WPA SECTION EATING DISORDERS: DECEMBER 2023

Greetings

Dear colleagues,

We would like to send you another small newsletter with hopefully useful information on eating disorders. We have again selected the abstracts of some new international publications, as well as a range of current events that may be of interest to some of you. The selection is certainly subjective and is not intended to diminish the value and importance of many other publications that also contribute to the growing body of knowledge on eating disorders.

The COVID-19 pandemic has come to an end, but not its consequences, as many of you are probably still experiencing a high need for treatment and have many patients who have fallen ill or suffered during these difficult years. We are also facing new challenges such as wars, economic recession, and the consequences of climate change. This causes a lot of uncertainty and for many patients with eating disorders, compensating for uncertainty and anxiety plays a major role.

We wish you and your families a hopefully peaceful holiday season and a Merry Christmas!

Best regards,

Ulrich Voderholzer, Professor, M.D. (Chair),

Schön Klinik Roseneck - Am Roseneck 6 - D-83209 Prien am Chiemsee, Germany

Fernando Fernández-Aranda, PhD., FAED (Co-Chair),

Prof. Alessio Maria Monteleone (Secretary)

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https://www.wpanet.org/eating-disorders

Contents:

Report of the Section Meeting and Symposium

We are pleased to announce the next section meeting during the 23rd WPA World Congress of Psychiatry in Vienna, Austria between the 28. September and 1 October 2023. It will provide a valuable platform for professional networking and exchanging information about current projects.

The section meeting will take place on the 30. September from 12:00 to 13:00 in the Room 0.94-0.95 on Floor 0 of the WCP Vienna Congress Venue.

We also invite you to our symposium "Eating disorders – state of the Art."

There we will hold presentations on the following topics:
1. Anorexia nervosa – new findings (Ulrich Voderholzer)
2. Treatment of Eating disorders – state of the Art (Alessio Maria Monteleone)
3. BN and BED: Personality and cognitive predictors of therapy. (Fernando Fernández-Aranda)

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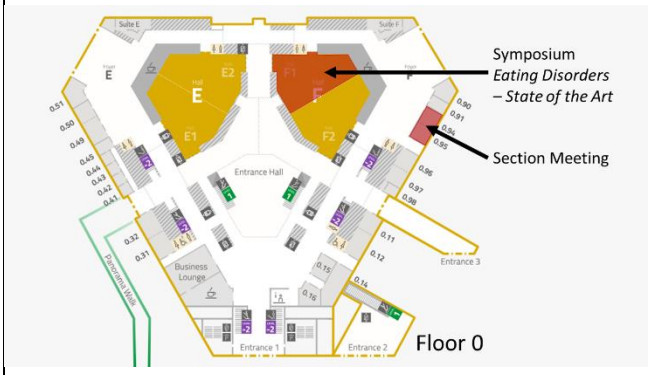
The Symposium will take place on Saturday, 30 September 8:00-9:00 in Hall F1.



The Scientific Program of the Congress:
https://wcp-congress.com/program-at-a-glance/

AED Survey

Summary of 2022 journal Impact factors for Eating Disorder Journals

International Journal of Eating Disorders

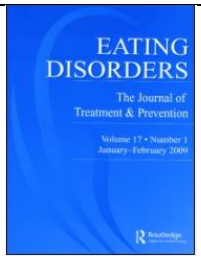
European Eating Disorders Review

Journal of Eating Disorders

Eating and Weight Disorders

http://www.wpanet.org/eating-disorders

5.5	5.3	4.1	2.9

			nutrients an open access journal by MDPI
Eating Disorders: The Journal of Treatment & Prevention	Eating Behaviors	Appetite	Nutrients
3.3	2.8	5.4	5.9

Selected publications of interest of recent months

Quadflieg, N., Naab, S., Schlegl, S., Bauman, T., & Voderholzer, U. (2023). Inpatient Treatment Outcome in a Large Sample of Adolescents with Anorexia Nervosa. Nutrients, 15(19), 4247. https://doi.org/10.3390/nu15194247

Anorexia nervosa is an illness affecting primarily adolescent girls and young women. Clinical guidelines recommend early intervention, with inpatient treatment for more severe cases. We present an evaluation of a multi-modal cognitive-behavioral inpatient treatment (CBT-E) involving carers in specialized units for adolescents. Routine data of 962 adolescent inpatients (26 boys) (mean age 15.48 [1.26]; range 12-17 years) were analyzed. Predictors of good body weight outcome (achieving a discharge BMI of at least 18.5 kg/m2) were identified by logistic regression analysis. Mean inpatient treatment lasted 96.69 (45.96) days. The BMI increased significantly from 14.93 (1.38) kg/m2 at admission to 17.53 (1.58) kg/m2 at discharge ($z = 26.41$; $p < 0.001$; $d = 1.708$). Drive for thinness decreased from 29.08 (9.87) to 22.63 (9.77; $z = 18.41$; $p < 0.001$; $d = 0.787$). All other subscores of the Eating Disorder Inventory also decreased significantly, with small to medium effect sizes. General psychopathology also showed significant decreases. The Beck Depression Inventory-II score decreased from 26.06 (11.74) to 16.35 (12.51; $z = 18.41$; $p < 0.001$; $d = 0.883$). A good body weight outcome was predicted by a higher BMI at admission (OR = 1.828), age at onset at 15 years or higher (OR = 1.722), and higher Somatization (OR = 1.436), Anxiety (OR = 1.320), and Bulimia (OR = 1.029) scores. CBT-E involving carers is an efficient intervention for adolescents with anorexia nervosa.

