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Original Research Article

Body image dissatisfaction among medical students in the Southern district of Kerala: a cross-sectional study

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ABSTRACT

Background: Body image misconception can lead to behaviors that are detrimental to mental as well as physical health. Body dissatisfaction develops when people have negative thoughts about their body image. In this context, estimating the prevalence of body dissatisfaction would help in providing valuable information about those at risk of developing eating and other psychiatric disorders.
Methods: A cross-sectional study was conducted among undergraduate students studying in a tertiary care government health institution in the southern district of Kerala. Data was collected using an online semi-structured questionnaire and was administered to 200 eligible participants. Data was analyzed using IBM SPSS statistics for windows (version 25.0. Armonk, NY)
Results: Among the 200 participants in the study, 36 (18%) were found to have body image concerns without any significant gender predilection. Dissatisfaction with body image was seen to be more prevalent in those with higher BMI. There was a positive association between body image dissatisfaction and socio-cultural pressure to change body fat levels (p=0.001). It was also found that the tendency to skip meals was more among those with higher body image concerns (p=0.001).
Conclusions: The study concluded that about one-fifth of the study participants comprising medical students have moderate to severe body image dissatisfaction without significant gender predilection. Dissatisfaction with body image was seen to be more prevalent in those with higher BMI. The focus should be on initiating educational programs to promote positive body image, and acceptance of self and individual differences while maintaining optimum weight and active lifestyle.

Keywords: Body image dissatisfaction, Body image, Body mass index, Medical students, Kerala

INTRODUCTION

Body image dissatisfaction (BID) refers to a negative subjective evaluation of one's physical appearance due to the discrepancy between the person's evaluation of their physical appearance and their concept of an ideal body image.[1] It is a multifactorial condition and has 3 main contributors-psychological, physical and sociocultural.[2] Those with higher BMI tends to have more body image dissatisfaction.[3,4] Considering personality factors, those with lower self-esteem are at higher risk of developing body image concerns.[5] Sociocultural factors take the lead in today's scenario because a cultural shift in body image ideals has occurred with the increasing influence of social media. It is becoming progressively more common to compare one's appearance to images in the media and internalize the ideal standards that they represent. Thus, precipitating body image concerns.[6,7] Pressure from

family and friends further perpetuates the idea of a "perfect body image".[8]

Excessive concern about body image and body image misconception leads to dissatisfaction, disturbed eating patterns, and eating disorders, affecting the nutritional status.[9-13] Body image dissatisfaction is also a risk factor for depression and anxiety disorders.[14,15] Hence, identifying the magnitude of body image dissatisfaction would be relevant for the clinical evaluation of those individuals at risk of developing eating disorders, body dysmorphic disorder, substance use disorder, anxiety, and depression. Medical students shouldering both their academic workload and working hours would potentially be at a higher risk. Another important aspect to consider is the proper use of educational programs to inculcate body image positivity in the youth and direct it towards factors contributing to body image dissatisfaction.

In the Indian context, studies on body image dissatisfaction are mainly conducted among adolescents and females. There is a paucity of studies comparing the two genders, especially among medical students. The study aims to determine the proportion of body image dissatisfaction among medical students in a college in Kerala and the association between body image dissatisfaction and BMI, eating habits, physical activity, sociocultural pressure from family, peers, and media.

METHODS

This cross-sectional study was conducted among the undergraduate medical students at Government medical college, Thiruvananthapuram in Kerala, a state in south India from February 2021 to March 2021. A sample size of 193 was obtained based on the prevalence of 33.33% (based on the study conducted by Priya et al.[16]) and relative precision of 20% at 95% confidence level. We decided to collect data from 200 students. Data was collected using an online semi-structured questionnaire. The questionnaire was programmed into a web-based application, Google Forms, as face-to-face interview was not possible due to COVID 19 pandemic situation. The link for the same was shared with 1300 medical students via the online platform. Responses were collected until the sample size was met excluding those with missing/incomplete data. Then the 200 collected data meeting eligibility criteria were reviewed and considered for analysis.

