the aortic valve. In 2015 at a large university hospital the procedure was changed from being performed in general anaesthesia to local anaesthesia without any anaesthesia staff present. A literature review did not identify any studies investigating patients experiences when undergoing a TAVI procedure in local anaesthesia.

Purpose: To explore the patients experiences and needs when undergoing a TAVI procedure in local anaesthesia, in order to provide the nursing care based on the patients individual wishes and needs.

Methods: Qualitative interviews were conducted with ten patients, the day after the TAVI procedure. The interviews were recorded, transcribed and analysed according to the qualitative inductive content analysis.

Findings: Eleven categories emerged from the interviews. The transversal analysis revealed four themes: The diversity of pain, Thats the way it is, They have got it under control and I want to be involved.

Conclusions: TAVI treatment in local anaesthesia was experienced as a procedure in which a variety of pain, discomfort and anxiety were expected and accepted by the patients as long as the interdisciplinary team acted professionally. The elderly and often frail patients wish and need to be involved in their own care and treatment.

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Development, validation and testing of the recommending cardiac rehabilitation (ReCaRe) instrument

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Background: Suboptimal referral is a major contributor to underuse of cardiac rehabilitation. Evidence suggests referral is largely determined by health practitioners values, attitudes and beliefs. This offers promise for intervention, though no instrument exists to measure these antecedents in cardiac rehabilitation.

Purpose To develop and test the psychometric properties of the Recommending Cardiac Rehabilitation (ReCaRe) scale, and to obtain normative data for ReCaRe within a cardiac rehabilitation workforce.

Methods: A mixed methods design was used in the development and psychometric testing of ReCaRe (Stage 1) and establishment of normative data (Stage 2). In Stage 1 ReCaRe was appraised for: content validity (expert panel); interpretability and face validity (interview, health practitioners); factor-analytic structure and internal consistency (online survey, health practitioners); and weighted kappa statistics calculated to measure test-retest reliability (online survey, health practitioners). Normative scores were established via a sample of Australian Cardiovascular Health and Rehabilitation Association members.

Results: Seventy-five items were proposed in the initial version of ReCaRe. After initial psychometric testing, 34 items were entered into factor analysis, which supported a four-factor instrument with 17 items: perceived severity and susceptibility (7 items, a=0.93, ?=0.37); perceived service accessibility (3 items, a=0.91, ?=0.67); perceived benefit (3 items, a=0.97, ?=0.47); and attitudes and perceived barriers (4 items, a 0.82, ? 0.49). ReCaRe normative data scores were mean 33.97.2 (max=43).

Conclusions: The ReCaRe scale demonstrates strong face validity, good internal consistency and moderate to substantial test-retest reliability taking us one step closer to systematic identification for low cardiac rehabilitation referral rates.

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Are children hospitalized for congenital heart disease surgery at risk of pressure ulcers?

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Background: Pediatric patients in general are at risk of pressure ulcers (PU) during hospitalization. Approximately 250 children undergo surgery for congenital heart disease (CHD) at Copenhagen University Hospital yearly.

Purpose: The purpose was to examine the risk of PU in children hospitalized for CHD surgery.

Method: A systematic review of the literature was conducted in the PubMed database.
An observational study of pre- and postoperative skin status was carried out in children undergoing CHD surgery. Age, weight, diagnoses, duration of surgery and extra corporal circulation (ECC) was documented.

Results: Children hospitalized for CHD surgery are at risk of PU due to critical illness, prolonged surgery time, stay at intensive care unit, compromised circulation and nutrition, and lack of repositioning guidelines.

39 children were included in the observational study. 5% developed PU during their hospitalization. 10% had alterations in their skin (considered early signs of PU) postoperatively. Findings included severe diagnoses, prolonged surgery and ECC time, and a weight-for-age below average.

Conclusion: This study documents a risk of PU among children hospitalized for CHD surgery, and shows the need for further research and preventive measures.

Table 1. Clinical data for 39 included children

	Mean	Median	Min./Max.
Age	17 months	5.1 months	1 week/14 years
Weight (kg)	9.1	6.3	3.1/46
Surgery time (hours)	4.3	4	2.2/9.5
ECC time (hours)	2.2	2	1/5.5

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The fasttrack-palpitation clinic: an adept screening program for cardiac etiology identification and patient reassurance

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Background:. Symptoms of palpitations are common justifying in most cases a referral to a cardiac outpatient clinic. Although most palpitations are of benign origin, structural heart disease or cardiac arrhythmias should be determined or excluded. For this purpose a nurse-led rapid access FastTrack-palpitation screening program was developed. The aim of this pilot study was to evaluate symptoms of palpitations and health care utilization over time in those without a confirmed cardiac etiology.

Methods: A total of 76 consecutive patients, evaluated at the Fast-Track palpitation clinic and discharged without a diagnosis of a structural heart disease or arrhythmia, were asked to participate in this follow-up study. Via a questionnaire symptoms, healthcare utilization and reassurance perception was evaluated. Additionally applying the Hospital Anxiety and Depression Scale approximately 50 months after the initial visit their physical and psychological wellbeing was also assessed.

