

## EPV0158

## Neurobiological Correlation Between Autism Spectrum Disorder and Anorexia Nervosa in Children

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doi: 10.1192/j.eurpsy.2024.935

**Introduction:** Anorexia Nervosa (AN) is common in adolescents and has a high mortality and morbidity rate with a lifetime prevalence of 0.5% to 2%.<sup>1,2</sup> We aim to review the neurobiology correlation of Anorexia Nervosa in Autism Spectrum Disorder as they are often associated together.

**Objectives:** 1. Understand the correlation between the neurobiology of Autism Spectrum Disorder (ASD) and Anorexia Nervosa.

2. Assess the association and prevalence of Anorexia nervosa in the ASD population.

3. To focus on the implications for the pathogenesis of Anorexia Nervosa and treatment of this disorder in the ASD population.

**Methods:** We searched PubMed, APA PsycINFO, Embase, CINAHL, and Google scholar databases with the keywords Autism Spectrum Disorder AND Anorexia Nervosa and included 6 relevant human studies out of 187 published in English.

**Results:** Neilson et al. studied the outcome of ASD in teenage onset AN, and a statistically significant negative dose-response relationship is found in all the 3 Morgan-Russell Outcome Assessment Schedule (MROAS) domains in stable ASD over time, and the results on the subscales 'mental state,' 'psychosexual state' and 'socio-economic state,' 'personal contacts,' 'social activities' and 'employment record.'<sup>3</sup> The outcome of AN onset in adolescence is generally favorable regarding mortality and the persistence of eating disorders in adulthood. A study by Pruccoli et al. noted a high prevalence of ASD traits in a group of young AN patients, predominantly seen in 4 specific EDI-3 subscales and independent of BMI.<sup>4</sup> Margari et al. found only AN diagnosis had a statistically significant difference ( $p = 0.04$ ) in females vs. males when comparing sex differences for comorbidities.<sup>5</sup>

**Conclusions:** Morphological changes in brain areas are linked to social cognition and increase the risk of eating disorders in ASD. We recommend future studies with robust study design to explore the full spectrum of pathogenesis and association of AN in ASD.

**Disclosure of Interest:** None Declared

## EPV0159

## Association Between Maternal Diabetes and Childhood Neurodevelopmental Disorders

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doi: 10.1192/j.eurpsy.2024.936

**Introduction:** The prevalence of metabolic disorders is rising, diabetes prevalence doubled during 1990-2017. In 2020, 7.8% of US pregnancies were complicated by Gestational Diabetes Mellitus (GDM). Our aim is to assess the impact this increase has on childhood developmental disorders and understand the link between maternal metabolic disorders and neurodevelopmental disorders in children with focus on Autism Spectrum Disorder (ASD) and ADHD.

**Objectives:** Our aim is to assess the impact this increase has on childhood developmental disorders and understand the link between maternal metabolic disorders and neurodevelopmental disorders in children with focus on Autism Spectrum Disorder (ASD) and ADHD.

**Methods:** A literature search was conducted using medical subject heading (MeSH) terms in PubMed, database from Jan 1 2014 to Feb 15, 2023. Only large-scale ( $n > 20,000$ ) were reviewed. A total of 3 articles were included in our final qualitative synthesis review.

**Results:** An increased rate of ASD and ADHD are observed in children of mothers with insulin resistance, demonstrated by Type 2 Diabetes (T2DM) and GDM (Kuan-Ru Chen, et al.). T2DM had the strongest association with ASA and ADHD when looking at other neurodevelopmental disorders (Chen, et al.). GDM severity correlates to increased risk of ADHD (Xiang, et al.). Maternal obesity as a risk factor for ASA and ADHD has confidence intervals in the same ranges as immune dysregulatory disorders including Asthma and Autoimmune disorders (Woolfenden, et al.).

**Conclusions:** Pathomechanism of neurodevelopmental disorders involves maternal oxidative stress and inflammation. Maternal T2DM and obesity are pro-inflammatory states that can be targeted as modifiable risk factors of ASD and ADHD in children. Preconception metabolic optimization and tight glycemic control in pregnancy are two ways clinicians can start to address the rates of rising ASD and ADHD.

**Disclosure of Interest:** None Declared

## EPV0160

## Early language intervention and IQ of children with non-syndromic orofacial clefts

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doi: 10.1192/j.eurpsy.2024.937

**Introduction:** Children with non-syndromic orofacial clefts are at higher risk for developmental difficulties. Speech and language are commonly affected developmental domains in these children.

**Objectives:** The aim of the current study was to explore the effects of early interventions for speech and language on later cognitive outcomes in this patient population.