The data collection tool used was the Body Shape Questionnaire (BSQ) 16B: The full version of BSQ is a self-report questionnaire originally comprising 34 questions measuring the extent of concern about body shape and has been validated in the Indian population.[17,18] The questions referred to the participant's state over the past 4 weeks and are answered on a 6-point LIKERT scale from "never" to "always". Higher values on the BSQ indicate more body dissatisfaction. The BSQ 16B is the short version of the BSQ and consists of 16 questions extracted from the full version. The short version has been examined and validated in Britain among British women of three ethnic groups (Caucasian, Afro-Caribbean, and Asian).[19] The body image dissatisfaction severity is categorized based on cut-off values into no concern (score less than 38), mild, moderate, and severe concern (score more than 66). The questionnaire also included questions regarding the basic socio-demographic details, socio-cultural influence, eating habits, and physical activity. Statistical analysis was performed using IBM SPSS Statistics for Windows (Version 25.0. Armonk, NY). The mean BSQ score was determined and categorized into no, mild, moderate, and marked concern. The proportion of undergraduate students in each category was computed and compared with other factors using the Chi-square test and the odds ratio was estimated for statistically significant associations. Logistic regression was done to identify potential risk factors and to estimate the adjusted odds ratio.

RESULTS

Among the 200 study participants, 51.5% (103) were male and 48.5% (97) were females. The mean age of the participants in the study was 20.84 years (SD±1.70). The mean body mass index of study participants was 22.14 (SD±3.30), with the mean BMI of male participants being 22.67 (SD±3.35) and that of the female participants being 21.58 (SD±3.17). The majority (61%, N=122) of the study participants were in the underweight to normal category, while the remaining 39% (78) made up the overweight to obese category. The mean BSQ 16 B score was estimated to be 35.89 (SD±16.78). Among the study participants, 64.5% (N=129) had no concern with body shape, 17.5% (N=35) had mild concern with body shape, 10.5% (N=21) had moderate concern with body shape and 7.5% (N=15) had marked concern with body shape. For the purpose of comparison, the participants were divided into two groups based on the BSQ 16 B scores, the first group had moderate to marked concern with their body image, and 36 (18%) study participants belong to this group. About 164 (82%) of the study participants belong to the second group with no to mild concern with their body image. However, on the other side, among the study participants, almost half of the participants (48.5%, N=97) felt pressure to change their body fat level and more than half (52.5%, N=105) felt pressure to get in better shape.

It was also observed that while only 30.5% (61) of the participants felt the need to deliberately skip meals to influence their shape or weight, a stark majority of 92% (184) of the participants felt the need to exercise to attain ideal body image and yet only 21% (42) are on regular exercise. The mean score of BSQ 16 B among males and females was 34.09 (SD±15.81) and 37.80 (SD±17.63) respectively which was not statistically significant. Among male participants, the majority (85.4%, N=88) had no to mild concern while only 14.6% (15) had moderate to marked concern. This was comparable to the

findings among the female participants with 78.4% (76) having no to mild concern. Among the study participants, who had moderate to marked concern about body image, 58.3% (21) were obese or overweight and 34.8% (57) of those with no to mild concern were overweight or obese. This difference was found to be statistically significant with a p=0.009. Of participants with moderate to marked concern for body image, a large proportion felt the pressure to change body fat level (p=0.0001), the pressure to get in better shape (p=0.001), and deliberately skipped meals to influence their body shape or weight (p=0.0001) (Table 1). In binary logistic regression, pressure to change body fat level (p=0.05) and skipping meals (p=0.001) were found to be associated with body image concerns (Table 2).

Table 1: Bivariate analysis of body image dissatisfaction (n=200).

Variables		Body image dissatisfaction		Chi-square value	P value	Odds ratio (OR)	95% CI of OR
		Moderate to marked concern (N=36) Frequency (%)	No to mild concern (N=164) Frequency (%)				
BMI	Over-weight and obese	21 (58.3)	57 (34.8)	6.90	0.009	2.63	1.26 - 5.49
	Normal and under weight	15 (41.7)	107 (65.2)				
Sex	Male	15 (41.7)	88 (53.7)	1.70	0.192	0.62	0.30-1.28
	Female	21 (58.3)	76 (46.3)				
Pressure to change body fat level	Yes	28 (77.8)	69 (42.1)	15.07	0.001	4.82	2.07 - 11.22
	No	8 (22.2)	95 (57.9)				
Pressure to get better shape	Yes	28 (77.8)	77 (47)	11.25	0.001	3.96	1.70 - 9.19
	No	8 (22.2)	87 (53)				
Skipped meals	Yes	30 (83.3)	31 (18.9)	57.81	0.001	21.45	8.22 - 56.01
	No	6 (16.7)	133 (81.1)				
Felt the need to exercise	Yes	35 (97.2)	149 (90.9)	1.63	0.202	3.52	0.45 - 27.58
	No	1 (2.8)	15 (9.1)				
Regular exercise	Yes	9 (25)	33 (20.1)	0.42	0.515	0.76	0.32 - 1.76

Table 2: Results of binary logistic regression for perceived body image.