Søeby, M., Gribsholt, S. B., Clausen, L., & Richelsen, B. (2023). Fracture Risk in Patients with Anorexia Nervosa Over a 40-Year Period. Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research, 10.1002/jbmr.4901. Advance online publication. https://doi.org/10.1002/jbmr.4901

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Researchers have reported increased fracture risk in patients with anorexia nervosa (AN), but more knowledge on the long-term risk and the effects of age, male sex, and time-related changes is still needed. We examined the long-term (up to 40 years) fracture risk among patients with AN compared to a matched comparison cohort from the general population. We utilized data from the Danish Health Care Registers to identify 14,414 patients with AN (13,474 females and 940 males) diagnosed between 1977 and 2018, with a median age of 18.6 years and median follow-up time of 9.65 years. We calculated adjusted hazard ratios (aHRs) with 95% confidence intervals (CIs) using Cox regression analysis for overall and site-specific fracture risks. The overall aHR of any fracture was 1.46 [95% CI: 1.36 to 1.48], with an aHR of 1.50 [95% CI: 1.43 to 1.57] for females and 0.95 [95% CI: 0.82 to 1.1] for males. For specific fractures we found an association with femur fractures both in females 4.06 [95% CI: 3.39 to 4.46] and in males 2.79 [95% CI: 1.45 to 2.37] and for fractures of the spine (females 2.38 [95% CI: 2.00 to 2.84], males 2.31 [95% CI: 1.20 to 4.42]). The aHR of any fracture decreased from 1.66 [95% CI: 1.52 to 1.81] in the period from 1977 to 1997 to 1.40 [95% CI: 1.33 to 1.40] from 1998 to 2018. In conclusion, we found that AN was associated with a 46% increased risk of any fracture up to 40 years after diagnosis. We found no overall increased risk in males, but in both sexes we found a particularly high site-specific fracture risk in the spine and femur. Fracture risk decreased in recent decades, indicating that more patients with AN have been diagnosed with presumably less severe disease and that the earlier detection and intervention of AN in recent years may translate into a lower facture risk.

de Rijk, E. S. J., Almirabi, D., Robinson, L., Schmidt, U., van Furth, E. F., & Slof-Op 't Landt, M. C. T. (2023). An overview and investigation of relapse predictors in anorexia nervosa: A systematic review and meta-analysis. The International journal of eating disorders, 10.1002/eat.24059. Advance online publication.
https://doi.org/10.1002/eat.24059

Objective: An extensive number of predictors has been examined across the literature to improve knowledge of relapse in anorexia nervosa (AN). These studies provide various recovery and relapse definitions, follow-up durations and relapse rates. The current study summarizes these values and predictors of relapse in AN in a review and meta-analysis. **Method:** The study was executed according to PRISMA guidelines. Different databases were searched and studies in which participants did not receive an official clinical diagnosis were excluded. A quality analysis was performed using the National Institute of Health's Study Quality Assessment Tool. Random-effects meta-analyses were conducted to summarize data. **Results:** Definitions of relapse and recovery were diverse. During an average follow-up period of 31 months an average relapse rate of 37% was found. Predictive variables from 28 studies were grouped in six categories: age and sex, symptoms and behaviors, AN subtype and duration, weight or weight change, comorbidity, and personality. The studies were characterized by non-significant and contradictory results. Meta-analyses were performed for the predictors age, AN duration, pre-treatment BMI, post-treatment BMI and depression. These yielded significant effects for post-treatment BMI and depression: higher pre-treatment depression (SMD = .40 CI [.21-.59] and lower post-treatment BMI (SMD = -.35 CI [-.63 to -.07]) increased relapse chances in AN. **Discussion:** Our results emphasized a lack of sufficiently powered studies, consistent results, and robust findings. Solely post-treatment BMI and pre-treatment depression predicted relapse. Future research should use uniform definitions, larger samples and better designs, to improve our understanding of relapse in AN. **Public significance:** Knowledge about predictors is important to understand high relapse rates. Our study performed a review and meta-analysis of relapse predictors in AN. Related to the

heterogeneity in studies examining predictors, an overview of relapse and recovery definitions, follow-up durations and relapse rates for AN was provided. Significant effects were found for post-treatment BMI and pre-treatment depression. More studies with uniform definitions are needed to improve clinical implications.

Steinglass, J. E., Fei, W., Foerde, K., Touzeau, C., Ruggiero, J., Lloyd, C., Attia, E., Wang, Y., & Walsh, B. T. (2023). Change in food choice during acute treatment and the effect on longer-term outcome in patients with anorexia nervosa. Psychological medicine, 1–9. Advance online publication. https://doi.org/10.1017/S0033291723002933

