

Assessing Orthorexia Nervosa and its Relation With Body Shape Among Young Adults

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Abstract

Consuming nutritious food is of utmost importance for one's health and well-being. But when an individual becomes obsessed with eating only healthy food and focusing more on the nutritional content of the food, this obsession is termed as Orthorexia Nervosa. This obsession is characterized by restricting oneself from eating unhealthy foods and making the required dietary changes. The available literature reveals that this is still an unexplored avenue, especially in the Indian context. Thus, the present research focuses on determining the prevalence of orthorexia nervosa among young adults along with its relation with body shape perception. Body shape perception is measured in the terms of how satisfied or dissatisfied people are with their body shape and appearance. The aim of the present research is to determine the prevalence of orthorexia nervosa and body shape concerns among young adults. Secondly, it also focuses on studying the relationship between orthorexia nervosa and body shape. A sample size of 200 participants comprising of 100 males and 100 females were undertaken for the research. The sample constituted of Undergraduate college students only. A convenience sampling technique was used to collect the data from the sample. Responses on two self-report measures, namely: ORTO-15 and BSQ-16(a) were taken from the sample. The Analysis and Interpretation of the data was done through Descriptive Statistics and Pearson's Correlation. The results indicate that out of 200 participants, 115 participants (57.5%) exhibit orthorexic tendencies, and 103 participants (51.5%) have marked concerns with their body shape. Orthorexia and body dissatisfaction are observed more in females. A Negative Significant Correlation ($r = -0.329$, $p < 0.01$) is drawn between Orthorexia and Body Shape for the cohort. The current research tries to fill the gap around the sparse knowledge regarding Orthorexia Nervosa and Body Shape concerns especially in the Indian context and encourages further study.

Keywords: Orthorexia nervosa, body shape, body satisfaction, body dissatisfaction

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The term 'Orthorexia Nervosa' was coined by Dr. Stephen Bratman in 1997 to describe the unhealthy obsession with consuming 'healthy' or 'pure foods.' The word is made up of two Greek words 'Ortho' which means "right or correct" and 'Orexia' which means "appetite". The phenomenon is still under research and thus it is not yet recognized as an Eating-Disorder by either the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) or the International Classification of Diseases (ICD-10). This disorder is characterized by compulsions and over-emphasis on the 'quality and content of the food' over the 'quantity of the food'. There is a lot of preoccupation with the consumption of 'pure food' among people who have Orthorexic Tendencies. This preoccupation leads to self-imposed dietary restrictions, continuous dietary changes, restricting oneself from consuming certain foods, avoiding meals prepared by others etc. There is no harm in eating healthy but when this turns into a pathological obsession, one must seek professional guidance and help. A few of the symptoms include: worrying about the quality of food, avoiding outside food, researching about the ingredients of the food, spending hours in reading about nutrient-rich foods, being critical of other's food choices and habits, etc. In eating disorders like Anorexia and Bulimia, the focus is on the quantity of the food, but Orthorexic individuals do not focus on quantity, rather they pay more attention to the quality of the food. They are proud of their obsession and over-emphasis on leading a healthy life.

After the pandemic, people have become more conscious about their health and dietary habits. There are plenty of products available in the market that promise to give the utmost health benefits. Even content creators endorse such products and promote healthy living content on various social media platforms. Much of the content revolves around different kinds of products and diets that a person must consume to lead a happy and healthy life. But many a time, these diets lead to a disordered form of eating which in turn leads to various health issues. This is because many pseudo-nutritionists are guiding people on the

internet to follow different forms of dietary regimes in order to look young and fit. With the intention to lose weight and develop a healthy lifestyle, at times people become more prone to developing eating disorders.

In order to achieve a peculiar body type, people follow fad diets like ketogenic, low-fat, calorie deficit diets, etc. One of the reasons to follow these fad diets is to achieve a “culturally approved body shape.” There are a lot of stigmas attached to being overweight. Being skinny and thin is so internalized in some cultures that people follow any extreme diets to shed off extra kilos and achieve the desired body weight. According to many researchers, body shape concerns are on the rise in Asian countries. Body shape is often assessed in terms of how satisfied or dissatisfied a person is with his overall body appearance. There is a discrepancy between the ideal body shape and the actual body type of the person which leads to feelings of dissatisfaction and guilt. And this very idea behind the ideal body shape that people wish to achieve, is often represented in media as well as mainstream Bollywood movies.

