

Prevalence of Orthorexia Nervosa in a sample of italian young adults

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Abstract

There is only limited epidemiological information on Orthorexia Nervosa; the aim of the present study is, therefore, to assess the prevalence of ON in a population of young adults and to identify possible specific features and eventual psychopathological dimensions.

1317 participants (732 females and 585 males; mean age 22.36 yrs) completed a battery containing the orthorexia measure (ORTHO-15), statements about demographic characteristics as well as physiological parameters.

The mean ORTO-15 score was 31.89; considering the cut-off of 40 in the reference test, our results showed a 11.9% prevalence of ON. Analyzing the characteristics of the orthorexic group, the prevalence in females compared to males appears to be statistically very significant (115 vs 43; 72.8% vs 27.2%); moreover shows higher and statistically significant scores in each of the 15 items of the reference test compared to the non-orthorexic group.

Our data confirming that ON might be a relevant and potentially underestimate phenomenon in the community. Further studies are warranted in order to explore the diagnostic boundaries of this syndrome, its course and outcome, and the possible therapeutic strategies. *Clin Ter* 2024; 175 (2):125-127 doi: 10.7417/CT.2024.5044

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Introduction

The term Orthorexia Nervosa, coined by Bratman (1997) (1), has been defined as an “obsessive focus on dietary practices believed to promote optimum well-being through healthy eating (with inflexible dietary rules, recurrent and persistent preoccupations related to food, compulsive behaviours), with “consequent, clinically significant, impairment (e.g. medical or psychological complications, great distress, and/or impairment in important areas of functioning)” (2). Since Bratman’s original work, many other authors have

helped define the construct of ON. Among these, Donini, who speaks of a “fanatical healthy behaviour” based both on an obsessive-compulsive personality disorder and on eating disorders (3), and Bagci Bosi, who instead emphasized the intensity of desire to consume healthy foods, defining ON as a set of “highly sensitive attitudes in eating behaviour” (4).

Orthorexia nervosa is not listed in the official ICD-11 and DSM-V classifications of mental disorders; there is still no officially accepted definition of ON, or standardised criteria of its diagnosis.

There is only limited epidemiological information on ON; the prevalence varies across countries and across populations, ranging from 6.9% in the Italian population to 88.7% in the group of Brazilian students of dieting (5). ON incidence is considered very high, up to 35-57.8 %, in specific high risk groups (e.g. healthcare professionals, artists) (6).

To date, few studies have been carried out to assess prevalence and specific characteristics of orthorexic behaviours in samples of italian young adults. About this, a work of Dell’Osso et al. 2016 on 2130 students and 696 university employees belonging to University of Pisa (Italy) it detected orthorexic features at frequency of 32.7% (7); another study by the same working group, always on a sample of university students, showed a 34.9% prevalence of ON (8).

The aim of the present study is, therefore, to assess the prevalence of ON in a population of young adults and to identify possible specific features.

Materials and methods

All participants completed a battery containing the orthorexia measure (ORTHO-15), statements about demographic characteristics (age, gender) as well as physiological parameters (height and weight) in order to calculate the Body Mass

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Index (BMI). The ORTHO-15 is a fifteen-item questionnaire developed for the diagnosis of orthorexia nervosa (9).

Considering the study as exploratory, the objective was to reach a large sample size. The recruited subjects, aged 18–26 years, were from diverse social contexts and several Italian cities, located in the north, centre, and south; the snowball sampling randomizing procedure was followed for the selection of the sample, specifically, stakeholders were approached, asked for contacts and gained contacts were asked to participate (10).

All participants received a detailed explanation of the study design. A written informed consent was systematically obtained from every subject, according to the Declaration of Helsinki. Data collection was carried out between September 2020 and June 2021 in an anonymous and confidential way. The questionnaires were administered by a team of psychologists and psychiatrists, with the support of a peer-working group.

Baseline data were analysed using descriptive statistics, including means and standard deviations and frequencies and percentages. The chi-square (χ^2) test, Fisher's exact test, and nonparametric Wilcoxon-Mann-Whitney test were used for comparison of qualitative data. Quantitative variables were summarized by means and medians and compared using the Student's *t*-test. Factors with a *P* value lower than 0.25 were included in the multivariate analysis and *P* value lower than 0.05 was considered to be significant. SPSS version 22.0 was used for all analyses.

Results

The final sample was composed of 1317 Italian subjects (*N* = 732 females, 55.6%; *N* = 585 males, 44.4%) from the general population. Their mean age was 22.36 yrs. (SD =