Results: A total of 55 (72,4 %) patients completed the questionnaires. Symptom cessation or reduction ensued in 56% of patients although in one patient an atrioventricular tachycardia was diagnosed after 3 years. Additional consultations for ongoing symptoms (no further evidence of cardiac etiology) were required in 9%. Importantly, 76% felt reassured including those who reported an increase or had no relief of symptoms. Anxiety and depression was slightly more prevalent in those who remained symptomatic.

Conclusions: The FastTrack-palpitation screening program proved to be successful in excluding cardiac etiologies. After four years follow up most patients still felt reassured, even those who remained symptomatic.

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Heart Failure nursing in Germany: education and profile, a substudy of the INTERACT-in-HF study

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Background: Heart Failure (HF) is a complex disease that requires high specialised care. Therefore, the European Society of Cardiology (ESC) guidelines for HF promote a multidisciplinary and integrated approach for successful HF-management. According to these guidelines HF-nurses (HFN) are part of this team. To deliver this complex high specialised care, they need specific competences and training. For this purpose the Heart Failure Association (HFA) of the ESC developed the Heart Failure nurse curriculum.

Purpose: The purpose of this research is to describe both the profile of German HFN and the extent to which additional HF-education in Germany corresponds with the HFA curriculum.

Methods: A mixed methods research combining a quantitative questionnaire considering age, sex (additional) education and guideline adherence, and a case study were used to obtain in-depth insight into profile of German HFN, and the level of agreement between additional HF-education with the HFA-curriculum. The questionnaire was distributed to all members of the German association of HFN and to participants of the 3th Internationales Symposium der Bundesarbeitgemeinschaft Pflegeexperten Herzsinsuffizienz

Data was analysed using SPSS 23.0 (IBM) Within the case study we compared the level of agreement between the learning objectives (LO) of the HFA-curriculum and those of additional education considering HF organised by the Deutsche Geselsschaft fr Gesundheits- und Pflegewissenschaft (DGGP) in Germany.

Results: Profile German HFN 27 HFN participated (median 48 years), mainly female (80%) and experienced in cardiology. HFN practise on average 9,5 hours per week either in General hospitals (20%) or in Academic hospitals (60%). Most of them (92%) continued their education after graduation and 80% participated in additional HF-education. Ninety per cent of participating HFN knows and implements ESC guidelines concerning patient education and self-care support, yet not every topic receives equal attention, i.e. education about sexuality, travel and vaccination is lacking. Correspondence of DGP education with HFA-curriculum

Additional education for HFN by the DGGP aims to provide HF-nurses with essential knowledge, skills and professional behaviour to enable them to implement guideline derived care. Therefore the education focuses on almost all learning objectives (LO) of the HFA-curriculum. Most attention is paid to LO considering patient education, pharmacological and device therapy, palliative care and comorbidities. LO concerning acute HF and assessing and monitoring of signs and symptoms of HF receive little attention.

Conclusions: German HFN are middle-aged, experienced in cardiology and continue their education. Although they know and implement ESC guidelines concerning patient education, not every topic receives equal attention.
Additional education organised by the DGGP adopts most core LO of the HFA-curriculum but the curriculum as a whole is not adopted.

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Quality and cultural sensitivity of linguistically appropriate cvd information for chinese immigrants: a review of online resources from heart foundations

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Background: Chinese immigrants are at increased risk for cardiovascular diseases (CVD) compared to Chinese nationals, partly due to lifestyle changes and knowledge deficits. Translated patient resources are available on the Internet and are often provided by health professionals, however the quality and cultural sensitivity of these resources have not been reported.

Objective: Assessment of availability, quality, and cultural sensitivity of Chinese-language information available from National Heart Foundations (cardiac research bodies non-governmental organisations) of the five most popular destinations of Chinese immigration.

Methods: Descriptive research in which National Heart Foundation Websites were systematically searched for Chinese-language CVD patient education resources. Quality (content, identification, structure) was assessed using Ensuring Quality Information for Patients (EQIP) tool. Cultural sensitivity was evaluated using Cultural Sensitivity Assessment Tool (CSAT).

Results: From 107 identified resources, 33 were CVD specific: coronary heart disease (n=20), arrhythmias (n=7), heart failure (n=6). Quality of resources was adequate (mean EQIP score = 69%), but scores varied significantly (min=60%, max=85%). While all resources were classified as culturally sensitive (CSAT score =2.5), 2 resources scored low (=2.5) for visual impact, and across all resources written and visual domains were assessed as least culturally sensitive. Most resources lacked culturally specific references.

