

16<sup>th</sup> International Conference and Exhibition on

# OBESITY & WEIGHT MANAGEMENT

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### Can psychobiotics intake modulate psychological profile and body composition of women affected by normal weight obese syndrome and obesity? An interventional study

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**Background & Aim:** Evidence of probiotics effects on gut function, brain activity and emotional behavior were provided. Probiotics can have dramatic effects on behavior through the microbiome-gut-brain axis, through vagus nerve. We investigated whether chronic probiotic intake could modulate psychological state, eating behavior and body composition of normal weight obese (NWO) and preobese-obese (PreOB/OB) compared to normal weight lean women (NWL).

**Methods:** The 60 women were enrolled. At baseline and after three-week of a probiotic oral suspension (POS) intake, all subjects underwent to evaluation of body composition by anthropometry and dual X-ray absorptiometry (DXA) and psychological profile assessment by self-report questionnaires (i.e., EDI-2, SCL90R and BUT). Statistical analysis was carried out using paired t test or a non-parametric Wilcoxon test to evaluate differences between baseline and after POS, one-way ANOVA to compare all three groups and where applicable, Chi square or t-test were used to assess symptoms.

**Results:** Of the 48 women that concluded the study, 24% were NWO, 26% were NWL and 50% were PreOB/OB. Significant differences in body composition were highlighted among groups both at baseline and after POS (respectively  $p < 0.05$  and  $p < 0.001$ ). After POS, a significant reduction of weight, body mass index (BMI), hip and waist circumference, intracellular water (ICW) (L), total body water percentage (TBW%) and total body fat (TBFat%) ( $p < 0.001$ ) was observed in all subjects. After POS, reduction of TBFat, bacterial overgrowth syndrome ( $p < 0.05$ ) and lower psychopathological scores ( $p < 0.05$ ) were observed in NWO and PreOB/OB. Significant improvement of the orocecal transit time were observed ( $p < 0.001$ ) after POS. Furthermore, significant differences were observed for meteorism ( $p < 0.001$ ) and number of defecation ( $p < 0.001$ ).

**Conclusion:** Three-week intake of selected psychobiotics modulates body composition, bacterial contamination, psychopathological scores of NWO and PreOB/OB. Further researches are needed on larger population and for longer period of treatment before definitive conclusions.

#### Biography

Antonino De Lorenzo is a Specialist in Gastroenterology and Digestive Endoscopy. He is a Full Professor of Human Nutrition and Director of the School of Specialization in Food Science at the University of Roma "Tor Vergata", where he is also the Director of the PhD Research in Applied Medical-Surgical Sciences and Director of the Unit Service of Clinical Nutrition and Parenteral Therapy Anorexia Nervosa at University Hospital of Rome Tor Vergata. During his long research and studies on body composition, he discovered the Normal Weight Obese Syndrome. He holds positions of scientific responsibility for national and international research projects and is a Member of several scientific societies. He is the author of over 200 articles in international journals with peer revision in PubMed.

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