

Spis treści

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Abstract

Introduction

Orthorexia, defined as an obsessive focus on healthy eating. Orthorexia is a growing public health problem. Orthorexia as a psychopathological construct, remains an entity with an ambiguous diagnostic status, making its study crucial for the conceptualization of new categories of eating disorders. Despite the lack of diagnostic consensus, increasing empirical data indicate its association with obsessive-compulsive features, anxiety, and components of perfectionism.

Students related with health care may be particularly at risk of developing orthorexia, as they gain knowledge about a healthy lifestyle and nutrition during their education. Therefore, the main assumption of this work was to identify the psychosocial-cultural and behavioral profile of individuals at increased risk of developing orthorexia. This would be a significant step towards developing effective preventive and intervention strategies. Analysis of previous studies indicates that orthorexia may be associated with specific personality traits, such as perfectionism, a very high need for control, and excessive susceptibility to social norms regarding body aesthetics.

Additionally, environmental factors, including social pressure and the influence of social media, may reinforce the tendency to over-control one's eating habits. Understanding these mechanisms would be important not only from a theoretical perspective, but above all from a practical perspective – it would make it easier for clinicians to make early diagnosis of people at risk of developing orthorexia and implement appropriate therapeutic interventions.

Aim

The aim of this study was to assess the risk of orthorexia-like behaviors in a group of students of health-related fields of study – nursing, midwifery, emergency medical services, physiotherapy, dietetics and medicine. The aim of the study was not only to determine the frequency of orthorexia, but also to identify important psychological and environmental predictors of this phenomenon. Additionally, an innovative aspect of this research project was to integrate empirical analysis with the development of a pilot educational intervention based on quantitative data, which enabled practical validation of the obtained conclusions in an academic environment.

The study focused on the analysis of the occurrence of orthorexia symptoms in various groups of students, with particular emphasis on dietetics. The selection of this group results from the fact that dietetics students are most at risk of developing orthorexia due to their specialist nutritional knowledge and the academic environment in which healthy eating habits are promoted. Unlike other medical students, dietitians have more contact

with the topic of nutrition on a daily basis, which may affect their approach to eating and their tendency to obsessively control the products consumed. Comparing this group with other students of health care-related fields will allow us to determine to what extent orthorexia may be the result of academic and professional factors, and to what extent it is a disorder resulting from other psychological and environmental conditions. Additionally, the study aimed to assess the relationship between the intensity of symptoms typical of orthorexia and selected demographic variables and body mass index (BMI).

In relation to the aim of the work, five research questions and corresponding research hypotheses were formulated. Their construction was based on a review of the collected scientific material on orthorexia, which allowed for taking into account previous research findings and enabled their empirical verification in the context of the analyzed population.

Study Methodology

A cross-sectional study was conducted between January 2023 and March 2024 among students of nursing, midwifery, emergency medical services, physiotherapy, dietetics and medicine from five universities. The study involved 1,270 people, but after verification, 1,200 complete responses were qualified for further analysis. It should be noted that 70 questionnaires were rejected due to the lack of key data, such as incomplete completion of the ORTO-15 test, lack of information on body weight or omission of answers to questions about eating behaviors.

The study used a research tool consisting of three elements: a) an original survey questionnaire examining selected eating behaviors, enabling the assessment of the respondents' eating habits and their potential relationship with the risk of orthorexia nervosa; b) a standardized ORTO-15 questionnaire, used to assess the intensity of orthorexia behaviors, based on cognitive and emotional aspects of eating disorders; c) a standardized Eating Behavior Questionnaire, measuring habitual overeating, emotional overeating, and dietary restrictions.

The study construction was based on the assumptions of the biopsychosocial approach to understanding eating disorders and was inspired by the paradigm of interactions between individual and contextual factors. The study included both intrapsychic components and external factors, in accordance with the assumptions of the social learning theory and the internalization of norms theory. Triangulation of research tools allowed for the simultaneous assessment of cognitive (ORTO-15), behavioral and emotional and habitual components.