Studies have been conducted to explore the factors that contribute to the development of eating disorders like anorexia and bulimia nervosa and Body Shape concerns/dissatisfaction. The present research tries to bridge the gap between the sparse literature available on Orthorexia Nervosa by determining the prevalence of Orthorexia and Body Shape concerns among young adults. It also aims to establish a relationship between the two variables.

Ginimole et al., 2022 conducted a study titled ‘To assess the prevalence of orthorexia nervosa among young adults.’ The aim was to determine the prevalence of ON and to determine the association between ON and some selected baseline variables. This was a cross-sectional study which was carried out in Bangalore. The sample comprised of 300

males and females who were in the age group of 18-25. Students from all branches were selected as the target sample. For the purpose of data collection, ORTO-15 was used to measure the Orthorexic tendencies among the sample. Through the analysis, it was revealed that 83.3% of the sample exhibited Orthorexic Tendencies (N=300). The study also shows significant association between the selected baseline variables and orthorexia with regards to gender. Thus, it was concluded that there is higher prevalence rate of Orthorexia Nervosa among young adults.

The research titled 'Prevalence of Eating Disorders and it's associated risk factors in students of a Medical College Hospital in South India' was conducted by Iyer & Shriram (2021). This was an observational and cross-sectional study that constituted of 332 participants selected from four constituent colleges of tertiary care hospitals. The participants were asked to give their responses on demographic details, Eating Attitude Test (EAT-26), Body Shape questionnaire (BSQ-34) and Perceived Stress Scale (PSS). The results indicated that 13% of the sample were at a risk of developing an eating disorder. It was prevalent among both the genders equally. Through the analysis, it was also reported that high risk of eating disorder had an association with high stress as well as severe body shape concerns. Thus, it can be concluded that prevalence of eating disorder can lead to body dissatisfaction and high stress.

Sharma et.al 2019 worked on a study titled 'Body image perception, eating attitude and influence of media among undergraduate students of medical college in Delhi: A cross-sectional study.' The sample consisted of 370 undergraduate medical students from two different medical colleges of New Delhi. The participants were asked to fill out their demographic details and give responses on Perceived Body Image, Eating Attitude Tests and Socio-cultural Attitude Towards Appearance Questionnaire (SATAQ-3) to assess the role of media on body shape perception. From the analysis it was observed that a significant

association was established between EAT-16 and perceived body image, more than one third of the sample had abnormal perceived body image. Many other significant associations were established between the variables.

Method

Research Aim

The main aim of the present research is to find out the correlation between Orthorexia Nervosa and Body Shape Perception among young adults. Secondly, it also focuses on finding out the prevalence of Orthorexia Nervosa and Body Dissatisfaction among the sample.

Objectives of the Study

1. To determine the prevalence rate of Orthorexia Nervosa among undergraduate students.
2. To determine the prevalence rate of Body Dissatisfaction among undergraduate students.
3. To ascertain the correlation value between Orthorexia Nervosa and Body Shape Perception among the selected sample.

Hypothesis

H1: There will be a significant correlation between Orthorexia Nervosa and Body Shape Perception.

Research Design

A correlational design was adapted to study the relationship between Orthorexia Nervosa and Body Shape Perception among Young adults.

Sample

The present research aims to assess the prevalence of Orthorexia Nervosa and Body Shape Perception among young adults. Keeping this purpose in mind, the researcher approached 250 students in the age range of 18-22, out of which 100 male and 100 female students were considered a part of the sample. The “convenience/accidental sampling technique” was used for the purpose of data collection.

Measures

Two self-report measures were used for the purpose of data collection, namely:

ORTO-15 (Donini et al., 2005)

ORTO-15 is a combination of Bratman Test and Minnesota Multiphasic Inventory. This is a multiple-choice questionnaire which consists of 15 items with a 4-point Likert scale. It typically measures the interrelation between cognitive-rational (items 1,5,6,11,12,14) clinical (items 3,7,8,9,15) and emotional (items 2,4,10,13) aspects of eating behaviors. The items are regarding food choices, food consumption patterns and perceived effects of healthy eating. The responses to items that represent orthorexic tendencies are given a score of 1, whereas the responses that indicate normal eating behavior are given a score of 4. The raw score ranges from minimum 15 points to maximum 60 points. For the interpretation of raw scores, a cut of point of 40 is set for the scale, wherein a score of 40 or below 40 indicates orthorexic tendencies and score above 40 indicates normal eating behavior. This scale exhibits reliable psychometric properties which have been established through multiple validations across diverse populations.