Background: Restriction of food intake is a central pathological feature of anorexia nervosa (AN). Maladaptive eating behavior and, specifically, limited intake of calorie-dense foods are resistant to change and contribute to poor long-term outcomes. This study is a preliminary examination of whether change in food choices during inpatient treatment is related to longer-term clinical course. **Methods:** Individuals with AN completed a computerized Food Choice Task at the beginning and end of inpatient treatment to determine changes in high-fat and self-controlled food choices. Linear regression and longitudinal analyses tested whether change in task behavior predicted short-term outcome (body mass index [BMI] at discharge) and longer-term outcome (BMI and eating disorder psychopathology). **Results:** Among 88 patients with AN, BMI improved significantly with hospital treatment ($p < 0.001$), but Food Choice Task outcomes did not change significantly. Change in high-fat and self-controlled choices was not associated with BMI at discharge ($r = 0.13$, $p = 0.22$ and $r = 0.10$, $p = 0.39$, respectively). An increase in the proportion of high-fat foods selected ($\beta = 0.91$, $p = 0.02$) and a decrease in the use of self-control ($\beta = -1.50$, $p = 0.001$) predicted less decline in BMI over 3 years after discharge. **Conclusions:** Short-term treatment is associated with improvement in BMI but with no significant change, on average, in choices made in a task known to predict actual eating. However, the degree to which individuals increased high-fat choices during treatment and decreased the use of self-control over food choice were associated with reduced weight loss over the following 3 years, underscoring the need to focus on changing eating behavior in treatment of AN.

Springall, G. A. C., Caughey, M., Zannino, D., Kyprianou, K., Mynard, J. P., Rudolph, S., Cheong, J., Yeo, M., & Cheung, M. M. H. (2023). Long-term cardiovascular consequences of adolescent anorexia nervosa. Pediatric research, 94(4), 1457–1464. https://doi.org/10.1038/s41390-023-02521-5

Background: Anorexia nervosa (AN) is associated with maladaptive cardiovascular changes. This study investigated whether individuals who recovered from AN during adolescence experience long-term cardiovascular risk in early adulthood. **Methods:** Former AN patients discharged from the Royal Children's and Monash Children's Hospital Eating Disorder Services in Melbourne, Australia underwent cardiovascular testing. Measurements were performed using an oscillometric device for blood pressure and pulse wave velocity, ultrasound for carotid wall structure/function, resting electrocardiogram for heart-rate variability, and the EndoPat 2000 (Itamar) system for endothelial function. Patient measures were compared to healthy controls and/or normal thresholds. **Results:** Ninety-one percent of the former AN patients (N = 22) and controls (N = 66) were female, aged approximately 25 years, with a healthy body mass index. The mean time interval from AN recovery to participation was 7.4 years. Pulse wave

velocity was lower in the former AN patients than controls. Carotid intima-media thickness was not different; however, carotid distensibility and compliance were lower, and the elastic modulus higher in the former AN patients. Greater vagal tone was observed and endothelial dysfunction was evident in 46% of the former patients. **Conclusions:** Young adults who recovered from adolescent AN exhibit persistent cardiovascular adaptations. Routine cardiovascular monitoring could manage potential disease risk. **Impact:** Cardiovascular complications are common in patients with anorexia nervosa (AN) and population studies have revealed that developmental adaptations in response to undernutrition have long-term consequences for cardiovascular health. In this study of young adults treated for AN during adolescence, there was evidence of increased carotid artery stiffness, reduced aortic stiffness, vagal hyperactivity, and endothelial dysfunction in early adulthood when compared to healthy controls. It is important to consider the cardiovascular health of patients with AN beyond achieving medical stability. Interventions that monitor cardiovascular health could minimise the burden of future cardiovascular disease.

Kemp, A. F., Bentz, M., Olsen, E. M., Moslet, U., Plessen, K. J., & Koch, S. V. (2023). Predictors for and duration of hospitalization among children and adolescents with eating disorders. The International journal of eating disorders, 56(10), 1866–1874. https://doi.org/10.1002/eat.23991

Objective: The objective of this study was to investigate the predictive value of sex, age, body mass index (BMI), Eating Disorder Examination (EDE) score, social risk factors, and psychiatric comorbidities for hospitalization and hospitalization duration among children and adolescents suffering from eating disorders. **Method:** This prospective cohort study involved 522 consecutive patients who had been referred to a specialized eating disorder unit between January 1, 2009 and December 31, 2015; participants were followed up until August 1, 2016 by medical records. We used regression analyses to evaluate the prognostic value of sex, age, BMI, EDE, eating disorder diagnoses, social risk factors, and psychiatric comorbidities concerning inpatient hospitalization and hospitalization duration. **Results:** We found that younger age, higher EDE global score, lower BMI percentile, anorexia nervosa, a higher number of social risk factors, and the presence of diagnosed self-harm increased the odds of being hospitalized, while being female and having a comorbid autism spectrum condition increased the duration of hospitalization. No other psychiatric comorbidity was found to significantly predict hospitalization or duration of hospitalization. **Discussion:** The odds of being hospitalized were predicted by the severity of anorexia nervosa and indicators of social risk factors in the family, whereas the duration of hospitalization was predicted by having a comorbid autism spectrum condition, indicating a difference between the factors affecting the risk of hospitalization and the factors affecting the duration of hospitalization. This calls for further exploration of tailored treatments for eating disorders. **Public significance statement:** This study finds that hospitalization for an eating disorder is predicted by the severity of the illness, self-harm, and social risk factors. Duration of hospitalization is predicted by having a comorbid autism spectrum condition. These findings indicate that the treatment of eating disorders may require different treatment approaches depending on the presentation of the individual patient to reduce both the need for hospitalization and the length of inpatient stay.

