Objectives: This study sought to identify salient differences among psychiatrically hospitalized children and adolescents with and without intellectual disabilities (ID) and/or developmental disorders (DD). Limited studies describe this population or how to provide appropriate care, despite significant need.
Methods: Using a retrospective cohort design, all charts of children and adolescents aged 5 to 17 years admitted to a 17-bed inpatient urban child and adolescent psychiatry unit between June 1, 2018 and November 31, 2021 were reviewed; sociodemographics, psychiatric history, and clinical presentation were recorded. Analyses including descriptive statistics, Pearson's χ^2 tests, and independent *t* tests were conducted using SPSS. A two-sided *p* value <.05 was considered statistically significant; effect size was reported as Hedge's *g* or Cramer's V.
Results: A total of 1101 admissions met the inclusion criteria. Fifteen percent (n = 170) of patients had a history of ID or DD. Children with ID/DD were more likely to be younger ($p = .006$, $g = .27$), male ($p < .001$, V = .30), and have Medicaid ($p < .001$, V = .11) than those without ID/DD; there was no difference in race/ethnicity. Clinical differences included reason for admission ($p < .001$, V = .34), with fewer ID/DD patients admitted for suicidal ideation/attempt (28% vs 48%) or depression (0.6% vs 4%) and more for aggression (53% vs 15%); discharge diagnosis ($p < .001$, V = .48), with more ID/DD patients discharged with a diagnosis of impulsive or behavioral disorder (29% vs 14%) and fewer with MDD (23% vs 52%); longer length of stay ($p = .012$, $g = .21$); more prior hospital stays ($p = .001$, $g = .65$); and more medications at admission ($p < .001$, $g = .65$) and at discharge ($p < .001$, $g = .50$) than non-ID/DD peers.
Conclusions: There are meaningful differences between youth admitted to an inpatient child and adolescent psychiatry unit with and without an ID/DD. These findings suggest the importance of tailoring clinical milieus, including inpatient child and adolescent psychiatry units, to the needs of youth with ID/DD. In the absence of specialized ID/DD units, psychiatric units can still incorporate a better understanding of this population into their clinical approaches.

ICP, ID, ASD

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2.24 OREXIN RECEPTOR ANTAGONISTS FOR TREATMENT OF INSOMNIA ASSOCIATED WITH NEURODEVELOPMENTAL DISORDERS

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Objectives: Youth with neurodevelopmental disorders (NDD) often struggle with sleep initiation and maintenance even with behavioral interventions and medication management. Additional treatment options for refractory insomnia may greatly improve the quality of life for patients with NDD and their families. Three orexin receptor antagonists, including suvorexant, lemborexant, and daridorexant, have been approved for use in adults, but none are currently approved for pediatric patients. Case studies and anecdotal evidence have suggested that suvorexant may be helpful for the treatment of insomnia in youth with NDD. We sought to assess whether orexin receptor antagonists may be a valuable treatment option for insomnia in this population.
Methods: We performed a retrospective chart review of the electronic medical records at our pediatric hospital system. We queried prescriptions for suvorexant and other sleep pharmacotherapies during the 2-year study period from May 31, 2022 to May 31, 2024, specifically among patients seen by our group of neurodevelopmental psychiatrists. Individuals were excluded if they had no NDD diagnosis, if they never received the prescribed orexin receptor antagonist, or if this treatment was started after age 25 years.
Results: Ninety-eightpatients with NDD were prescribed suvorexant, 8 were prescribed lemborexant, and 0 were prescribed daridorexant. Thirty percent of suvorexant prescriptions were initiated by Psychiatry, and 54% were initiated by Sleep Medicine. The mean age at suvorexant start was 13.9 years old (range 3-24 years old). The median suvorexant start dose was 10 mg (range 2.5-30 mg), and the median max dose was 20 mg (range 5-60 mg). No significant adverse effects, including hospitalization or death, were reported. The medication appeared well tolerated, with 74% of patients remaining on suvorexant at the time of analysis. Reasons for discontinuing suvorexant were inefficacy (n = 8), insurance denial or cost (n = 8), no longer needed (n = 4), adverse effects (n = 3), or reason unknown (n = 3).
Conclusions: These data provide further evidence that orexin receptor antagonists such as suvorexant may be safe and effective options for the treatment of insomnia in youth with NDD. Prospective studies in youth are recommended.