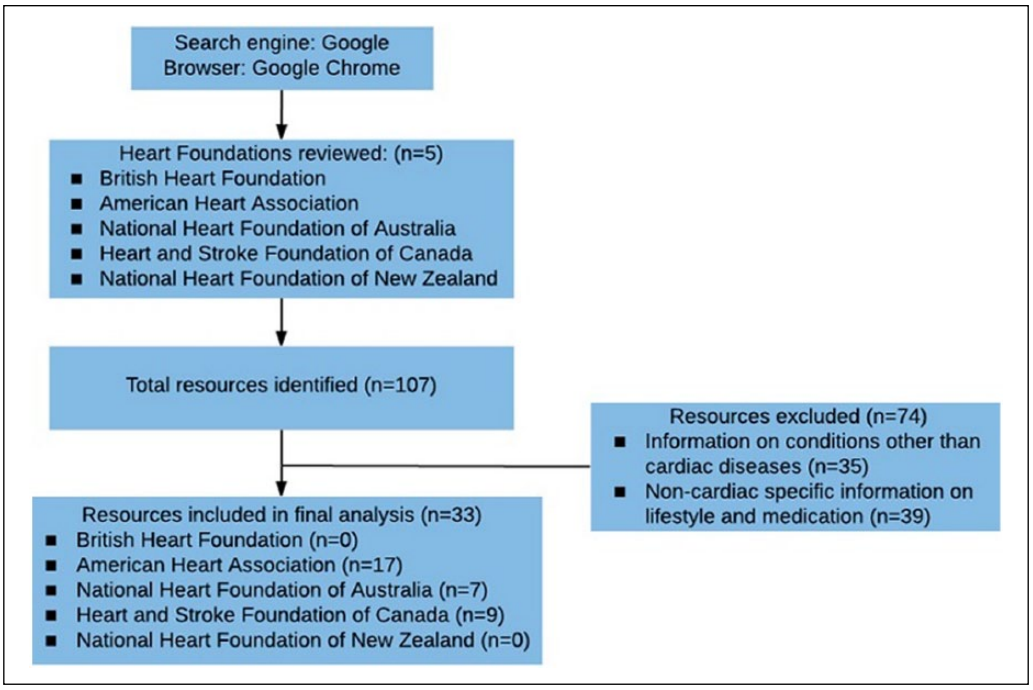
Conclusions: Chinese-language CVD resources were inconsistent in the supply of key information. Quality and level of cultural sensitivity were adequate, but most resources lacked culturally-specific references. Comprehensive, high-quality CVD resources tailored for Chinese immigrant are urgently needed for healthcare providers to support CVD education and care of patients belonging to this population.

Funding Acknowledgements: Dr Lowres is funded by a NSW Health Early Career Fellowship (H16/ 52168). Ms Ling Zhang is currently on APA scholarship

Table 1. EQIP and CAST results

Topics	EQIP	CSAT			
		Format	Written	Visual	Overall
Coronary heart disease	68%	3.33	3.10	3.20	3.19
Arrhythmias	68%	3.37	3.06	3.05	3.18
Heart failure	70%	3.72	3.29	2.77	3.36

2. Chinese information by topic and source with EQIP and CAST results



1. Search flow chart

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Using the medical research council framework to design an educational program for acute coronary syndrome patients: pragmatic development of a nurse-led intervention

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Background:. Acute coronary syndrome (ACS) is a leading cause of mortality and morbidity worldwide, as well as in Portugal. After a very short hospitalization, when patients return home their health outcomes are highly influenced by their engagement in a medication regimen and behaviour adjustments. Several studies report that providing discharge education is effective in these situations. The Medical Research Council (MRC) offers a framework to develop effective educational programs.

Although cardiac rehabilitation (CR) improves patients outcomes and facilitates home transition, in Portugal only 4% of the eligible engage in CR after a cardiac event. Therefore, within the short time frame between the coronary event and the hospital discharge, initiating the education of patients about ACS symptoms, risk factors and behaviour change presents a nursing challenge. Although patient education is a complex intervention, we are developing a pragmatic approach to dealing with its complexity in a specific coronary care unit (CCU).

Purpose: To describe the development of a tailored nurse-led educational intervention following the MRC framework. Intervention aims are to promote behavioural changes in post-ACS-patients and spouses related to body weight, blood pressure and lipid profile management; lifestyle changes; and medication adherence improvement.

Methods: Following the MRC guidance, the development process comprises a systematic literature review (SLR) (done); analysis of good evidence (done); review of usual care provided to ACS-patients in the chosen CCU (done); results of a study assessing the learning needs of coronary patients before discharge using the Cardiac Patient Learning Needs Inventory (Portuguese version) (done) and an experts focus group (data being analysed). Before implementation, a pilot test with ACS-patients in the same CCU will be performed. The program evaluation is planned through a pragmatic randomized trial.

Discussion: To strengthen its effectiveness, the intervention design was theory and evidence-based. Meleis transition theory and Banduras social-cognitive theory were chosen. Self-efficacy, one of the core concepts of this theory, is an important mediator of health behaviour, namely in coronary patients. The intervention components and educational materials are described. The pilot study expected results may offer an opportunity to indicate the impact of the intervention and its effect size, essential to prepare the randomized trial.

Conclusions: The MRC framework provides a useful methodology for the development of complex educational interventions to address successful behaviour change in ACS-patients. Tailored interventions are expected to be more effective improving the quality of life; physical and psychological status; and facilitating home transition. This

methodology can also be set as an innovative approach to improve quality care in CCU compared with usual and standardized care.

Funding Acknowledgements: Fundao para a Cincia e Tecnologia

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Patients and relatives experiences with healthcare professionals in department of Cardiology

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Background: Results of a National survey concerning patient satisfaction, in 2015, showed that patients at the Department of Cardiology scored marginal better than the National average for patients with an acute admission. However elective and outpatient patients scored lower than the National average. Studies show that patient complaints are dominated by inadequate information, unprofessional behavior and lack of individualization. Moreover, patients expectations are influenced by their level of satisfaction with the healthcare professionals and the healthcare system. Patient involvement is a part of both a Regional and local healthcare strategy, and an important factor in relation to patient satisfaction.