Rienecke, R. D., Mehler, P. S., Duffy, A., Le Grange, D., Peterson, C. B., & Blalock, D. V. (2023). Eating Disorder Examination-Questionnaire: Norms for Adults in Higher Levels of Care. Assessment, 10731911231208386. Advance online publication.

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https://doi.org/10.1177/10731911231208386

Establishing normative data for questionnaires is essential for the accurate interpretation of scores, given that these norms can vary according to different subpopulations and treatment contexts. The purpose of this study was to establish norms for the Eating Disorder Examination-Questionnaire (EDE-Q) among adults receiving higher levels of care (HLOCs) for the treatment of eating disorders. Participants were 2,283 people receiving treatment at the inpatient, residential, partial hospitalization, or intensive outpatient levels of care. The EDE-Q was completed at admission. Patients with anorexia nervosa-restricting subtype (AN-R) had the lowest EDE-Q Global scores when compared with all other eating disorder diagnoses. When compared with intensive outpatient care, only those in residential treatment had higher EDE-Q Global scores. This study is among the first to describe norms for the EDE-Q in a large sample of adults receiving various HLOCs. Programs utilizing the EDE-Q to assess treatment outcomes can use these findings to aid people in interpreting their scores.

Campos, A., Marek, T., Calderon, G., Ghusn, W., Cifuentes, L., Sim, L. A., Camilleri, M., Dayyeh, B. A., Port, J. D., & Acosta, A. (2023). Neurohormonal response patterns to hunger, satiation, and postprandial fullness in normal weight, anorexia nervosa, and obesity. Neurogastroenterology and motility, e14695. Advance online publication. https://doi.org/10.1111/nmo.14695

Background: Food intake is regulated by homeostatic and hedonic systems that interact in a complex neuro-hormonal network. Dysregulation in energy intake can lead to obesity (OB) or anorexia nervosa (AN). However, little is known about the neurohormonal response patterns to food intake in normal weight (NW), OB, and AN. **Material & methods:** During an ad libitum nutrient drink (Ensure®) test (NDT), participants underwent three pseudo-continuous arterial spin labeling (pCASL) MRI scans. The first scan was performed before starting the NDT after a > 12 h overnight fast (Hunger), the second after reaching maximal fullness (Satiation), and the third 30-min after satiation (postprandial fullness). We measured blood levels of ghrelin, cholecystokinin (CCK), glucagon-like peptide (GLP-1), and peptide YY (PYY) with every pCASL-MRI scan. Semiquantitative cerebral blood flow (CBF) maps in mL/100 gr brain/min were calculated and normalized (nCBF) with the CBF in the frontoparietal white matter. The hypothalamus (HT), nucleus accumbens [NAc] and dorsal striatum [DS] were selected as regions of interest (ROIs). **Results:** A total of 53 participants, 7 with AN, 17 with NW (body-mass index [BMI] 18.5-24.9 kg/m2), and 29 with OB (BMI ≥30 kg/m2) completed the study. The NW group had a progressive decrease in all five ROIs during the three stages of food intake (hunger, satiation, and post-prandial fullness). In contrast, participants with OB showed a minimal change from hunger to postprandial fullness in all five ROIs. The AN group had a sustained nCBF in the HT and DS, from hunger to satiation, with a subsequent decrease in nCBF from satiation to postprandial fullness. All three groups had similar hormonal response patterns with a decrease in ghrelin, an increase in GLP-1 and PYY, and no change in CCK. **Conclusion:** Conditions of regulated (NW) and dysregulated (OB and AN) energy intake are associated with distinctive neurohormonal activity patterns in response to hunger, satiation, and postprandial fullness.

Rossi, E., Cassioli, E., Cecci, L., Arganini, F., Martelli, M., Redaelli, C. A., Anselmetti, S., Bertelli, S., Fernandez, I., Ricca, V., & Castellini, G. (2023). Eye movement

desensitisation and reprocessing as add-on treatment to enhanced cognitive behaviour therapy for patients with anorexia nervosa reporting childhood maltreatment: A quasi-experimental multicenter study. European eating disorders review : the journal of the Eating Disorders Association, 10.1002/erv.3044. Advance online publication. https://doi.org/10.1002/erv.3044

Objective: This quasi-experimental study aimed to compare the outcome of patients with Anorexia Nervosa (AN) reporting moderate/severe childhood maltreatment (CM) treated exclusively with Enhanced Cognitive Behaviour Therapy (CBT-E) or with CBT-E plus Eye Movement Desensitisation and Reprocessing (EMDR). **Method:** A total of 75 patients with AN reporting moderate/severe CM were initially assessed regarding body mass index (BMI), general and eating disorder (ED)-specific psychopathology, and dissociative symptoms, and re-evaluated after 40 CBT-E sessions (T1). Then, 18 patients received EMDR, whereas the others were placed on a waiting list and continued CBT-E. T2 assessment was performed after 20-25 sessions of EMDR or CBT-E. A control group of 67 patients without CM was also enroled and treated with CBT-E. **Results:** Contrary to patients without CM, neither of the traumatised groups improved in BMI, general and ED psychopathology, or dissociation at T1. However, at T2, both traumatised groups improved in BMI and ED-specific psychopathology, with the CBT + EMDR group demonstrating greater improvements. Moreover, only the CBT + EMDR group improved in general psychopathology and dissociative symptoms. The reduction of ED symptoms in traumatised patients was mediated by the amelioration of dissociation. **Discussion:** The addition of EMDR to CBT-E may benefit patients with AN reporting moderate/severe CM.