SLP, ID, ASD

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2.25 EXAMINING MULTIPLE-MONITORED ECT IN ADOLESCENTS AND YOUNG ADULTS: A CLINICAL CASE SERIES

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Objectives: Multiple-monitored ECT (mmECT) is a form of ECT in which 2 or more seizures are induced in 1 treatment session. The American Psychiatric Association has recommended against mmECT, unless indicated in the setting of severe illness. However, research in mmECT with the use of modern ECT practices is limited. Recent reports have shown positive clinical responses to mmECT in treating urgent or severe illnesses refractory to single-seizure ECT. This case series aims to add to the literature that addresses the safety and efficacy of mmECT.
Methods: A retrospective chart review case series was conducted on adolescent and young adult patients (n = 11) who had received 1 or more mmECT treatments in the past 2 years. All mmECT treatments involved a maximum of 2 stimulations. Diagnoses included, but were not limited to, severe cases of catatonia, depression, and psychosis. Ratings on the Bush-Francis Catatonia Rating Scale (BFCRS) were examined in catatonic patients. Due to the diversity of pathologies in this population, all patients were retroactively scored using the Clinical Global Impression-Improvement (CGI-I) scale at the first and final mmECT treatments.
Results: Patients who underwent mmECT had, on average, a CGI-I of 2.6, indicative of a mild to moderate improved response to treatment. No patient had a CGI-I greater than 4 (no change from baseline), which would indicate a worsened response to treatment. Although there was not a significant change in their BFCRS ($p = .45$, $df = 6$, $t = 0.137$), patients with catatonia (n = 7) had a CGI-I reflecting clinical improvement. Seizure duration for each stimulation was measured by EEG. Seizure length was variable, wide-ranging, and did not correlate with the CGI-I ($p = .77$, $r = 0.10$). There were no serious adverse events from mmECT, and it was not stopped due to adverse events or side effects in any of the cases.
Conclusions: Patients in this case series had a neutral to positive response to mmECT with no adverse events that affected treatment. Of note, it is difficult to predict the degree of response using easily quantifiable variables, such as seizure duration or BFCRS. Further research using prospective studies is needed to deepen our understanding of the safety and efficacy of mmECT.

NM, RCR, ADOL

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2.26 THE CLINICAL EFFECTS OF 1 HZ AND 10 HZ TRANSCRANIAL MAGNETIC STIMULATION ON SUICIDAL IDEATION IN ADOLESCENTS WITH MDD

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Objectives: Prior research has examined 10 Hz transcranial magnetic stimulation (TMS) for the treatment of suicidal ideation in adolescents. This study sought to compare the clinical effects of 1 Hz and 10 Hz TMS treatment on suicidal ideation in adolescents with depression. It was hypothesized that adolescents treated with 1 Hz and 10 Hz TMS would have similar improvements in suicidal ideation.
Methods: Adolescents aged 12 to 18 years (N = 41) were randomized to 1 Hz or 10 Hz TMS with 6 weeks of treatment (30 sessions). The primary outcome was intensity of suicidal ideation, assessed weekly with the Columbia Suicide Severity Rating Scale (C-SSRS). An ordinal logistic regression model via a generalized estimating equation (GEE) analysis of repeated measures was first used to estimate the change in the intensity of suicidal ideation over the 6 weeks of acute TMS treatment without adjusting for the change in depression severity via Children's Depression Rating Scale-Revised (CDRS-R) total score over the TMS treatment period. Then, in a separate ordinal logistic model, we adjusted for the change in depression severity (via CDRS-R total score, with item 13 removed, as a time-varying covariate). Age, sex at birth, and number of previously failed medications (measure of treatment resistance) were included as covariates in each model.
Results: Suicidal ideation intensity decreased with both 1 Hz and 10 Hz TMS treatments over 6 weeks ($p = .0016$ and $p = .0015$) with no difference in decreases among the 2 doses of TMS ($p = .785$). In adjusted models for change in depressive symptom severity, the changes in intensity of suicidal ideation in both treatment groups were nonsignificant.
Conclusions: This study suggests that 6 weeks of both 1 Hz and 10 Hz TMS treatment have favorable clinical effects on suicidal ideation through the improvement of depressive symptoms. Future studies should examine rapid dosing models of TMS for adolescents with suicidal ideation and biomarker-driven treatment approaches.