Purpose: The purpose is to gain knowledge about patients expectations and experiences with the healthcare professionals and the healthcare system.

Method: Patients and relatives were involved, using Feedback meetings where a moderator conducts a interview and healthcare professionals acts as a reflective team. We conducted 3 Feedback meetings with respectively acute, elective and outpatient patients. A total of 6 patients, 2-6 relatives, up to 20 healthcare professionals and one moderator participated in every meeting.
The meetings consisted of 4 phases. 1: Patients and relatives were questioned about their expectations and experiences with their care and treatment. 2: Healthcare professionals discussed the statements of patients and relatives. 3: Patients and relatives had an opportunity to answer questions from the healthcare professionals and clarify earlier statements. 4: Patients and relatives went home and the healthcare professionals continued the discussion of the statements and clarified some interventions emerged from the Feedback meeting.

Results: Overall, patients and relatives requested a service minded attitude and individualized ongoing information. Involvement and information made them feel safe in an uncertain and insecure situation. Acute patients had an awareness of, that their own worldview had changed, and both patients and their relatives needed an ongoing involvement by the healthcare professionals. Elective patients needed ongoing information of waiting time and to be involved in what they could expect of the procedures. The outpatient clinic patients expected that the healthcare professionals made them feel welcome, that the healthcare professionals were prepared for the individual patient and continuously involved them when examinations were performed.

Conclusion: The Feedback meeting showed a valuable insight in patients and relatives expectations and experiences to the healthcare professionals. Preliminary interventions have been initiated in terms of (i) a two day course for specialized nurses in the Calgary-Cambridge model, (ii) a poster with 10 advises for patients and relatives on how to be a patient, and (iii) a journal audit focusing on whether patients perspectives are documented.

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The effect telephone monitoring on blood pressure control and adherence drug medication in individuals with primary hypertension

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Background: Hypertension is a significant and often a symptomatic chronic medical condition, which calls for persistent adherence to medication regimens to reduce the risks of stroke, cardiovascular disease, and renal disease. The rates of blood pressure control and adherence to medication remain unsatisfactory across in Turkey.

Purpose: This research was an experimental study to determine the effect of telephone monitoring on blood pressure control and adherance to antihypertensive drug treatment in patients with primary hypertension.

Method: It was conducted at the Family Health Centre in Turkey. Power size analysis was performed to determine sample size, and the study was conducted with 77 patients (39 intervention, 38 control). Data was collected by face-to-face interview using a patient description form, an SMS message monitoring table, a telephone monitoring form, and medication adherence self efficacy scale short form (MASES-SF). The intervention and control groups were both given instruction on conformity to drug treatment and blood pressure control. Patients in the intervention group were reminded by SMS in weeks 1, 3, 5, 7 and 10 of the study, and were monitored by telephone in weeks 2, 4, 6, 8 and 12. In weeks 4, 8 and 12 of the study, blood pressure was measured in the patients of both groups. Written permission for the study was obtained from the provincial Public Health Directorate, the individuals who agreed to participate in the study, and the ethics committee. Data

was evaluated numerically, as percentages and means, and by the Pearson chi-square, independent t test, paired sample t test, one-way repeated variance analysis and the Sidak test.

Results: According to the statistical analysis, no significant difference was found between the intervention and control groups with regard to their pre-test mean scores on the MASES-SF ($p>0.05$). However, the mean post-test score was found to be significantly higher in the intervention group ($p<0.05$). After application in the intervention group, mean systolic ($p<0.05$) and diastolic ($p<0.05$) blood pressure levels in weeks 4, 8 and 12 were found to be statistically significantly lower than in the control group.

Conclusion: It is recommended that studies of the effectiveness of telephone monitoring be repeated with bigger sample groups, supported by the health system.

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Cardiology / arrhythmias day hospital: effectiveness and efficiency, a reality constantly evolving.

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Background: Cardiology Day Hospital (CDH) is an assistance modality with important development during the last years. It is a multidisciplinary unit lead by a Medical and a Nursing Team (Nurse, Technical auxiliary nursing care and Heart Failure Nurse). In these care units are carried out the care of patients who have to be subjected to diagnostic methods or treatments that will require a few hours of continuous nursing care.

It has been designed to provide quality and comfortable healthcare and optimal care to patients who need specialized techniques or procedures, for diagnostic and / or therapeutic purposes; or receive a treatment without staying hospitalized for more days.

Purpose: Reduce the waiting list among those patients who had to be attended by a specialist (treatment adjustment). And on the other hand to shorten patient`s stays in the hospital, in the case of undergoing some test or intervention (catheterization, implantation of devices: electrophysiological study, cardiac ablation, implant of cardiac devices - pacemaker, CRT) and different perfusion treatments intravenous (diuretics, heart failure).

Methods: Quantitative, Descriptive Retrospective Study, of the data relative to the patients attended during the years 2014-2016. The focus of this work and its subsequent analysis has been purely statistical.

We review and re-elaborate protocols for all procedures. A specific consultation has been created for Heart Failure nurse and an own agenda and informative diptychs were prepared before and after the study, as well as a posteriori satisfaction survey.