Body Shape Questionnaire (BSQ-16a, Evans & Dolan, 1993)

The full version of BSQ (34 items) was first proposed by Cooper, P.J., M.J. Taylor, Z. Cooper & C.G. Fairburn in 1986 in the International Journal of Eating Disorders. This was constructed to measure the body disparagement that is common among eating disorders. Later, two approved alternate forms of BSQ which are BSQ-16 and BSQ-8 were given by Evans and Dolan in 1993. For the current research, BSQ-16(a) was used for the purpose of data collection. This has 16 items on a 6-point Likert scale (never, rarely, sometimes, often, very often and always). The items assess the level of satisfaction or dissatisfaction with one's body shape. A raw score below 38 is interpreted as 'no concern with body shape', whereas a score above 38 is interpreted as 'having concerns with body shape'. Just like the full version of BSQ, BSQ-16 also exhibits robust psychometric properties with reliability ranging from .92 to .96.

Procedure

For the purpose of data collection, 250 undergraduate college students from different colleges in Ahmedabad city were approached, out of which 200 were selected as the sample. Rapport was established and consent was taken from every participant. They were ensured of the confidentiality of their data. They were also asked to fill out certain demographic details. Thereafter, instructions about how to respond to each of the items were stated explicitly to all the participants. The scoring and interpretation of the raw scores were done according to their respective manuals. Analysis of the scores was done using different statistical measures.

Statistical Analysis

For the analysis and interpretation of the data, mean, frequency, percentage and correlation values were computed using the SPSS version 20.

Results

The results of the present study are discussed under 2 heads, namely: Descriptive and Inferential. For the descriptive analysis, class interval, frequency, and percentage values have been reported. For inferential analysis, the correlation between Orthorexia Nervosa and Body Shape Concerns has been computed.

Descriptive Analysis

Prevalence of Orthorexia Nervosa among the Undergraduate students

One of the objectives of the study is to find out how prevalent is Orthorexia Nervosa among undergraduate students. According to the manual of ORTO-15, the raw scores below 40 indicate 'orthorexic tendencies', whereas, scores above 40 indicate 'normal eating patterns and behavior.' To find out the prevalence of Orthorexia Nervosa, frequencies and percentage were calculated.

Table 1

Shows the Class-interval, Frequency and Percentage for Orthorexia Nervosa (N=200)

Class-Interval	Frequency	Interpretation	Percentage
15- 40	115	Orthorexic Tendencies	57.5%
41-60	85	Normal Eating Pattern	42.5%

Table 2

Shows the frequency of Orthorexic Tendencies among Males and Females

Gender	Frequency Of Orthorexic Tendencies	Percentage
Males	45	39.13%
Females	70	60.86%
Total	115	-

Figure 1

Pie-Chart Showing the Percentage of Undergraduate Students With ‘Orthorexic Tendencies’ and ‘Normal Eating Patterns.’

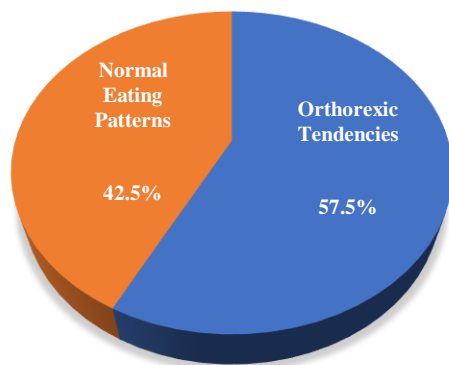


Table 1 depicts that 57% of the sample exhibits Orthorexic Tendencies, whereas 43% of the sample has ‘Normal Eating Behavior/Patterns. Out of 115, the bifurcation of males and females is 45 and 70 respectively. From table 2, it can be concluded that females have a higher prevalence rate of orthorexia nervosa than the male students.