Nuyttens, M., Simons, A., Antrop, I., & Glazemakers, I. (2023). A longitudinal study of autism spectrum disorder characteristics in adolescents with restrictive type anorexia nervosa during and after underweight. European eating disorders review : the journal of the Eating Disorders Association, 10.1002/erv.3042. Advance online publication. https://doi.org/10.1002/erv.3042

Objectives: This prospective, longitudinal study aims to compare the prevalence of autism spectrum disorder (ASD) characteristics in adolescents with anorexia nervosa (AN) during and after underweight in order to help unravel the complex link between both conditions. **Methods:** 24 adolescents with AN completed the youth self-report, autism spectrum quotient (AQ) or autism spectrum quotient adolescent version (AQ - adolescent) and a questionnaire designed by the researchers during a state of underweight and after weight recovery. **Results:** AQ total score and several AQ subscale scores at the time of underweight are significantly higher than after weight recovery with medium to large effect sizes. Linear modelling cannot prove a significant effect of weight gain, internalizing problems or medication use on AQ score, but it does show an association between AQ during underweight and AQ after weight recovery. **Conclusions:** The results highlight the complexity of the link between AN and ASD characteristics. Although a clear change in AQ score is seen in part of the participants, this effect cannot be generalized and a link with weight change cannot be demonstrated. It seems likely that ASD characteristics in AN are a combination of trait and state: underweight and starvation might exacerbate potentially present traits. Part of our results may indicate the existence of subgroups based on AQ score during underweight. Our study supports the theory that more ASD characteristics at T1 may result in a poorer outcome and a higher need for specified and intensive treatment.

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Hilbert, A., Rösch, S. A., Petroff, D., Prettin, C., Lührs, M., Ehlis, A. C., & Schmidt, R. (2023). Near-infrared spectroscopy and electroencephalography neurofeedback for binge-eating disorder: an exploratory randomized trial. Psychological medicine, 1–12. Advance online publication. https://doi.org/10.1017/S0033291723002350

Background: Binge-eating disorder (BED) co-occurs with neurobehavioral alterations in the processing of disorder-relevant content such as visual food stimuli. Whether neurofeedback (NF) directly targeting them is suited for treatment remains unclear. This study sought to determine feasibility and estimate effects of individualized, functional near-infrared spectroscopy-based real-time NF (rtfNIRS-NF) and high-beta electroencephalography-based NF (EEG-NF), assuming superiority over waitlist (WL). **Methods:** Single-center, assessor-blinded feasibility study with randomization to rtfNIRS-NF, EEG-NF, or WL and assessments at baseline (t0), postassessment (t1), and 6-month follow-up (t2). NF comprised 12 60-min food-specific rtfNIRS-NF or EEG-NF sessions over 8 weeks. Primary outcome was the binge-eating frequency at t1 assessed interview-based. Secondary outcomes included feasibility, eating disorder symptoms, mental and physical health, weight management-related behavior, executive functions, and brain activity at t1 and t2. **Results:** In 72 patients (intent-to-treat), the results showed feasibility of NF regarding recruitment, attrition, adherence, compliance, acceptance, and assessment completion. Binge eating improved at t1 by -8.0 episodes, without superiority of NF v. WL (-0.8 episodes, 95% CI -2.4 to 4.0), but with improved estimates in NF at t2 relative to t1. NF was better than WL for food craving, anxiety symptoms, and body mass index, but overall effects were mostly small. Brain activity changes were near zero. **Conclusions:** The results show feasibility of food-specific rtfNIRS-NF and EEG-NF in BED, and no posttreatment differences v. WL, but possible continued improvement of binge eating. Confirmatory and mechanistic evidence is warranted in a double-blind randomized design with long-term follow-up, considering dose-response relationships and modes of delivery.

Pascoe, L. A., Mikhail, M. E., Burt, S. A., Culbert, K. M., & Klump, K. L. (2023). Shared genetic influences between eating disorders and gastrointestinal disease in a large, population-based sample of adult women and men. Psychological medicine, 1–12. Advance online publication. https://doi.org/10.1017/S003329172300301X

Background: Some preliminary research suggests higher rates of gastrointestinal disease in individuals with eating disorders (EDs). However, research is limited, and it remains unknown what etiologic factors account for observed associations. This was the first study to examine how EDs and dimensional ED symptoms (e.g. body dissatisfaction, binge eating) are phenotypically and etiologically associated with gastrointestinal disease in a large, population-based twin sample. **Methods:** Adult female (N = 2980) and male (N = 2903) twins from the Michigan State University Twin Registry reported whether they had a lifetime ED (anorexia nervosa, bulimia nervosa, or binge-eating disorder) and completed a measure of dimensional ED symptoms. We coded the presence/absence of lifetime gastrointestinal disease (e.g. inflammatory bowel disease) based on responses to questions regarding chronic illnesses and medications. We first examined whether twins with gastrointestinal disease had higher rates of EDs and ED symptoms, then used correlated factors twin models to investigate genetic and environmental contributions to the overlap between disorders. **Results:** Twins with gastrointestinal disease had significantly greater dimensional ED symptoms ($\beta = 0.21$, $p < 0.001$) and odds of a lifetime ED (OR 2.90, $p = 0.001$), regardless of sex. Shared genetic factors fully accounted for the overlap between disorders, with no significant sex differences in etiologic associations. **Conclusions:** Comorbidity between EDs and gastrointestinal disease

may be explained by overlap in genetic influences, potentially including inflammatory genes implicated in both types of disorders. Screening for gastrointestinal disease in people with EDs, and EDs in those with gastrointestinal disease, is warranted.