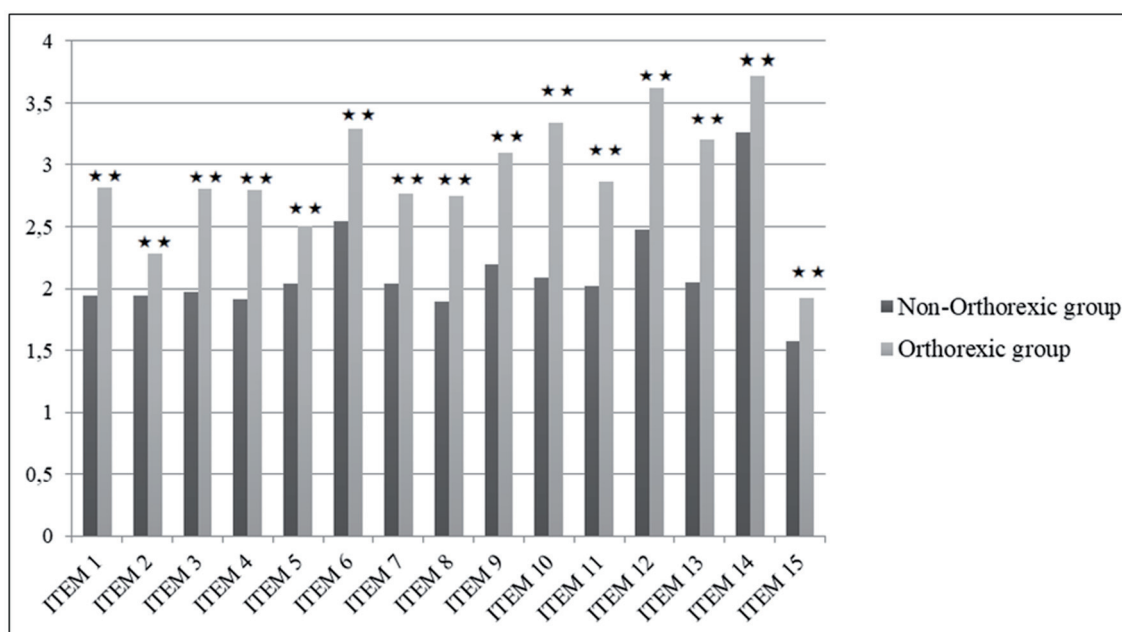
2.85; range 18–26). The BMI participants' mean was 22.58 (SD = 3.32; range 14–41), and, based on Pearson correlation, BMI showed to increase with age ($r = .14$, $p < .001$).

The mean ORTO-15 score was 31.89 (maximum score 56, minimum score 12); considering the cut-off of 40 in the reference test (ORTO-15 reached satisfactory values for the cut-off points of 40 points (sensitivity = 100%, specificity = 73.6%, positive predictive value = 17.6%, and negative predictive value = 100%) (6), 158 subjects were found to be sensitive to the orthorexic attitude (11.9% of the total sample) while 1159 subjects were below the limit score (88.1% of the sample). Analyzing the characteristics of the orthorexic group, the prevalence in females compared to males appears to be statistically very significant (115 vs 43; 72.8% vs 27.2%). The average age of the orthorexic group is 21.81 years, slightly lower than that of the sample considered as a whole; the average BMI stands at 22.19, thus tangibly lower than the comparison group and the global sample, although without reaching statistical significance.

As regards underweight subjects (considered for BMI less than 19), the figure of 168 subjects belonging to this category (11.56% of the total) is worrying and it can be observed that the average scores on the ORTO-15 test are slightly higher compared to normal weight and overweight subjects, but without reaching statistical significance. Another statistically very relevant data that emerged from the analysis is that which concerns the score in the individual items: the group of orthorexics shows higher and statistically significant scores in each of the 15 items of the reference test compared to the comparison group (Table 1).

Descriptive statistics for the Ortho-Revised by sex (males vs. females) and BMI (< 25 vs. >25) were computed. Univariate analyses revealed a small effect of sex ($F = 35.32$, $p < .001$, partial $\eta^2 = .03$) and BMI ($F = 11.17$, $p < .001$, partial $\eta^2 = .01$), but no interaction sex*BMI ($F = .80$, $p = .83$).

Table 1. The orthorexic group responds in a statistically significant manner with a higher score in each item of ORTO-15 compared to the non-orthorexic group



Males and females differed on the Orthorexia total score ($p < .001$), with female reporting higher scores ($M = 17.67$, $SD = 4.16$) than males ($M = 16.44$, $SD = 4.00$). Participants with a $BMI > 25$ ($M = 19.64$, $SD = 4.27$) reported higher scores than those having a $BMI < 25$ ($M = 18.56$, $SD = 4.09$).

Discussion

The present study aimed to investigate the prevalence and clinical correlates of ON in a sample of Italian young adults; our results showed a 11.9% prevalence of ON using the cut-off score of 40 on the ORTO-15 questionnaire. This prevalence rate, is lower than previous Italian studies of young adults (4-5), resulting, instead, higher than the prevalence rates estimated in the general Italian population, ranging to 6.9% (3), confirming that indeed it might be a relevant and potentially underestimate phenomenon in the community.

Our results also showed a significantly greater prevalence of ON among female; previous studies evaluating gender differences in ON prevalence led to controversial results: while some authors have highlighted a higher prevalence of ON among females (11), others have reported a higher frequency among males (3-12) or no gender differences at all (13).

In our sample underweight subjects (considered for BMI less than 19) have the average scores on the ORTO-15 test are slightly higher compared to normal weight and overweight subjects; one reason explaining this association might be that subjects with obsession for healthy foods, loose moderation and balance in their feeding, ending up to present loss of body weight and reduction of their BMI .

Our study has several limitations: (1) the snowball randomization procedure does not guarantee a strict distribution of the subjects. Although the snowballing recruitment method showed advantages, such as time, cost or when representation from diverse communities is needed (14), it can overestimate the prevalence of a specific attitude, or unbalance samples with particular demographic characteristics (15); (2) the study procedures only included the assessment of ON symptoms, preventing us from taking into account the possible influence of other psychopathological dimensions; (3) data were collected from a sample of young adults and, as such, they are not representative of the general population.

An interest in the relatively new phenomenon of ON should lead to an attempt to address the question of whether ON is a disorder (e.g., an eating disorder or an obsessive-compulsive disorder) or just a symptom of unhealthy eating behaviour. Again, ON might be also considered as a new social/behavioural addiction, a new form of dependence in which the object of addiction (quality of food) is not only socially accepted but even largely promoted.

Further studies are warranted in order to explore the diagnostic boundaries of this syndrome, its course and outcome, and the possible therapeutic strategies; in the meanwhile, clinicians should be aware that “eattitude”, intended as particular eating habit patterns, should be carefully assessed and might represent a sign of a break in the perception of self and the personality of individuals.

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