NM, DDD, S

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2.27 TRANSCRANIAL MAGNETIC STIMULATION IN THE TREATMENT OF ADOLESCENT DEPRESSION AND ANXIETY: A META-ANALYSIS



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Objectives: Transcranial magnetic stimulation (TMS) is a promising treatment for depression and anxiety, but the effect size in adolescents is unclear. We meta-analyzed the literature on TMS for depression and anxiety in adolescents.
Methods: We conducted a PubMed search using the keywords "transcranial magnetic stimulation," "adolescent," "youth," "depression," and "anxiety" for studies published from 2001 to April 2024. We computed a weighted mean percentage improvement in the primary outcome across all studies.
Results: A total of 22 studies (N = 704, mean age 16.7) were included. The primary target location was the left dorsolateral prefrontal cortex (LDLPFC), except for 6 studies that targeted the bilateral DLPFC and one that targeted the right dorsomedial prefrontal cortex. Standard TMS was utilized in 20 studies, and the remaining 2 studies combined continuous and intermittent theta burst stimulation (cTBS and iTBS). Eighteen studies were uncontrolled (n = 371), while 4 were randomized controlled trials (n = 164 active, n = 169 sham). Eighteen studies reported depression as a primary outcome, one reported anxiety as a primary outcome, and 3 reported both depression and comorbid anxiety as a primary outcome. The weighted mean improvement overall was 63.2% (SD = 7.6). Weighted mean improvement in depression was 65.8% (SD = 7.7, n = 456), and improvement in anxiety was 61.9% (SD = 4.2, n = 131). Of note, one large-scale randomized controlled trial did not show a statistically significant difference between the active treatment group (42%) and the sham group (36.4%).
Conclusions: In conclusion, TMS may be an effective, noninvasive treatment for reducing depression and anxiety.

DDD, NM, AD

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2.28 TARGET ENGAGEMENT OF SOCIAL PERCEPTUAL NEURAL SYSTEMS BY INTERMITTENT THETA BURST STIMULATION IN ASD



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Objectives: ASD is a neurodevelopmental condition characterized primarily by developmental differences in social cognition and perception. As research advances in the development of novel interventions for specific domains and co-occurring conditions in ASD, there is also a need for finding robust neural indices that can objectively reflect treatment effects. Transcranial magnetic stimulation (TMS) with an intermittent theta burst stimulation (iTBS) protocol is a promising intervention for neuromodulation in ASD. Pairing TMS with electrophysiological measurements of neural response to human faces using the EEG (TMS-EEG), could index the modulation of event-related potentials (ERPs) relevant to social cognition in ASD. The N170 is a face-sensitive ERP that has been consistently demonstrated to show a delayed latency in autistic individuals, suggesting inefficient face processing. We proposed that the N170 could be modulated with iTBS.
Methods: A total of 21 participants with ASD and 26 typically developing controls participated in a sham-controlled single-session TMS trial. iTBS was administered to the right posterior superior temporal sulcus (rPSTS). We measured the amplitude and latency of the N170 to faces before and immediately after TMS.
Results: High-quality data were available for 19 autistic and 26 typically developing participants. iTBS compared to sham was found to increase the amplitude of N170 to faces ($p < .001$) in the typically developing group compared to the autistic group. iTBS compared to sham was not found to significantly change the latency of the N170 ($p = .087$) when comparing the typically developing and autistic groups. However, iTBS to the rPSTS was found to significantly increase the latency of N170 to faces in the autistic participants ($p = .011$) with a baseline delay in N170 latencies.
Conclusions: Our novel TMS-EEG paradigms show target engagement at the rPSTS with iTBS specifically in a putative ASD biomarker. Further research with different TMS protocols, such as continuous theta burst stimulation (cTBS) and bilateral PSTS stimulation, could further delineate directionality of modulatory effects.

ASD, NM

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2.29 IMPROVING CARE FOR CATATONIA IN PEDIATRIC PATIENTS



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Objectives: Catatonia is a complex syndrome involving motor and behavioral symptoms. Despite a prevalence of up to 17.8% in psychiatric patients, the evidence base in children is sparse with an overreliance on case reports. Only 1 clinical guideline has been published, and studies fail to clearly identify risk factors for treatment resistance. Additionally, little is known about how and when to taper treatment. This study in a large tertiary pediatric hospital aims

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