Results: We perform analysis of the different variables considered (demographic data, procedure performed, etc.), using statistical methods to represent and quantify the data obtained month by month and throughout these two years and ending with a final balance as a conclusion. The results clearly show that anxiety has decreased (patients and family members), that there is a high degree of satisfaction of patients and family members (surveys), scheduled appointments have allowed to coordinate procedure and work activities and no less important there have been no adverse events serious.

Conclusions: Ambulatory care is perceived less traumatically than conventional hospitalization, contributes to the streamlining of the process, to the improvement of quality, safety in care and optimization of health resources. In summary, increase the quality of care.

CDH is an effective quality tool to avoid and / or reduce the time of hospital stays as well as visits to the emergency service, achieving improvement in comfort and patient safety, and consequently, reduce costs without compromising the quality of attention. It has been possible to provide comprehensive and continuous assistance, agile and ambulatory, without the damage of income, rationalizing health resources. Highlight the participation of all the areas involved as well as expand the number and type of outpatient processes.

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Patient's satisfaction survey of a nurse led telephone pre-admission clinic

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Background: The telephone pre admission clinic for patients undergoing elective angiography at this tertiaryTrust was initiated in September 2013. Telephone pre admission clinics run twice weekly, on a Monday afternoon and a Thursday morning in the Woodlands Pre Admission Unit. The clinic is run by the Cardiology Clinical Nurse Specialists (CCNS) and was set up to enable all patients attending Harefield Hospital for elective angiography to undergo the necessary preparations prior to their procedure.

Method: A simple questionnaire was developed to ascertain the patients satisfaction of this clinic. Questionnaires were posted to all of the patients after each clinic appointment between November 2016 and January 2017. A free post envelope was provided for ease of return and all questionnaires remained anonymous.

Questions included:- Questions aimed to establish if patients were happy with the telephone appointment and if they were aware that the appointment was to be via the telephone rather than in clinic. They were also asked if the appointment time was convenient and if the call was made at the time stated on the appointment letter. Patients were asked if they were satisfied with the information they were given during the telephone call, if they felt that the nurse who conducted the call had sufficient knowledge to answer their questions and if they felt there was enough time to discuss their concerns. Finally there was a question about the usefulness of the telephone appointment.

Results: A total of 57 patients were booked into the clinics during the audit period. Two of those patients were actually reviewed in the Unit when they came to have their pre admission blood tests and MRSA screening; therefore questionnaires were not sent to these two.
Questionnaires were sent to53 patients (93.0%); 39 questionnaires were returned, a 75.74% response rate.
100% of patients were happy with the pre admission appointment; 97.44% patients were aware the appointment was to be via the telephone and not at the hospital; 97.44% thought the time given for the appointment was convenient; 92.31% of patients received the telephone call at the time stated on the letter; 97.44% of patients were satisfied with the information given over the telephone; 100% of patients felt the nurse had enough knowledge to answer their questions; 100% felt there was enough time to discuss any concerns and 97.44% thought the telephone pre admission call was useful.

Conclusion: Telephone pre admission clinics can be effectively run by Cardiology Clinical Nurse Specialists and are well evaluated by patients. Such clinics facilitate comprehensive pre admission assessment of patients without the need for patients to attend a hospital clinic. This enables more patients to be assessed and is often more convenient for the patients. The nurse led telephone clinic model has been extended to other groups of cardiology patients.

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Patient preparation for cardiac catheterization / electrophysiological study, role of the nursing workteam in hospitalization. (Technician in Nursing Auxiliary Care TCAE / Nurse)

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Background / Introduction: The procedures of catheterization, electrophysiological studies and ablation (cath Lab & EP Lab) are becoming more common and the importance of adequate preparation for these procedures is evident, with the nursing team having a fundamental intervention in them.
In our hospital there are almost 1000 catheterization procedures (diagnostic and therapeutic, more than 200 electrophysiological studies and over than 300 implants of cardiac devices (Pacemakers and Cardiac Resynchronization Therapy - CRT), every year, with which to protocolize and perform these procedures are of utmost importance for the optimal performance of them.

Purpose: Identify and determine the steps to follow for the preparation of the patient prior to the cardiac catheterization / electrophysiological study avoiding possible complications, developing a specific protocol to obtain better results in the pre-procedure care.

Methodology: Comprehensive bibliographic review, consulting different databases such as Medline, Pubmed, Chocrane, Lilacs, Cuiden and Cuiden Plus. The following keywords were used: cardiac catheterization, electrophysiological study, ablation, protocol, patient preparation, among others.

Results: Once the patient is admitted, and their identity confirmed, we will consult the clinical history paying special attention to the allergies (take into account that patients allergic to iodine will have to be premedicated according to the protocol of the center) and usual medication, as well as the time of suspension of treatment so as not to interfere with the procedure. Confirm that you are fasting for a minimum of 4 hours (diabetic patients should not take oral antidiabetics and insulin-dependent patients will have to administer half the dose, and administration of fluid therapy, if necessary). Completely undress the patient and put on the dressing gown. Weigh and carve it. Once the patient is in bed we will proceed to: Shave both wrists and English and right hemitorax according to procedure. Perform ECG (electrocardiogram) of 12 leads. Take the vital signs. Perform a complete analysis by channeling a peripheral pathway (pulmonary veins ablation being the right arm of choice, and in cardiac devices the left arm and always 12 cm above the wrist.) Diazepam of 5 mg sublingual at the time of transfer to the catheterization room.