The study also included the development of an educational activity of a preventive and reflective nature, which is an integral application element of the results of this study. The aim of this activity was to translate the results of statistical analyses into educational practice, aimed at increasing students' awareness of the risk of developing orthorexia and supporting self-reflection on their own eating behaviors. The educational activity was designed based on the obtained empirical data, in particular taking into account:

the results of the ORTO-15 test, responses to the Eating Behavior Questionnaire and statistically significant relationships between them.

The study included a pilot workshop. The pilot workshop was conducted in a group of 15 students of health-related majors, selected from among volunteers who met the basic inclusion criteria. The aim of the pilot was to initially evaluate the substantive content of the workshop, the teaching methods used, and the potential impact of the meeting on changing the participants' perception of their own nutritional attitudes.

The obtained results were subjected to detailed statistical analysis using the Statistica package (version 13.1, StatSoft) and SPSS (version 26, IBM). The analyses aimed to determine significant relationships between variables and to identify factors influencing the risk of orthorexia and selected nutritional behaviors among students of health-related majors.

Results

The majority of the analyzed group were women (82%) aged 18–30 (85%). The average age in the study group was 25 years (SD = 4.49). The youngest respondent was 19 years old, while the oldest was 33 years old. Analysis of the results in the ORTO-15 questionnaire showed that the occurrence of an increased risk of behaviors typical of orthorexia was found in 10.5% of the respondents, regardless of the field of study. However, it should be noted that midwifery students (M = 34.19) achieved the highest results in the intensity of symptoms typical of orthorexia, which significantly distinguishes them not only from nursing students, but also from students of emergency medicine (M = 35.52, $p = 0.002$), physiotherapy (M = 35.76, $p < 0.001$), dietetics (M = 36.70, $p < 0.001$) and medicine (M = 36.78, $p < 0.001$). These results indicate the greatest tendency towards orthorexia among midwifery students.

In terms of BMI, students of medical rescue and physiotherapy were characterized by a significantly lower percentage of overweight or obese people (2–4%) compared to those studying nursing, midwifery and medicine, where excess body weight affected 31–34% of the study participants. The highest percentage of people with normal body weight was noted among students of physiotherapy (93%) and medical rescue (91%). These differences were statistically significant ($\chi^2 = 208.382$, $p < 0.001$).

In order to check whether the BMI index value explains the level of risk of developing behaviors typical of orthorexia, a linear regression analysis was performed. The results indicate that the proposed model was a good fit to the data, $F(1.1198) = 126.986$, $p < 0.001$. This model showed that the BMI index was significantly and negatively related to the level of orthorexia, $\beta = 0.310$, $p < 0.001$. This means that the higher the BMI, the lower the level of orthorexia. The regression equation can be written as follows: $Y = 29.866 + 0.283 \cdot X$. This means that with an increase in BMI by one unit, the level of orthorexia decreases by 0.283 units. The tested model explains 9.6% of the variance in the level of orthorexia, which suggests that although BMI is a significant predictor, there

are other factors influencing orthorexia that were not included in this model.

The conducted analysis allowed us to determine the demographic and behavioral profile of people showing severe symptoms typical of orthorexia. The interpretation of the obtained results was placed in the context of existing theoretical models, including the cognitive-behavioral model of eating disorders and the theory of internalization of cultural norms concerning the body. The most characteristic features of this group are: a) dominance of women, which suggests a greater susceptibility of this gender to the development of orthorexia behaviors; b) very high overrepresentation of underweight people, which indicates a potential relationship between severe symptoms of orthorexia and low body weight; c) increased representation of midwifery students, compared to other fields of study, which show less severe symptoms of orthorexia; d) significantly more frequent use of restrictive dietary behaviors, which suggests that control of food intake is a key aspect in the functioning of people with severe symptoms of orthorexia; d) elevated rates of habitual and emotional overeating, which may indicate a paradoxical relationship between dietary control and periodic episodes of loss of control over eating.