Quiñones, I. C., Selkie, E., Mammel, K. A., Haedt-Matt, A., Klump, K. L., Burt, S. A., & Van Huysse, J. L. (2023). Disordered eating in transgender and gender non-conforming youth: A comparison to community-based and clinical samples. European eating disorders review : the journal of the Eating Disorders Association, 10.1002/erv.3045. Advance online publication. https://doi.org/10.1002/erv.3045

Objective: This study investigates eating pathology in transgender and gender non-conforming (TGNC) youth compared to a community-based sample and individuals with eating disorders (EDs). **Method:** Participants (ages 13-21 years) included TGNC youth from a paediatric gender clinic (N = 97), a demographically matched community-based sample of cisgender males (N = 97) and cisgender females (N = 97), and treatment-seeking patients with EDs (N = 112). The Eating Disorder Examination Questionnaire (EDE-Q) was used to assess ED cognitions and behaviours. **Results:** Transgender and gender non-conforming participants reported significantly higher EDE-Q global scores compared to the cisgender samples, but significantly lower than the ED sample. Transgender and gender non-conforming individuals reported a higher likelihood of objective binge episodes (OBEs) than the cisgender groups, albeit lower than youth with EDs. A substantial proportion of TGNC participants scored in elevated ranges on the EDE-Q global score (35% ≥ score of 3, 17% ≥ score of 4), significantly higher than cisgender males (0% ≥ score of 3, 0% ≥ score of 4) and females (9% ≥ score of 3, 3% ≥ score of 4). **Conclusions:** Findings indicate that TGNC youth exhibit increased ED cognitions and OBEs compared to cisgender samples, highlighting the need for screening and addressing ED symptoms in this population.

van Eeden, A. E., van Hoeken, D., Hendriksen, J. M. T., & Hoek, H. W. (2023). Increase in incidence of anorexia nervosa among 10- to 14-year-old girls: A nationwide study in the Netherlands over four decades. The International journal of eating disorders, 10.1002/eat.24064. Advance online publication. https://doi.org/10.1002/eat.24064

Objective: This primary care study examined time trends in the incidence of anorexia nervosa (AN) and bulimia nervosa (BN) in the Netherlands across four decades. **Methods:** A nationwide network of general practitioners, serving approximately 1% of the total Dutch population, recorded newly diagnosed patients with AN and BN in their practices from 1985 to 2019 (2,890,978 person-years). DSM-IV diagnostic criteria were consistently used and the same psychiatrist was responsible for the final diagnostic decision. Incidence rates (IRs) were calculated for: the total population (all ages), females overall, and females per 5-year age category. Time trends in IRs were analyzed using JoinPoint regression analyses. **Results:** In four decades, the incidence of AN among 10- to 14-year-old females increased significantly from 8.6 to 38.6 per 100,000 person-years (average period percentage change [APPC] = 56.7; 95% confidence interval [CI] = 6.5-130.6. The overall incidence of AN was stable, with IRs ranging from 6.0 (95% CI = 4.3-8.1) to 8.4 (95% CI = 6.4-10.8). The IR of BN decreased significantly from 8.7 (95% CI = 6.7-11.0) to 3.2 (95% CI = 2.0-4.9) in the 2000s, before leveling off in the 2010s (IR 3.2; 95% CI = 2.0-4.8). **Discussion:** The incidence of AN among

10- to 14-year-old girls increased significantly over four decades. Both biological and sociocultural factors, for example, early pubertal timing and the impact of social media, might explain this. In other age groups and overall, the incidence of AN remained stable. The significant decrease of the incidence of BN in the previous decades halted in the last decade. **Public significance:** An important finding of the present study is that for 10- to 14-year-old girls, the risk for developing anorexia nervosa has increased significantly over 40 years. More healthcare facilities for younger people are needed, and prevention programs could include social media use. For bulimia nervosa, the general decrease in the occurrence of new cases has halted in the 2010s.

Conway-Jones, R., James, A., Goldacre, M. J., & Seminog, O. O. (2023). Risk of self-harm in patients with eating disorders: English population-based national record-linkage study, 1999-2021. The International journal of eating disorders, 10.1002/eat.24091. Advance online publication. https://doi.org/10.1002/eat.24091