Conclusions: This protocol seeks a standardized, effective nursing action, increasing patient safety during the procedure, avoiding risks in the preparation of the patient after cardiac catheterization / ablation and implantation of cardiac devices.

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Nursing competencies in patient-centered care under mechanical circulatory support: a portuguese survey

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Background: Mechanical Circulatory Support (MCS) is recommended to a highly selected number of patients. In Portugal there is neither a postgraduate training standardization for nurses caring of these patients nor are described their competencies.

Purpose: To perform the Portuguese diagnosis of nurses competencies in MCS patient-centered care, based on their opinions; to correlate educational, professional and sociodemographic data with the most valued competencies; to assess the type of training undertaken to gain those competencies and to discuss the obtained results according to the most recent scientific evidence and the state of the art; to propose a semi-structured training program that can guide and standardize nurses training at national level.

Research protocol: Observational, prospective and correlational study approved by the ethics committee of a school of nursing. Convenience sample all nurses who work/worked with adult/elderly patients under MCS in Portugal. A form was created based on a literature review. The pre-test was carried out to six nurses, experts in MCS. All but three questions had a high degree of agreement (>80%). Disagreements were solved considering the experts suggestions to improve the final form. The link to fill in the online form will be sent by email, via the Portuguese Nursing Board, and made available on ResearchGate and Facebook. The request for informed consent is in the beginning of the form, after a brief introduction to the theme and explanation of the investigation. The participation is voluntary and anonymous.
The statistical analysis will be done with SPSS version 24. The categorical variables will be described by their absolute and relative frequencies and compared through chi-square-tests. The continuous variables with normal distribution will be described through the mean and standard deviation and will be compared with T-student and ANOVA tests. The continuous variables with non-normal distribution will be described through the median and interquartile distribution and compared with non-parametric tests. The open questions will be evaluated through content analysis.

Conclusion: The study results will give us a picture of nurses competencies to care of patients under MCS in Portugal. We anticipate a set of highly specialized nursing interventions that should be published in confront with scientific evidence to these patients-centered quality care. If expressive, the results can also be proposed as a national standard for advanced and specialized nursing training. This study is expected to be completed in April 2018 and could be replicated in other countries in Europe and worldwide.

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Coronary microvasculair dysfunction and exertion

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Background: Coronary microvascular dysfunction (CMD) is a heart disease leading to chest pain, shortness of breath and fatigue due to dysfunction of the smaller heart vessels. Symptoms often occur during or after exertion. Subsequently patients start to avoid exertion while exertion is proven to be beneficial for CMD patients.

Purpose: To understand which factors play a role in experiencing exertion, with the ultimate aim to design a cardiac rehabilitation program for patients with CMD.

Methods: After purposive sampling, ten patients participated in focusgroup interviews. These interviews were taken via a pre-arranged topic list. Audio recordings have been used which were transcribed. The interpretation contained reading and interpreting the text by two independent persons, making codes and clustering these codes. This gave insight into the factors that play a role in the perceived experience of exertion in patients with CMD.

Results The percieved experience of exertion is twofold: fine because it gives fun and energy; scary because it can cause complaints. Exertion was seen as sport and leisure activities but is also necessary for household and family activities, including family caregiving.
Four factors play a role: emotions, cognitions, personality and environment.

Conclusion The factors that play a role in the experience of exertion in this qualitative research are emotions, cognition, personality and environment. These factors imply a multidisciplinary rehabilitation program for patients with CMD with a primary focus on cognitive behavioural therapy and secondary on physical therapy.

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scoping the field of transfer and transition in young persons with cardiovascular conditions

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Background:/introduction: Over the past decades, numerous professional organizations and task forces highlighted the need to develop and implement transition programs to prepare young people with chronic cardiovascular conditions for the transfer from pediatric to adult care. However, the evidence on which these guidelines are grounded is rather unclear. A comprehensive scoping review of the existing body of evidence may give direction to clinical practice, policy making and future research initiatives.

Purpose: To determine the level of evidence of published literature on transfer and transition in young people diagnosed with chronic cardiovascular conditions.

Methods: A scoping review was performed using a single systematic search string in 4 databases: MEDLINE, CINAHL, Scopus and Web of Science. All publications in English, Spanish, Dutch or French, related to transfer and transition in young people with cardiovascular conditions were included. Study selection was performed through screening of titles/abstracts, followed by a full-text assessment using a standardized selection form. Data extraction was performed by 3 reviewers independently, using a pilot-tested, standardized form. Levels of evidence were categorized according to the Joanna Briggs Institute (JBI).

Results: In total, 70 scientific publications on transfer and/or transition in young persons with cardiovascular conditions were identified. More than 90% of the articles pertained to patients with congenital heart disease. The remainders of the publications involved individuals with non-congenital cardiovascular conditions, such as rheumatic heart disease, cardiomyopathies and hypertension. Only three papers were published from 1993-2000, with a steep increase of papers between 2000 and 2016.

Overall, 87% (n=61) of the publications could be scored on the level of evidence (see fig 1). The remaining articles used a qualitative design (10%; n=7) or had a mixed- or multi-methods design (3%; n=2). When looking at the levels of evidence, the majority of the publications were at level 5 (61%; n=31), being narrative reviews (n=22) and expert consensus documents (n=9). Furthermore, 30% (n=18) and 18% (n=11) of the publications were at level 4 and 3, respectively. Only one study with an experimental design, being level 1, was identified.

