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PReS 2024 Abstract Submission
JIA (oligo, poly, psoriatic)
P177

Investigation of functionality, participation, and biopsychosocial status of individuals with JIA according to disease activity

Orkun Tüfekçi[1], Sinan Buran[2], Nur B. Karaca[1], Emil Aliyev[3], Yağmur Bayındır[3], Yelda Bilginer[3], Edibe Ünal[2], Seza Özen[3]
[1]Department of Basic Physiotherapy and Rehabilitation, Hacettepe University Institute of Health Sciences; [2]Department of Heart and Respiratory Physiotherapy and Rehabilitation, Hacettepe University Faculty of Physical Therapy and Rehabilitation; [3]Department of Pediatrics, Division of Rheumatology, Hacettepe University Faculty of Medicine, Ankara, Türkiye
Correspondence: Orkun Tüfekçi
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Introduction: The relationship between disease activity status in JIA and the functionality, participation, and psychosocial status of these individuals has been emphasized. However, upon reviewing the literature, the need for evaluation of disease activity status in JIA in these aspects is reported (1, 2).
Objectives: This study aimed to investigate the functionality, participation, and biopsychosocial status of individuals with JIA according to disease activity.
Methods: Our study included fifty individuals (31 girls, 19 boys) diagnosed with JIA, of whom 35 had oligoarticular and 15 had polyarticular JIA, and who were followed up with routine controls. Demographic information of the participants was documented, and disease activity status was assessed using the Juvenile Arthritis Disease Activity Score in 71 joints (JADAS-71). Functionality was measured using the Childhood Health Assessment Questionnaire (CHAQ), participation was evaluated using the Child and Adolescent Scale of Participation (CASP), and biopsychosocial status was examined using the Juvenile Arthritis Biopsychosocial Questionnaire (JAB-Q). Disease activity was categorized based on the JADAS-71 score: $\leq$1 indicated inactive disease, while >10.5 indicated high disease activity (3). Group characteristics were compared using the Mann-Whitney U test.
Results: Demographic characteristics of inactive and high disease activity JIA patients were similar ($p>0.05$). CHAQ pain, general well-being, and total score, CASP home participation and total score, JAB-Q-child disease activity, joint, functionality, fatigue, and total scores were significantly better in favor of the inactive group; ESR value and number of affected active joints were higher in individuals with high disease activity ($p<0.05$).
Conclusion: This study showed that individuals with JIA exhibiting high disease activity were more affected in functionality, participation, and biopsychosocial status compared to those with inactive disease. The findings of this study suggest that these factors should be considered in the disease management of individuals with JIA starting from high disease activity.
Date of birth:: novembre 0

Patient Consent
Not applicable (there are no patient data)

Disclosure of Interest
None Declared

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pressure, alanine transaminase (ALT), fasting insulin, and low-density lipoprotein (LDL) levels (p=0.01, p=0.01, p=0.01, p=0.008, and p=0.04, respectively). As inflammation markers, ferritin, C-reactive protein, and erythrocyte sedimentation rate levels did not significantly differ across BMI-SDS quartiles (all p >0.05).
Out of 139, 7 patients (5%) showed a HbA1c value between 5.7-6.5% and 3 (2.1%) had impaired fasting glucose as prediabetes phenotypes. As cardiometabolic risk markers, they also presented with increased uric acid and tryglycerides (TG)/high-density lipoprotein (HDL) ratio values (p=0.03 and p=0.04, respectively). Both HOMA-IR, and HbA1c values significantly increased across BMI-SDS quartiles (p=0.028 and p=0.026, respectively). A higher percentage of subjects with IR was found in the highest quartile compared to others (p=0.03). Patients belonging to the highest quartile showed an adjusted odds ratio (OR) to show IR of 1.78 (95% CI 1.07-2.94, p=0.025).
Conclusion: Overweight/obese children diagnosed with JIA showed an overall unfavorable cardiometabolic risk profile. These patients also presented with an increased risk of IR and prediabetes. Given the higher risk of developing T2D, cardiovascular disease, and metabolic syndrome overtime, a careful monitoring of glucose metabolism should be warranted in children with JIA. Further longitudinal studies in the field are required to confirm these important findings for pediatric cardiometabolic health in children with JIA.