Prevalence of Body Shape Concerns among Undergraduate Students**Table 3***Shows the Class-interval, Frequency and Percentage for Body Shape Questionnaire (N=200)*

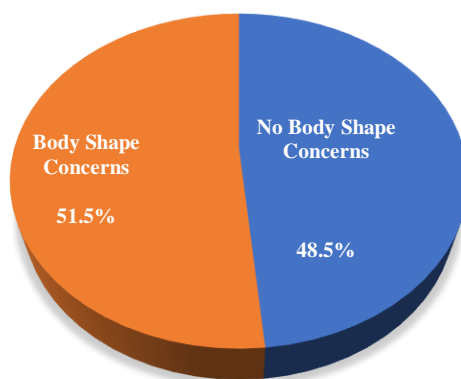
Class-Interval	Frequency	Interpretation	Percentage
16-38	97	No Concerns with Body Shape	48.5%
39-96	103	Concerns with Body Shape	51.5%

Table 4*Shows the frequency of Body Shape Concerns among Males and Females*

Gender	Frequency Of Body Shape Concerns	Percentage
Males	41	39.8%
Females	62	60.2%
Total	103	51.5%

Figure 2

Pie-Chart Showing the Percentage of Undergraduate Students With ‘No Body Shape Concerns’ and ‘Body Shape Concerns’



Through the analysis of frequency and percentage, it was found that 52% of the entire sample has concerns with their body shape and appearance. Whereas, 48% of the sample reported no such dissatisfaction. Out of 200 participants, 103 have participants have reported major dissatisfaction with their body shape, with females having a higher frequency rate.

Inferential Analysis

Correlation Between Orthorexia Nervosa and Body Shape Concerns Among Male Students

Table 5

Shows the Correlation between Orthorexia Nervosa and Body Shape Perception (N=200)

		Orthorexia Nervosa	Body Shape Perception
Orthorexia Nervosa	Pearson Correlation	1	-.329**
	Sig. (2-tailed)		.000
	N	200	200

	Pearson		
Body Shape	Correlation	-.329**	1
Perception	Sig. (2-tailed)	.000	
	N	200	200

** . Correlation is significant at the 0.01 level (2-tailed)

To find out the correlation between Orthorexia Nervosa and Body Shape Perception among the selected cohort among, Pearson's 'r' was calculated. Table 5 shows that there is a negative relationship between Orthorexia Nervosa and Body Shape Concerns ($r = -0.329$). The p-value is less than 0.01 level of significance when $r = -0.329$, thus it can be inferred that there exists a significant correlation between Orthorexia and Body Dissatisfaction among young adults.

Discussion

This research aimed to find out the prevalence of Orthorexia Nervosa and Body Shape Concerns among the selected sample. Furthermore, a correlational analysis was carried out between the two constructs. According to the descriptive analysis results, females have higher Orthorexia Tendencies. This trend has been observed in past research as well. In a study conducted by L Dell' Osso et.al on 'Prevalence and Characteristics of Orthorexia Nervosa in a sample of university students in Italy', it was reported that more than one-third of the sample reported Orthorexic Tendencies (measured through ORTO-15), with higher rates among females. In another study conducted by María Laura Parra-Fernández et.al on 'Assessing the Prevalence of Orthorexia Nervosa in a Sample of University Students Using Two Different Self-Report Measures' stated that females have a higher prevalence and probability of developing Orthorexia. COVID-19 has changed the perspective toward health and dietary choices that people make. Social media users are bombarded with healthy food content on social media, TV commercials, etc, which can have a subliminal effect on our

food choices. Eating healthy food is one thing but spending hours researching about the ingredients, calories, micronutrients, and macronutrients of the food, is a matter of concern that must be addressed. Thus, for the first objective of the present research, it can be concluded that the prevalence of Orthorexia Nervosa among Undergraduate students is 57%, with females having a higher percentage than males.

In the present research, gender differences have been reported concerning Body Shape Perception, with females expressing higher concerns. This trend has been cited in past studies as well. R Pingitore and colleagues in their study on 'Gender differences in Body satisfaction' (among 320 college students) found out that women were significantly dissatisfied with their body shape and weight compared to men. One of the reasons for this higher dissatisfaction could be attributed to achieving a peculiar body type that is represented in the media. People sometimes fall prey to the unrealistic standards represented in the media and internalize them unconsciously. Cultural factors and norms also have a significant effect on how we perceive ourselves. In a study by Monique Pfennig (2023), it was reported that females experience higher body dissatisfaction than males. Similar results have been found for the present research, where it can be seen that 52% of the sample has body shape concerns, with females being more dissatisfied than males.