Conclusion: The predominantly low level of evidence suggests that the available guidelines are solemnly based on theoretical grounds and that further research using (quasi-) experimental designs and observational analytical studies is needed in order to bridge the gap between theory and practice, as well as improving the care provided to young people with cardiovascular conditions.

Funding Acknowledgements: Swedish Heart- Lung Foundation, Swedish Research Council for Health, Working Life and Welfare, Swedish Research Council, Research Foundation Flanders

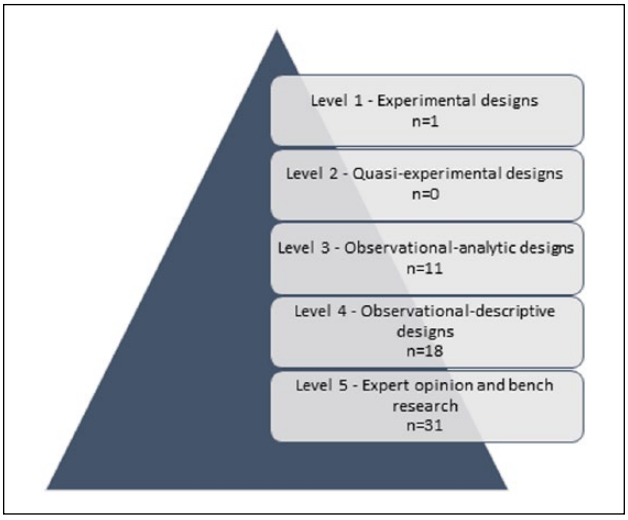


Figure 1. JBI Levels of evidence

Public Health and Health Economics

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Reducing unnecessary echocardiograms using BNP and ECG: A physiologist led pathway.

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Background/introduction: The use of brain natriuretic peptide (BNP) and/or electrocardiography (ECG) is recommended for the exclusion of heart failure (HF) before an echocardiogram (echo) is utilised. A BNP and ECG pathway applied by cardiac physiologists was introduced to rule out HF where possible and reduce unnecessary use of echo in a large inpatient centre.

Purpose: Large numbers of echos are conducted to assess inpatients with dyspnoea and other non-specific symptoms to investigate for HF. This can increase waiting times and financial pressure on echo services. BNP and/or ECG are recommended in clinical guidelines to rule out HF before echo is used, however this is not always correctly applied in inpatients, particularly by referrers outside Cardiology. Earlier diagnosis and treatment of HF is associated with

lower mortality. Therefore a screening pathway could reduce unnecessary testing and allow patients to be referred to the appropriate service e.g. HF or respiratory, earlier in their hospital stay.

Methods: 266 consecutive patients (123 male, 143 female, mean age 74.18years+/- 12) with echo referrals for HF diagnosis were included in the pathway. An ECG recording and a BNP assay were requested for each patient by a cardiac physiologist, who then checked and analysed the results. Echos were cancelled for patients with normal ECG (see flowchart for ECG abnormalities) and BNP <100ng/l, on discussion with the referrer.

Results: 7.5% (95% CI 4.1%, 10.2%) of echos were cancelled, 15% (CI 10.7%, 19.3%) of echos were eligible for cancellation but were carried out for various reasons, e.g. incorrect information on echo referral, multiple referrals with different indications, delays in receiving BNP or ECG results. BNP and ECG alone each identified similar proportions of the population without LV systolic dysfunction (BNP 63.3% (95%CI 48.3%, 76.6%)) ECG 65.5% (95%CI 65.5%, 77.5%)). However, the populations they detected were largely separate (Kappa Coefficient = 0.119, P=0.052).

Conclusions: This pathway can reduce the number of echos performed for HF diagnosis. ECG and BNP play different and important roles in the process of ruling out LV systolic dysfunction in an inpatient population.

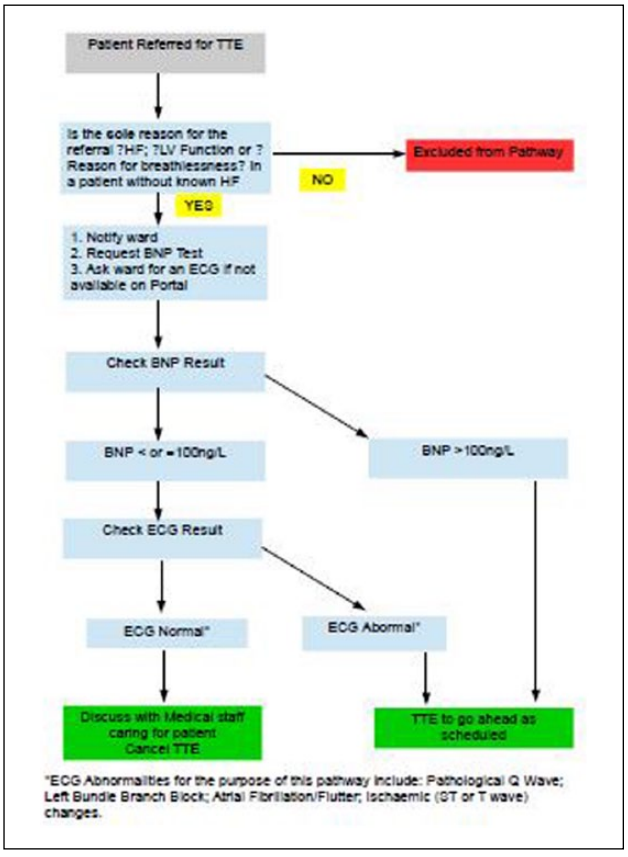
Funding Acknowledgements: Glasgow Heart Managed Clinical Network

On Behalf Of: Glasgow Heart Managed Clinical Network.