Factors	Adjusted Odds Ratio	95% confidence interval	P value
BMI	1.64	0.64-4.22	0.305
Pressure to change body fat level	3.34	0.98- 11.32	0.053
Pressure to get better shape	2.8	0.81-9.69	0.105
Skipped meals	24.63	8.64-70.18	0.001

DISCUSSION

The findings of this study are found to be in consonance with several published literature from different settings by Rashmi et al. (19%), Goswami et al (13.5%), Soohinda et al (28%), and Priya et al (33%).[20,21,5,16] Upon comparison of BMI levels of participants with their body image dissatisfaction, it was found that moderate to marked concern was seen more in the overweight and obese categories (58.3%). This is consistent with the findings of studies done among female undergraduate medical students in Tamil Nadu and Mangalore as well as other college-going students, indicating the association of higher BMI with the development of body image dissatisfaction.[11,15,16,21-23]

Several studies conducted in the past had shown a significant influence of gender on body image dissatisfaction. In a study done in Delhi among medical undergraduates, body image dissatisfaction was reportedly high among females with 31% and 22% among males.[13] In another study conducted among undergraduate medical students in Chandigarh, the females scored significantly higher on the BSQ than the males.[22] These findings are found to be contrary to our study findings where the difference obtained is negligible between male and female participants and were not statistically significant. In a study conducted by Sharma et al among undergraduate medical students in Delhi, it was found that males more than females had an abnormal eating attitude and felt the media pressure to attain an

ideal body, the latter being statistically significant.[13] This may be a reflection of a changing trend that now holds males equally prone to develop body image concerns contrary to previous beliefs as a result of the changes in socio-cultural factors and mass media influences. Close to half of the study participants, 48.5% (97) had pressure to change their body fat level and 52.5% (105) of the participants had pressure to get in better shape, though only 18% of the study participants were estimated to have moderate to marked concern with their body image. A positive association was obtained between body image dissatisfaction and sociocultural pressure to change body fat levels and a similar finding, a correlation between body image dissatisfaction and media pressure was reported in studies conducted by Singh et al, Mallick et al.[12,24] This is a worrisome trend as this indicates that the participants who reported to have no to mild concern might fall prey to the body image concerns in near future. This is also supported by the finding that deliberate skipping of meals to influence their shape or weight was reported by 30.5% (N=61) of the study participants and a positive association was found between skipped meals and body image concerns. The same method of skipping meals to lose weight was seen in other studies as well, further strengthening the notion that body image dissatisfaction is a risk factor for developing disturbed eating patterns.[16,23] The changing cultural context, rapid urbanization, and globalization in India have left the young adult population vulnerable to unrealistic body image ideals portrayed in mass media, marketing, and advertising. The body image perception by family and peers also plays an important role in body image dissatisfaction, which altogether in turn may lead to distorted eating attitudes.[14,22,25] The result of which is the body weight concerns and unhealthy weight-changing eating patterns which are reflected in the increasing incidence of eating disorders.[26] The identification of body image dissatisfaction is essential for the early initiation of the intervention program. The medical undergraduate students should be sensitized to the body image concerns and need to be trained to impart the knowledge to younger audiences such as middle-high school students to curb the media influence before any body image ideals are set in.[27,28] Also, the hazards associated with using unscientific methods to attain perceived ideal body weight have to be duly emphasized through educational programs. On the flipside, body satisfaction has been found to be protective against the development of disordered weight control behaviours.[29,30] Also, screening programs for eating disorders need to be imparted in universities for early detection and timely intervention.

Limitations

Limitations of current study were due to pandemic restrictions; the direct examination of the participants was not possible, and BMI was calculated based on weight and height as reported by the participant. Also, a larger sample size would have given more power to the associations obtained in the study.

CONCLUSION

The study concluded that about one-fifth of the study participants comprising medical students have moderate to severe body image dissatisfaction without significant gender predilection. Dissatisfaction with body image was seen to be more prevalent in those with higher BMI. There was a positive association between body image dissatisfaction and socio-cultural pressure to change body fat levels. It was also found that the tendency to skip meals due to sociocultural pressure was more among those with higher concern with body image. The findings obtained in the study shed light on the gravity of the issue among undergraduate medical students and the need for intervention to tackle body image dissatisfaction. The focus should be on initiating educational programs to promote positive body image, and acceptance of self and individual differences while maintaining optimum weight and active lifestyle.

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