Methods: AN or ARFID patients (15 + 15; range 6-18 years), were assessed by neuropsychological tools, such as: Wechsler Intelligence Scale to measure I.Q. profile, NEPSY-II to explore attention and executive functions, Tower of London test to detect planning and problem solving abilities, the Bells Test to evaluate visual selective and focused attention, the Wisconsing Card Sorting Test (WCST) for assessment of flexibility and directing behaviors by achieving a goal and the Rey-Osterrieth complex figure test (ROCF) to assess visual-spatial abilities.
Results: Patients with ARFID presented impairments in several executive functions domains, with difficulties in the impulse inhibition, in the sustained attention and in visual-spatial skills. Finally, in their anamnesis a higher comorbidity with neurodevelopmental disorders such as specific learning disorder has been underlined.
Conclusions: The identification of specific deficit in neuropsychological profile of ARFID patients could be a rehabilitation target, together with standardized treatment.

Keywords: Avoidant/Restrictive Food Intake Disorder; anorexia nervosa; neurodevelopment; executive function

EPP0601

Microbiome-metabolomics signature in anorexia nervosa (AN) before and after weight regain

F. Marciello[1]*, A.M. Monteleone[2], J. Troisi[3], G. Cascino[1], G. Serena[4], R. Dalle Grave[5] and P. Monteleone[6]

[1]Department Of Medicine, Surgery And Dentistry, University of Salerno, Baronissi/Salerno, Italy; [2]Department Of Psychiatry, University of Campania "Luigi Vanvitelli", Naples, Italy; [3](ebris), European Biomedical Research Institute of Salerno, Salerno, Italy; [4]Mucosal Immunology And Biology Research Center, Massachusetts General Hospital-Harvard Medical School, Boston, United States of America; [5]Department Of Eating And Weight Disorders, Villa Garda Hospital, Garda/Verona, Italy and [6]Department Of Medicine, Surgery And Dentistry, University of Salerno, Baronissi/Salerno, Italy

*Corresponding author.
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Introduction: The intestinal microbiota has been indicated to have a role in the pathophysiology of AN.
Objectives: Aim of this study was to analyze fecal microbiome profiles of AN women before and after weight restoration and to combine them with fecal metabolomic profiles according to a multi-omics approach.
Methods: The gut microbiome and fecal metabolites were characterized in 21 underweight AN women and after weight restoration and compared with those of 20 healthy women. Microbiome data were correlated with the relevant fecal metabolites.
Results: AN subjects showed a decreased intra-individual bacterial richness, an increased Bacteroidetes-to-Firmicutes abundance ratio and significant changes in the relative abundances of several bacteria at different order levels in both the underweight and weight-restored condition compared to healthy women. The untargeted metabolomic procedure allowed the characterization of 224 metabolites involved in energy, lipid and amino acid metabolism. A genetic algorithm identified 49 relevant metabolites. The relationships among these fecal metabolites and bacteria genera showed structures of different complexity in the 3 groups. In particular, a quarter of those relationships showed a divergent direction in the acute phase of AN than in the weight-restored phase or normal controls. Finally, in acute AN 70% of those correlations showed a negative sign suggesting a prevalent metabolites consummation by gut microbiome.
Conclusions: Our results provide a picture of the connections between gut bacteria and fecal metabolites in both the acute phase of AN and after short-term weight restoration. Further studies should aim to investigate the significance of gut microbiome perturbations in development and treatment of AN.

Keywords: anorexia nervosa; Gut Microbiota; eating disorders; Metabolomic

EPP0602

Equestrian vaulting as an innovative complementary intervention in eating disorders: A pilot study

B. Collacchi[1], F. Cirulli[1], M. Borgi[1], I. Monaci[2], A. Piccotti[2], S. Renga[3], L. Dalla Ragione[4], M. Ettorre[4], G. Biccheri[4], F. Rossetti[4] and S. Cerino[5]*

[1]Center For Behavioural Sciences And Mental Health, Istituto Superiore di Sanità, er for Behavioural Sciences and Mental Health, Rome, Italy; [2]Department Of Medicine, University of Perugia, Perugia, Italy; [3]Psychology, Family Psychotherapy Academy, Rome, Italy; [4]Umbertide Eating Disorder, USL Umbria 1, Perugia, Italy and [5]Sphere, ECOS - EU, Massa Martana, Italy

*Corresponding author.
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Introduction: Anorexia is a disorder associated with severe disturbances in eating behaviors and related thoughts and emotions (distorted weight perception, body dissatisfaction). Multidimensional integrative treatment approaches are needed to act both on intrapersonal (e.g. nutritional and psychological) and interpersonal (e.g. behavioral and affective) processes.
Objectives: Aim of this pilot project was to develop a 3-months horse-assisted intervention based on Equestrian Vaulting (EV) and tests its suitability and acceptability in patients with anorexia nervosa. Preliminary observations were carried out to assess the effectiveness of this program on body image, interpersonal relationships and communication and in managing anxiety.
Methods: Seven patients in charge of public service specialized in eating disorder participated in the study. EV activities were performed in an Equestrian Centre included horse grooming, gym exercises and horseback sessions.Clinical and psychological tests (SF 36, IPAQ, EDI3, STAI, SCL90) were administered at baseline and at the end of the program.
Results: Increases in body fat and decreases in lean muscle mass were observed. These were accompained by an improvement in participants' anxiety and relational skills and in the specific disease related symptoms.
Conclusions: Results indicate the potential of EV to help patients with eating disorder regaining awareness of themselves and their body, a critical element for their future reintegration in the contexts of everyday life and society. Although this is a pilot, the protocol developed represents an initial step to promote the application of EV in persons with eating disorders, informing feasibility in the design of larger controlled studies and suggesting critical variables to be targeted.

Keywords: eating disorder; psychiatric rehabilitation; equestrian sport

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