Table 1. Numbers of patients by BNP / ECG results

	Normal LVSF	LVSD	Discontinued due to pathway	Discontinued for another reason	Total
ECG abnormal, BNP <100ng/l	31	17	0	1	49
ECG normal, BNP >100ng/l	38	15	0	5	58
ECG normal, BNP <100ng/l	20	1	19	0	40
ECG abnormal, BNP >100	46	58	0	15	119

ECG abnormalities include: Bundle branch block, pathological Q waves, ischaemic (ST or T wave) changes, AF/flutter.



Screening pathway flow chart

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Living with chagas disease: voices of the protagonists in rural communities.

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Background: Introduction. Chagas disease is considered a neglected tropical strongly linked to sociocultural and economic factors, its endemic at 21 countries in Americas, affecting people in rural communities, who may have cardiac complications if it is not diagnosed and treated in time. In Mexico, Chagas disease is a Public Health problem, and particularly in the Southeast region more cases have been reported in recent years. Several studies in Latin America have described the influence of social determinants for Chagas disease like: poverty, low educational level, difficulties in access to health services; however, few studies have been developed by Nursing discipline and it is important to know how is the experience of living with Chagas disease in rural communities in order to prevent cardiovascular complications for people.

Purpose: To describe the experience of living with Chagas disease for persons in rural communities.

Methods: Qualitative, descriptive and phenomenological-social design. Data has been collected through interviews

semi-structured guide and audio-recorder previous informed consent to persons diagnosed with Chagas disease. Te interviews were analyzed using thematic analysis. The research has been developed according to the principles of Helsinki Declaration.

Results: Preliminary data analysis showed a theme has emerged: The pilgrimage, with three sub-themes: I did not know I had Chagas disease, Looking for a cure and I did the procedure. Persons were diagnosed when they were going to donate blood, after that, their lives changed: they worried about the heart complications of the disease, which related to death, therefore looked for information about the disease and how they could have access to a cure and support, did a difficult procedure to obtain the medication for the disease and start treatment.

Conclusions: Preliminary findings showed that is important for cardiovascular nurses to get useful information about people with risk factors for Chagas disease in order to design Primary Health Care Programs to prevent the disease, its complications and improve quality life at endemic rural communities.

Funding Acknowledgements: Consejo Nacional de Ciencia y Tecnologa, Mxico

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Efficiency of cardiovascular diseases prevention as per opinion of males aged 25-64 with and without coronary artery disease

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Purpose: To study opinion of males aged 25-64 years of open population about efficiency of cardiovascular diseases preventive measures with or without coronary artery disease (CAD).

Methods: Under the cardiological screening, an epidemiological study was conducted using MONICA-psychosocial, the standard questionnaire of the World Health Organization (WHO). The representative sample was formed from the voting lists of males of one of the administrative districts of Tyumen in amount of 1000 people, 200 males from every four decades of life (25-34, 35-44, 45-54, 55-64 years). Respond to the cardiological screening was 85.0%, 850 participants. Separation of various CAD forms was performed based on the standard methods (WHO questionnaire on effort angina, resting ECG and Minnesota coding) used in epidemiology researches. Certain CAD (CCAD), possible CAD (PCAD) and CAD as per expanded epidemiology criteria were selected. Self-filling of the questionnaire was used to study opinions about efficiency of cardiovascular diseases preventive measures. The research data for categorical variables are presented in fractions (percentages) in the population as a whole and also for decades of life. The statistical significance of differences between groups was determined by the Pearson Chi-square test with a confidence interval of 95%.

Results: CAD morbidity in males aged 25-64 years was 12.4%. CCAD morbidity was revealed in 6.6% of cases. PCAD morbidity was 5.7%. People with CCAD most often (46.5%) allowed the possibility that a healthy person of the same age could get a serious illness within 5-10 years, $p<0.05$. A respond possible was more often given by males with CAD as per expanded epidemiology criteria (53.1%, $p<0.05$) in comparison to the control group. At the same time, people with PCAD three times more often (6.8%) than people without CAD (2.4%) considered impossible the possibility to get a serious illness within 5-10 years, $p<0.05$. Regarding efficiency of severe diseases prevention significant differences on this issue in groups with CAD and PCAD in comparison with the group without CAD were noticed only in relation with the respond yes, it is definitely possible. Thus, people with PCAD replied yes, it is definitely possible in 55.9% of cases, people with CAD as per expanded epidemiology criteria in 62.3% of cases and people without CAD in 66.3% of cases, $p<0.05$.

Conclusions: In the group of males of working age with CAD and PCAD, the possibility of the efficiency of cardiovascular diseases prevention measures is more often allowed, and the possibility of developing a serious disease in healthy individuals is less often allowed.

European Journal of Cardiovascular Nursing
ESC European Society of Cardiology

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