Patient Consent
Yes, I received consent

Disclosure of Interest
None Declared

JIA (oligo, poly, psoriatic)
P198
Evaluation of ilar and printo classifications for juvenile idiopathic arthritis: oligoarticular JIA vs early-onset ANA positive JIA
Batuhan Küçükali[1], Çisem Yıldız[1], Buğra T. Gülle[2], Deniz Gezgin Yıldırım[1], Sevcan A. Bakkaloğlu[1]
[1]Pediatric Rheumatology, Gazi University, Faculty of Medicine, Ankara; [2]Public Health, Division of Epidemiology, Dokuz Eylül University, Faculty of Medicine, İzmir, Türkiye
Correspondence: Batuhan Küçükali
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Introduction: International League of Associations for Rheumatology (ILAR) juvenile idiopathic arthritis (JIA) classification revisited by Pediatric Rheumatology International Trials Organization (PRINTO) in 2018. Classifications should provide uniform groups to assist physicians to provide optimal care.
Objectives: We evaluated changes proposed by PRINTO to highlight their impact on forming consistent groups regarding uveitis and treatment responses, particularly focusing on early-onset anti-nuclear antibody (ANA) positive JIA.
Methods: Pediatric patients diagnosed with JIA according to ILAR and PRINTO classification, with a minimum one-year follow-up, were enrolled, excluding those meeting both oligoarticular JIA and early-onset ANA positive JIA groups' exclusion criteria.
Results: Among 139 enrolled patients, 110 (79.1%) had oligoarticular JIA, while 15 (10.8%) had early-onset ANA-positive JIA. Below age 5 criteria showed the strongest association with uveitis, while below age 7 provided similar associations without substantial exclusions (Odds ratio 8.62 [2.50-29.81] vs 7.45 [2.37-26.66]). Patients with single ANA positivity at a titer $\geq$ 1/160 and below age 7 had a notably higher risk of new-onset uveitis and biologic DMARDs requirement (Odds ratio 7.95 [2.37-26.66] and 3.6 [1.42-9.09], respectively).
Conclusion: Inclusion of age of disease onset and ANA positivity with a titer $\geq$ 1/160 has enhanced uniformity in uveitis risk and treatment response, including conventional synthetic DMARDs failure. A single ANA positivity at a $\geq$ 1/160 titer yields similar or better results, while the involved joint count criteria failed to form consistent groups. PRINTO's classification places a significant portion of patients into the "other JIA" group, necessitating further classification for improved clinical utility.
Date of birth:: mars 17, Y

Patient Consent
Not applicable (there are no patient data)

Disclosure of Interest
None Declared

JIA (oligo, poly, psoriatic)
P199
Unravelling juvenile idiopathic arthritis subtypes: insights from synovial fluid proteomic signatures
Narendra K. Bagri[1], Saumya Srivastava[1], Yogendra Singh[2], Thirumurthy Velpandian[2], Ashish Upadhyay[2], Venkatesan S. Kumar[2], Subhradip Karmakar[2], Sushil K. Kabra[2]
[1]Division of Pediatric Rheumatology, Department of Pediatrics; [2]All India Institute of Medical Sciences , New Delhi , India
Correspondence: Narendra K. Bagri
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Introduction: Synovial fluid (SF) seems an ideal fluid for studying the pathogenic mechanisms of Juvenile Idiopathic Arthritis (JIA). Employing an Isobaric tag for relative and absolute quantitation (iTRAQ) coupled with Liquid chromatography-mass spectrometry (LC-MS/MS), we conducted a proteomic analysis of SF from 48 participants with JIA and healthy controls to delineate the proteomic signatures in various subtypes of JIA.
Objectives: To investigate subtype-specific protein expression patterns in JIA through proteomic analysis of SF.
Methods: SF samples from 48 participants (3 healthy controls and 45 JIA patients with various subtypes) were analysed. Proteins were extracted, labelled with iTRAQ for quantification, and analysed via LC-MS/MS. Differential protein expression analysis identified significant variations between control and JIA subtype samples[1]. A more than 5-fold change (FC) in protein expression compared to controls was considered upregulated. Gene Ontology (GO) and Kyoto Encyclopedia of Genes and Genomes (KEGG) pathway enrichment analysis elucidated associated biological pathways upregulated proteins[2].
Results: Our study identified over 282 SF proteins exhibiting differential expression in various subtypes of JIA. Polyarticular JIA displayed 14 SF proteins, with four unique proteins (including Pyruvate dehydrogenase phosphate). Enthesitis related arthritis revealed 18 upregulated proteins, eight unique (including Haptoglobin-related and Fibrinogen proteins). Systemic juvenile idiopathic arthritis exhibited 19 upregulated proteins, eleven unique (including FH1/FH2 domain, Mitochondrial potassium channel, Apolipoprotein and Nck-associated protein etc.), and Oligoarticular JIA showed 4 upregulated proteins, three unique (including Leucine-rich alpha-2-glycoprotein). Proteins S-100, Septin 7 MMP-16, etc, were commonly upregulated in all subtypes of JIA except Oligo. However, haptoglobin was found to be upregulated in all except sJIA. GO pathway analysis of these upregulated proteins showed enriched patterns largely to the immune response and complement activation-related biological processes. The KEGG pathway enrichment suggested that upregulated proteins may play an important role in the complement activation and regulation of the actin cytoskeleton.
Conclusion: Our study revealed significant protein profile changes in JIA, highlighting its diversity. We identified subtype-specific and shared upregulated proteins. The enriched immune, complement, and actin cytoskeleton pathways underscored their relevance in the pathogenesis of JIA.

Patient Consent
Yes, I received consent

Disclosure of Interest
None Declared