The obtained results provide important information on factors predisposing to the severe symptoms typical of orthorexia, but require further exploration in the context of psychological mechanisms and the influence of environmental factors on the development of this phenomenon.

The pilot educational workshop on orthorexia was conducted among 15 students of health-related fields as a practical extension of previous quantitative studies. Its main goal was to increase participants' awareness of orthorexia and to encourage them to reflect on their own eating habits. The effectiveness of the workshop was assessed based on the results of the PRE and POST questionnaires, containing seven identical statements regarding knowledge, attitudes and self-reflection, assessed on a five-point Likert scale. Analysis of the results showed a clear increase in the participants' self-assessment of knowledge in each of the areas studied, especially in the area of recognizing the symptoms of orthorexia and distinguishing it from a healthy lifestyle. The use of interactive didactic methods and maintaining anonymity in the analysis of results allowed for the creation of a safe space conducive to honest reflection and openness. The obtained results confirm the educational value of such a workshop and indicate the need for further development of this type of activities in student education programs.

The identified risk factors suggest that orthorexia may function as a compensatory mechanism in coping with anxiety, lack of agency, or the need for control in the context of educational and professional pressure. It is therefore necessary to explore the psychological functions of these behaviors in more depth in further qualitative studies.

Conclusions

Based on the conducted study, the following conclusions of significant theoretical and practical importance can be formulated.

1. Orthorexia as a phenomenon particularly widespread among medical students - analysis of the results confirmed that people studying health sciences show a higher level of orthorexic symptoms. This may result from excessive internalization of the principles of healthy eating and a strong need for self-control among future health professionals. These results indicate the need to include educational content on eating disorders in the education programs of medical and dietetics students.

2. Strong correlation between BMI and the severity of orthorexic symptoms - people with a lower body mass index more often showed orthorexic patterns of eating behavior. This means that a restrictive approach to eating can lead to a significant reduction in energy supply, which in the long term can result not only in weight loss, but also nutritional deficiencies and negative health effects.

3. Eating behaviors as a significant factor differentiating people with severe symptoms of orthorexia – research results indicate that people with a high score on the ORTO-15 scale more often eliminate certain food groups, avoid eating outside meals and apply strict, restrictive rules regarding the selection and preparation of food. These behaviors, although they may be perceived as conscious pro-health choices, may in fact indicate mechanisms characteristic of eating disorders.

4. Developed profile of a person with severe orthorexia symptoms – based on the analyses conducted, a detailed profile of an individual showing orthorexia tendencies was developed. These people are most often characterized by a low BMI, study health-related courses, show great care for the quality of food consumed, eliminate certain products and avoid eating in public places. This profile can be used in future studies to identify people in the high-risk group and as a starting point for designing intervention programs.

5. The need to implement preventive programs – the results of this study indicate an urgent need to introduce preventive measures in the academic environment, especially in health-related courses. Educational programs should include modules on a flexible approach to diet, the consequences of excessive control over eating, and strategies for coping with stress and social pressure related to a healthy lifestyle.

The presented dissertation provides a comprehensive analysis of orthorexia in the academic environment, integrating quantitative, qualitative and application approaches, which makes it a significant contribution to the development of interdisciplinary knowledge about eating disorders.

The developed educational tool and the profile of a person with severe orthorexia features constitute a potential basis for the implementation of individualized interventions in the academic environment, especially in medical curricula.

In the future, it is recommended to conduct longitudinal studies that will allow for capturing the trajectory of orthorexia development and the effectiveness of the applied preventive strategies. An important direction of research is also the exploration of the role of psychological factors, such as the level of anxiety, self-control or susceptibility to social

influence, in shaping orthorexia eating patterns.

Keywords

Orthorexia, eating disorders, medical students, healthy eating, ORTO-15, BMI, psychological profile