

Material and method We have selected a sample of 500 patients who were in the 2nd year of secondary school to which has been applied a battery of scales, including the EAT-26 scale for ED; and has been collected socio-demographic data, including the use of internet and mobile phone. We used SPSS to analyze the relationship between these variables.

Results We have analyzed clinical and socio-demographic characteristics of the sample. In relation to the risk of developing an eating disorder we have found that high frequencies of use of the Internet and high frequencies of use of mobile phones (especially more than 4 hours a day) increases significantly the score in EAT-26 scale for ED ($P < 0.05$).

Conclusions Regarding the results, we can say that, in our sample, the use of Internet and/or mobile phone more than 4 hours a day significantly increases the probability of having a high score on the scale for ED. This data can be essential when planning treatment or establishing a preventive strategy.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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EV0448

The central role of body image in the explanation of the engagement in disordered eating attitudes and behaviors

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Shame is a universal emotion, that has been emphasized as a pathogenic phenomenon in well-being and mental health. In fact, although shame has been considered an adaptive defensive response, higher levels of this painful emotion are strongly associated with different mental health conditions. The current study aimed to test whether the association of external shame with eating psychopathology would be explained by the mechanisms of body image-related cognitive fusion, psychological inflexibility, and also dietary restraint. A path analysis testing a mediational model was conducted in a sample of 787 women from the general community, aged between 18 and 51 years old. The tested model accounted for 71% of the variance of eating psychopathology and revealed an excellent fit to the data. Results demonstrated that external shame's impact on disordered eating attitudes and behaviors is indirect, carried through increased body image-related cognitive fusion, psychological inflexibility related to physical appearance, and dietary restraint. These findings seem to support the association between shame and eating psychopathology. Furthermore, these data add to literature by suggesting that individuals who present higher levels of shame may present increased tendency to engage in dietary restraint and other maladaptive eating behaviors, through higher levels of body image-related psychological inflexibility and cognitive fusion. The current study seems to hold important clinical implications, highlighting the importance of developing intervention programs in the community which target shame and body image-related maladaptive attitudes and behaviors and, in turn, promote adaptive emotion regulation strategies (e.g., acceptance abilities).

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EV0449

Ghrelin response to hedonic eating in underweight and short-term weight restored patients with anorexia nervosa

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Introduction Recently, anorexia nervosa (AN) has been conceptualized as a reward-related disorder, and brain imaging studies have shown functional and structural abnormalities in areas of the brain involved in reward processes in both acute and recovered AN patients. However, the role of endogenous biochemical mediators, such as Ghrelin, in the modulation of reward processes has been poorly investigated in this eating disorder.

Objectives Hedonic eating, that is the consumption of food exclusively for pleasure and not to maintain energy homeostasis, is a useful paradigm to investigate the physiology of food-related reward.

Aims We assessed the Ghrelin response to food-related reward in symptomatic AN women in order to further explore the modulation of reward processes in this severe and debilitating disorder.

Methods Plasma levels of Ghrelin were measured in 7 underweight and 7 recently weight-restored satiated AN patients before and after the ingestion of a favorite (hedonic eating) and non-favorite (non-hedonic eating) food. Ghrelin responses were compared it that of previously studied healthy controls.

Results We found that in satiated underweight patients with AN plasma Ghrelin levels progressively decreased after the exposure and the consumption of both the favorite and non-favorite food whereas in satiated weight-restored AN patients and satiated healthy controls plasma Ghrelin concentrations significantly increased after the exposure to the favorite food and after eating it, but decreased after the non-favorite food.

Conclusions These results suggest a derangement in the Ghrelin modulation of food-related pleasurable and rewarding feelings, which might sustain the reduced motivation toward food intake of acute AN patients.

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EV0450

Age at onset of eating disorders: A statistical validation of proposed cut-offs

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Introduction Despite age at onset (AAO) of eating disorders (EDs) has classically been described in adolescence; to date there is not an univocal definition. While initial studies described a bimodal distribution of AAO for ED, recently several studies didn't confirm these findings.

Objectives AAO thresholds definition for anorexia nervosa (AN) and bulimia nervosa (BN) with statistical validation of proposed cut-offs is highly needed, since AAO represents a crucial clinical feature.

Aims We obtained data from subjects with AN and BN to perform a normal distribution admixture analysis to determine their AAO.