According to the correlational analysis, a significant negative relation ($r=-0.329$, $P>0.01$) has been drawn between the two constructs. There have been mixed results in previous studies regarding the relationship between disordered eating behaviors and their relation with body image. Anna Brytek-Matera and colleagues found no significant correlation between Orthorexic behaviours and the sub-scales of the Multidimensional Body-Self Relations Questionnaire for male university students. In a study conducted by Frederike Bartheles, a positive association between orthorexic eating behaviour was positively associated with body shape dissatisfaction in a sample of young females. There have been

inconsistent relationships between orthorexic tendencies and body shape concerns in the past researches. The significant negative association in this study suggests that the higher tendency to indulge in orthorexic tendencies, leads to the maintenance of orthorexia symptoms, with a decrease in body dissatisfaction.

This research is an approach towards determining the Prevalence of a probable Eating-Disorder and its relation with Body Dissatisfaction in the Indian Context. Many studies based in the Western part of the world have reported a higher prevalence rate of this disordered eating attitude and its relation with appearance, body shape, drive towards thinness etc. A scant literature is available on the Indian Population regarding Orthorexia and its relation with body shape concerns. This research is conducted to fill that gap in the literature. There is a significant negative association between Orthorexia Nervosa and Body Shape Concern in the present study and the percentage of Orthorexic tendencies and Body Dissatisfaction are found to be significantly higher in the female group. One of the plausible reasons for developing this could be the deep-rooted obsession with being lean/skinny. To achieve this goal, we do not realize how maintaining a healthy body weight turns into a pathological obsession. Another reason could be the available content on social media which influences the choices that we make in our day-to-day life. Today, Influencer marketing is on the rise and the young generation is an avid consumer of the products endorsed by popular influencers. Many content creators with millions of followers curate content and promote healthy lifestyles. But while doing so, they set unrealistic standards that can lead to a spiral of negative effects on the mental well-being of their followers. In a study by Rebecca Scheiber and colleagues on a German sample (n=647), the results suggested that social media users involvement with following health and fitness accounts on social media was associated with higher orthorexic tendencies. The urge to follow this benchmark “perfect lifestyle” portrayed

on social media can significantly hamper a person's self-esteem and psychological well-being.

In a recent case, a popular, self-proclaimed nutritionist and Instagram influencer with thousands of followers died due to starvation. According to the doctors, she had not had a cooked meal for several years and was surviving on only raw food products. She had been guiding people on the internet to follow a specific diet in order to look young and healthy. This is just one of the examples out of many, where a person with a pathological obsession with eating healthy had been guiding several others to follow the same path. In a study, higher Instagram use was associated with a greater tendency towards orthorexia nervosa, with no other social media channel having this effect (Pixie G. Turner). Thus, one must be mindful of the things that they follow which are being popularised by their ideals on the internet.

Limitations and Suggestions

There are certain limitations of this study. Firstly, the number of variables included in the study are limited. Many factors or components associated with body image can be included in future research to understand this domain more comprehensively. Secondly, self-report measures used in the study increase the chances of social desirability biases.

Furthermore, the present study was limited to a sample of 200, which would have influenced the study findings. Only correlational analysis was used to find the association between the variables, a more robust statistical approach with other demographical variables can yield in-depth findings. There can be other mediating and moderating variables that be considered as a part of future studies.

Implications

Eating disorders and their potential effects on the mental well-being of individuals can have adverse effects. Understanding orthorexia's relation with body shape concerns among

young adults will help psychologists in the field develop intervention programmes and assist those at risk. In this study as well as in other literature, females have higher orthorexic tendencies as well as body shape concerns. This study can help adopt a multidisciplinary approach where psychologists and nutritionists can develop screening tools, prevention and treatment plans for the selected cohort as well as the population at large.

Conclusion

There are no clear-cut reasons as to why people develop orthorexia and thus it is important to understand the complex sociocultural and biological factors that can lead to the development of Orthorexia Nervosa. The present research is just a step forward in assessing the prevalence of Orthorexia Nervosa and Body Shape concerns among Indian young adults. Looking at the upward curve of Orthorexia Nervosa and Body Shape dissatisfaction, it is crucial to assess the different contributing factors leading to this upward trend. More research is required in this direction to understand the symptomatology of Orthorexia Nervosa so that psychologists are better equipped to assist those who are at risk of developing it or are suffering from it already. Also, psychoeducation about a healthy body and healthy body image must be conducted on college and school campuses.

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