Objective: Anorexia nervosa (AN) and bulimia nervosa (BN) are eating disorders associated with high rates of self-harm (SH). This is the first national study in England to quantify this association in a hospital population. **Method:** A retrospective cohort study using a linked national dataset of Hospital Episode Statistics for 1999-2021. The exposure cohort included individuals aged <35 years admitted to hospital with a diagnosis of AN or BN. The reference cohort included hospital controls. We calculated the rate ratio (RR) of SH in each cohort. The individuals in the two cohorts were matched on multiple socio-demographic indicators. The main outcome was a subsequent hospitalization or death record with an SH diagnosis. **Results:** We identified 15,004 females and 1411 males with AN, and 6055 females and 741 males with BN. The RR with 95% confidence intervals (95%CI) for a subsequent admission with intentional self-harm after admission with AN was 4.9 (95%CI 4.7-5.1) in females and 4.8 (95%CI 3.9-5.8) in males. For BN it was 9.0 (95%CI 8.4-9.6) in females and 9.8 (95%CI 7.7-12.2) in males. There were strong associations between AN and BN and other SH. **Discussion:** Women and men admitted to English hospitals with AN or BN have a very high risk of a subsequent admission with SH. For some SH behaviors, such as alcohol intoxication, the RR was >10-fold elevated. The magnitude of risk was higher for BN than for AN. Clinicians should be aware of the scale of risk increase. Providing those at risk with appropriate support is required. **Public significance:** This study is the first national study in an English hospital population that confirms and quantifies the association between eating disorders and self-harm. We have found that both women and men admitted to hospital with anorexia nervosa or bulimia nervosa are at an increased risk of subsequent admission with self-harm. It is important that clinicians are aware of this increased risk to support those at highest risk of self-harm.

Luo, Y., Pluta, D., Brodrick, B. B., Palka, J. M., McCoy, J., Lohrenz, T., Gu, X., Vannucci, M., Montague, P. R., & McAdams, C. J. (2023). Diminished Adaptation, Satisfaction, and Neural Responses to Advantageous Social Signals in Anorexia Nervosa and Bulimia Nervosa. Biological psychiatry. Cognitive neuroscience and neuroimaging, S2451-9022(23)00307-5. Advance online publication. https://doi.org/10.1016/j.bpsc.2023.10.010

Background: Development and recurrence of two eating disorders (EDs), anorexia nervosa

and bulimia nervosa, are frequently associated with environmental stressors. Neurobehavioral responses to social learning signals were evaluated in both. **Methods:** Adult women with anorexia nervosa (n = 25), bulimia nervosa (n = 30), or comparison (n = 38) played a neuroeconomic game in which the norm shifted, generating social learning signals (norm prediction errors [NPEs]) during a functional magnetic resonance imaging scan. A Bayesian logistic regression model examined how the probability of offer acceptance depended on cohort, block, and NPEs. Rejection rates, emotion ratings, and neural responses to NPEs were compared across groups. **Results:** Relative to comparison, both ED cohorts showed less adaptation (p = .028, ηp2 = .060) and advantageous signals (positive NPEs) led to higher rejection rates (p = .014, ηp2 = .077) and less positive emotions (p = .004, ηp2 = .111). Advantageous signals increased neural activations in OFC for comparison women but not for those with anorexia nervosa (p = .018; d = 0.655) or bulimia nervosa (p = .043; d = 0.527). More severe eating disorder symptoms were associated with decreased activation of dorsomedial prefrontal cortex for advantageous signals. **Conclusions:** Diminished neural processing of advantageous social signals and impaired norm adaptation were observed in both anorexia nervosa and bulimia nervosa, while no differences were found for disadvantageous social signals. Development of neurocognitive interventions to increase responsivity to advantageous social signals could augment current treatments, potentially leading to improved clinical outcomes for eating disorders.

Vanzhula, I. A., Wang, E., Martinelli, M. K., Schreyer, C., & Guarda, A. S. (2023). Inpatient hospital course and self-reported symptomatology in underweight adults with ARFID compared to age- and sex-matched controls with anorexia nervosa. Journal of eating disorders, 11(1), 206. https://doi.org/10.1186/s40337-023-00912-x

Objective: Avoidant restrictive food intake disorder (ARFID) has similar prevalence to anorexia nervosa (AN) in adults, but research in this population is lacking. Although inpatient or residential treatment involving nutritional rehabilitation is increasingly recommended for malnourished individuals with ARFID, best practices remain poorly defined. Existing studies on self-reported symptomatology and treatment course and outcome are primarily in child and adolescent cohorts and demonstrate inconsistent findings. This study aimed to compare hospital course and self-reported symptomatology of underweight adult inpatients with ARFID and sex- and age-matched patients with AN. **Method:** Underweight adult patients with ARFID or AN admitted to a specialized, hospital-based behavioral treatment program completed measures of body dissatisfaction, drive for thinness, bulimic symptoms, anxiety, depression, and personality traits. Demographic and treatment course data were abstracted from electronic medical records. Patients with ARFID (n = 69) were matched to those with AN (n = 69) based on sex and age. **Results:** Adults with ARFID were closer to target weight at admission, but gained weight at a slower rate, were discharged at lower BMI, and were less likely to reach target weight by discharge than adults with AN. Patients with ARFID reported less weight and shape-related eating disorder, state anxiety, and depression symptoms and lower neuroticism. **Discussion:** Adults with ARFID progress through treatment more slowly and achieve less favorable weight outcomes by hospital discharge than patients with AN, but long-term outcomes are unclear. Describing clinical presentations and course of illness of adult ARFID may help inform treatment protocols.