**Methods:** A combined retrospective/prospective-comparative study was carried out at the Department of Pediatrics of the University of Pécs in Hungary. The participants were children between 6 and 16

years of age. The study consisted of a self-designed demographic questionnaire and an IQ test (WISC-IV).

**Results:** A total of 41 children with non-syndromic orofacial clefts and 44 age-matched controls participated in the study. Children of the cleft group were examined by pedagogical professional services and required special education plans significantly more often than controls ( $p < 0.001$  and  $p = 0.02$ , respectively). Participants of the cleft group who received early speech and language therapy score higher on the Verbal Comprehension Index ( $p = .005$ ). Full-Scale IQ score was also higher for cleft participants who received therapy, however not significant but borderline ( $p = 0.08$ ).

**Conclusions:** Early language and speech interventions for children with non-syndromic orofacial clefts may have a positive effect on verbal skills and overall cognitive development. Future longitudinal studies examining baseline cognitive functioning of infants are needed to provide more conclusive evidence on the effects of interventional programs on speech and language development in cleft patients.

**Disclosure of Interest:** None Declared

## EPV0162

### Emotion dysregulation in adolescents: the associations with clinical symptoms, risky-behaviors, and environmental factors

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doi: 10.1192/j.eurpsy.2024.938

**Introduction:** Emotion dysregulation (ED) is transdiagnostic domain that plays a pivotal role in the emergence and persistence of numerous mental disorders. Examining the extent of ED within non-clinical populations may shed light on whether ED is indeed linked to symptoms as observed in clinical settings. This investigation constitutes a crucial milestone toward the development of preventive strategies.

**Objectives:** To investigate the correlations between ED, psychopathological symptoms, risky behaviors, and environmental factors in adolescent students.

**Methods:** A total of  $N = 610$  students (16 years; 72% females) completed self-report standardized questionnaires measuring depression, anxiety, impulsivity, childhood trauma, relations with classmates, and family functioning. Lifetime risky-behaviours were recorded using an ad-hoc checklist, and ED through Difficulties in Emotion Regulation Scale (DERS). The sample was then divided into subgroups based on percentiles of DERS Total scores:  $N = 210$  low ED,  $N = 187$  moderate,  $N = 214$  high.

**Results:** Participants exhibiting high ED displayed higher level of depression, anxiety and impulsivity (Table 1). There was an observable trend linking higher levels of ED with a greater proportion of youths reporting risky behaviors (Table 2). The high ED group reported an increased frequency of childhood traumatic

experiences, less favorable relationships with family members and classmates (Table 3).

**Table 1.** Clinical symptoms by level of ED in students ( $N = 610$ )

	low	moderate	high	Sig.
Patient Health Questionnaire (depression)	5.33( $\pm 3.51$ )	8.94( $\pm 4.05$ )	14.57( $\pm 5.53$ )	<.001
Screen For Child Anxiety Related Emotional Disorders (anxiety)	59.27 ( $\pm 9.61$ )	68.61 ( $\pm 10.88$ )	79.39 ( $\pm 11.61$ )	<.001
Barratt Impulsiveness Scale-Brief (impulsivity)	15.14 ( $\pm 3.52$ )	16.70( $\pm 3.81$ )	18.01( $\pm 4.17$ )	<.001

**Table 2.** Risky behaviors by level of ED in students ( $N = 610$ )

	low	moderate	high	Sig.
Binge drinking	N=73 (29.6%)	N=78 (31.6%)	N=96 (38.9%)	.097
Self-harm ideation	N=35 (13.4%)	N=73 (28%)	N=153 (58.6%)	<.001
Self-harm	N=30 (15%)	N=49 (24.5%)	N=121 (60.5%)	<.001
Binge eating	N=60 (22.9%)	N=78 (29.8%)	N=124 (47.3%)	<.001

**Table 3.** Environmental factors by level of ED in students ( $N = 610$ )

	low	moderate	high	Sig.
Childhood Trauma Questionnaire (trauma)	30.99 ( $\pm 6.89$ )	35.39( $\pm 9.1$ )	39.54( $\pm 10.94$ )	<.001
Child And Adolescent Social Support Scale (classmate)	51.19 ( $\pm 11.7$ )	46.55 ( $\pm 10.96$ )	44.91( $\pm 12.4$ )	<.001
Family Assessment Device (family functioning)	117.58 ( $\pm 14$ )	108.8 ( $\pm 17.48$ )	103.38 ( $\pm 20.11$ )	<.001

**Conclusions:** Findings provide robust support for the association between ED and compromised personal functioning, even within a non-clinical sample. The trend observed in the relationship between ED, clinical symptoms and risky behaviors is consistent across all variables. Overall, these results contribute to the growing body of evidence advocating for preventive interventions aimed at addressing ED in adolescents.

**Disclosure of Interest:** None Declared