Methods A total of 806 ED patients (792 females; 379 AN and 427 BN) were recruited. Diagnosis of AN and BN were ascertained according to the DSM-IV-TR criteria by means of the SCID – Patient Edition. AAO was assessed by a clinical interview performed by a psychiatrist matched with a systematic review of medical records. To test AAO subgroups, we used a normal distribution admixture analysis.

Results A bimodal normal distribution of AAO with an early onset and late onset component was found for both AN and BN. Most of the subjects with AN (75.3%) and BN (83.3%) belonged to the early onset group. Both groups had a mean AAO of about 18 years. No significant differences were found concerning the AAO between groups.

Conclusion Consider clinical history and course of AAO for EDs may be crucial for planning treatment. To our knowledge, this is the first study that applied a validated statistical procedure to identify AAO cut-off points for AN and BN.

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EV0451

Interhemispheric functional connectivity in anorexia and bulimia nervosa

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Introduction The functional interplay between brain hemispheres is fundamental for behavioral, cognitive and emotional control. Several pathophysiological aspects of eating disorders (EDs) have been investigated by the use of functional Magnetic Resonance Imaging (fMRI).

Objectives The objective of the study was to investigate functional brain asymmetry of resting-state fMRI correlations in symptomatic patients with anorexia nervosa (AN) and bulimia nervosa (BN).

Aims We aimed at revealing whether brain regions implicated in reward, cognitive control, starvation and emotion regulation show altered inter-hemispheric functional connectivity in patients with AN and BN.

Methods Using resting-state fMRI, voxel-mirrored homotopic connectivity (VMHC) and regional inter-hemispheric spectral coherence (IHSC) analyses in two canonical slow frequency bands (“Slow-5”, “Slow-4”) were studied in 15AN and 13BN patients and 16 healthy controls (HC). Using T1-weighted and diffusion tensor imaging MRI scans, regional VMHC values were correlated with the left-right asymmetry of corresponding homotopic gray matter volumes and with the white matter callosal fractional anisotropy (FA). **Results** Compared to HC, AN patients exhibited reduced VMHC in cerebellum, insula and precuneus, while BN patients showed reduced VMHC in dorso-lateral prefrontal and orbito-frontal cortices. The regional IHSC analysis highlighted that the inter-hemispheric functional connectivity was higher in the ‘Slow-5’/Band in all regions except the insula. No group differences in left-right structural asymmetries and in VMHC vs callosal FA correlations were found.

Conclusions These anomalies indicate that AN and BN, at least in their acute phase, are associated with a loss of inter-hemispheric connectivity in regions implicated in self-referential, cognitive control and reward processing.

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EV0452

Investigation of endocannabinoids and endocannabinoid-related compounds in obese subjects during an hedonic eating experimental test

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Introduction Hedonic eating refers to the consumption of food just for pleasure and not for energetic needs. Endocannabinoids and endocannabinoid-related compounds play an important role in food-related reward and are likely involved in hedonic eating.

Objectives In a previous study we found that in normal weight healthy subjects plasma levels of 2 arachidonoylglycerol (2-AG) decreased progressively after food ingestion in both hedonic and non-hedonic eating condition, but they were significantly higher in hedonic eating. Plasma levels of anandamide (AEA), oleoylethanolamide (OEA) and palmitoylethanolamide (PEA), instead, progressively decreased in both eating conditions without significant differences.

Aims In order to investigate the physiology of endocannabinoids in obesity, we assessed the responses of AEA, 2-AG, OEA and PEA to hedonic and non-hedonic eating in obese individuals.

Methods Fourteen satiated obese patients consumed favorite (hedonic eating) and non-favorite (non-hedonic eating) foods in two experimental sessions. During the tests, blood was collected to measure peripheral levels of AEA, 2-AG, OEA and PEA.

Results Plasma levels of 2-AG progressively decreased in non-hedonic eating whereas they gradually increased after hedonic eating. Plasma levels of AEA decreased progressively in non-hedonic eating, whereas they initially decreased after the exposure to the favorite food and then returned to baseline values after its consumption. The responses of OEA and PEA to favorite and non-favorite food did not show significant differences.

Conclusions These findings demonstrate that, compared to normal weight healthy subjects, obese subjects exhibit different responses of peripheral endocannabinoids to the ingestion of food for pleasure and this could have implications for the onset/maintenance of obesity.

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EV0453

Attachment and hypothalamus-pituitary-adrenal axis functioning in patients with eating disorders

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Introduction Attachment theory suggests that different attachment styles influence the development of individual's self-esteem and modulate the individual's ability to manage stressful events