WORLD PSYCHIATRIC ASSOCIATION

WPA SECTION EATING DISORDERS: CURRENT INFORMATION

Eielsen, H. P., Ulvenes, P., Hoffart, A., Rø, Ø., Rosenvinge, J. H., & Vrabel, K. (2023). Childhood trauma and outcome trajectories in patients with longstanding eating disorders across 17 years. The International journal of eating disorders, 10.1002/eat.24067. Advance online publication. https://doi.org/10.1002/eat.24067

Background: A large proportion of patients with eating disorders (ED) report experiences of childhood trauma. Latent trajectory analysis in ED samples reveals the complexities in course and outcome and can explore the long-term impact of adverse experiences in childhood. **Method:** A total of 84 patients with longstanding ED were included. ED symptoms were assessed by the Eating Disorder Examination interview at discharge from inpatient treatment, and at 1-, 2-, 5-, and 17-year follow-up, respectively. Change over time was examined using growth mixture modeling, allowing the number of trajectories to emerge through the data. Prevalence of childhood trauma was assessed, and its relation to class membership was tested. **Results:** We identified four distinct classes: patients with (a) a continuous improvement in the entire follow-up period, and scores within normal range at the end, "continuous improvement" (54.8%); (b) a high symptom level at baseline and moderate decrease over time, "high and declining" (22.6%); (c) initial ED scores below clinical cut-off and stable symptoms throughout the course, "consistently low" (14.3%); and (d) with high scores initially, and a significant increase in symptoms over time, "high and increasing" (8.3%). A history of childhood sexual abuse (CSA) was overrepresented in classes with persistently high symptom levels and poor long-term outcome DISCUSSION: Patients with longstanding ED displayed considerable diversity in trajectories of symptom change across 17 years. To improve long-term outcome, enhanced treatment of sequelae from CSA seems essential. **Public significance:** Patients with longstanding eating disorders displayed four different trajectories of change in a 17-year follow-up study. Although there were significant changes over time, the majority of patients remained within similar symptom levels as they presented with at discharge from inpatient treatment. Exposure to childhood maltreatment was common within the sample. Childhood sexual abuse predicted poor long-term outcome, which highlights the importance of trauma informed care.

Miranda-Olivos, R., Baenas, I., Steward, T., Granero, R., Pastor, A., Sánchez, I., Juaneda-Seguí, A., Del Pino-Gutiérrez, A., Fernández-Formoso, J. A., Vilarrasa, N., Guerrero-Pérez, F., Virgili, N., López-Urdiales, R., Jiménez-Murcia, S., de la Torre, R., Soriano-Mas, C., & Fernández-Aranda, F. (2023). Exploring the influence of circulating endocannabinoids and nucleus accumbens functional connectivity on anorexia nervosa severity. Molecular psychiatry, 10.1038/s41380-023-02253-2. Advance online publication. https://doi.org/10.1038/s41380-023-02253-2

Anorexia nervosa (AN) is a severe psychiatric disorder characterized by a harmful persistence of self-imposed starvation resulting in significant weight loss. Research suggests that alterations in the nucleus accumbens (NAcc) and circulating endocannabinoids (eCBs), such as anandamide (AEA) and 2-arachidonoylglycerol (2-AG), may contribute to increased severity and maladaptive behaviors in AN, warranting an examination of the interplay between central reward circuitry and eCBs. For this purpose, we assessed NAcc functional connectivity and circulating AEA and 2-AG concentrations in 18 individuals with AN and 18 healthy controls (HC) to test associations between circulating eCBs, NAcc functional connectivity, and AN severity, as defined by body mass index (BMI). Decreased connectivity was observed between the NAcc and the right insula (NAcc-insula; pFWE < 0.001) and the left supplementary motor

area (NAcc-SMA; pFWE < 0.001) in the AN group compared to HC. Reduced NAcc-insula functional connectivity mediated the association between AEA concentrations and BMI in the AN group. However, in HC, NAcc-SMA functional connectivity had a mediating role between AEA concentrations and BMI. Although no significant differences in eCBs concentrations were observed between the groups, our findings provide insights into how the interaction between eCBs and NAcc functional connectivity influences AN severity. Altered NAcc-insula and NAcc-SMA connectivity in AN may impair the integration of interoceptive, somatosensory, and motor planning information related to reward stimuli. Furthermore, the distinct associations between eCBs concentrations and NAcc functional connectivity in AN and HC could have clinical implications for weight maintenance, with eCBs being a potential target for AN treatment.

Becoming a member of the WPA Section Eating Disorders: Conditions and Procedure

New members must apply, and we will use the WPA form for application to become a section member.

https://www.wpanet.org/join-a-section

December 2023

WORLD PSYCHIATRIC ASSOCIATION

WPA SECTION EATING DISORDERS: CURRENT INFORMATION

Calendar of Events for Professionals:

New York, NY, USA

24th WPA World Congress of Psychiatry
14 - 17 November, 2024
World Trade Centre, Mexico City, Mexico

More information:
https://wcp2024.kenes.com/

London International Eating Disorder Conference
29 February 2024.
Cavendish Conference Center, London, UK
Theme: "Diversity and Eating Disorders"

Super Early Bird Registration until 10 November

EDRS 2024 – Annual Meeting of the Eating Disorders Research Society
26-28 September 2024
Sitges, Catalonia, Spain
Melia Sitges Hotel

23rd European Congress of Psychiatry
6–9 April 2024
HUNGEXPO Budapest Congress and Exhibition Center, Budapest, Hungary

More information:
https://epa-congress.org

International Conference on Eating Disorders (ICED) 2024
March 14-16, 2024
Sheraton New York Times Square