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Research Article

Emotionality and Attitude towards Body Size: A Cross-sectional Study among Adults in Mysore City

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ABSTRACT

Obesity not only poses significant physical health risks but also deeply influences emotional well-being and societal acceptance. This cross-sectional study conducted in Mysore city, India, explores the relationship between emotionality and attitudes toward body size. A diverse sample of 444 adults participated, representing various age groups, genders, and socioeconomic backgrounds. Structured questionnaires were used to obtain the data on body weight perception, emotional experiences, and attitudes toward weight loss. Results reveal that though a significant portion of participants (males – 35.4% and females – 41.7%), particularly overweight and obese individuals, express dissatisfaction with their appearance, a prevalent desire to lose exists ($P = 0.001$). However, the actual participation in weight loss programs remains low (male – 21.1% and female – 30.7%), indicating a gap between aspiration and action. Reasons for non-participation include a lack of education on weight management and insufficient motivation. Importantly, participants who did engage in weight loss programs reported high rates (more than 60%) of relapse, with common reasons including reverting to previous lifestyles (males – 67% and fameless – 62%) and lack of motivation (males – 38% and females – 40%). The study suggests a need for more effective weight regulation programs that incorporate education, exercise, and dietary interventions. Governmental and non-governmental efforts, alongside media campaigns, are essential in fostering a supportive environment for sustainable weight management and emotional well-being in Indian populations.

Keywords: Obesity, attitudes toward body size, body weight perception, weight relapse, desire to lose weight

INTRODUCTION

Obesity, a global health concern, extends far beyond its physical manifestations, permeating into the realms of social acceptance, emotional well-being, and personal identity,[1,2] While its physical ramifications are well-documented, including increased risk of chronic diseases such as diabetes and cardiovascular disorders, the emotional toll exacted by obesity is equally significant but often overlooked.[3,4] Existing literature extensively explores the emotional complexities accompanying obesity, revealing a profound impact on individuals' mental health, social interactions, and self-esteem.[5-7]

Among the myriad emotional challenges associated with obesity, perhaps, one of the most pervasive is the burden of societal stigma and social unacceptance.[8,9] Studies consistently document the prevalence of weight-based discrimination and bias in various domains of life, from employment opportunities to interpersonal relationships.[9] Such pervasive stigma not only exacerbates existing mental health issues but also erects formidable barriers to seeking support and treatment for obesity.[10,11]

Obesity is influenced by multiple factors, including dietary habits, emotional health, societal perceptions, food-drug interactions, and even bacteria (Helicobacter pylori) that affect metabolism and appetite.[12-15] Consuming high-calorie, nutrient-poor foods contribute significantly to weight gain.[16] This issue is compounded by the increasing accessibility of processed and fast foods, which are often cheaper and more convenient than healthier options,[17] Emotional eating where individuals consume food in response to stress or other emotions, also plays a crucial role in the development of obesity.[18] Addressing obesity effectively requires a comprehensive approach that considers both the physiological aspects of diet and the psychological factors influencing eating behaviors.

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Moreover, the physical limitations imposed by excess weight contribute to a cascade of emotional struggles, including feelings of inadequacy, embarrassment, and shame.[10,19] Individuals grappling with obesity often find themselves navigating a world designed for smaller bodies, where everyday tasks become arduous and public spaces can evoke a profound sense of discomfort and self-consciousness.[19]

While the impact of obesity on emotional well-being is well-established in Western contexts, its manifestations and implications may vary across different cultural landscapes. In the Indian context, where societal norms and perceptions of body image differ from those in the West, understanding the emotional dimensions of obesity assumes heightened importance.[20] Despite India's relatively lower prevalence of pathological obesity compared to Western countries,[21] the social and emotional ramifications of excess weight remain salient, shaping individuals' self-concept, and interpersonal dynamics.[22]

Against this backdrop, this study endeavors to delve into the nuanced interplay between emotionality and attitudes toward body size among Indian populations. By examining individuals' consciousness of their appearance, desire to lose weight, and engagement with weight loss programs, the research aims to elucidate the emotional underpinnings of body weight perception and shed light on potential avenues for intervention and support. Through a comprehensive exploration of these themes, the study seeks to contribute to a deeper understanding of the emotional landscape surrounding obesity in India and inform targeted strategies for promoting holistic well-being and healthy weight management.

MATERIALS AND METHODS

Study Design

This study employed a cross-sectional design to capture a snapshot of participants' attitudes, emotions, and behaviors regarding body size and weight loss.

Study Population

The study included a diverse sample of Indian adults across different age groups (27–47 years), socioeconomic backgrounds from Mysore city. Participants were recruited through various means, such as community outreach programs, social media platforms, and local health centers, to ensure broad representation.[23]

Method of Data Collection

The data collection for this study was conducted through a questionnaire, which was divided into three key sections: sociodemographic variables, anthropometric assessments, and a comprehensive evaluation of weight management practices, consciousness of body size, and associated emotionality.

The weight management and body consciousness section was further subdivided into three parts. The first part consisted of four binary (yes/no) questions adapted from the Binge Eating Scale Questionnaire,[24] aimed at assessing the participants' awareness and emotional responses toward their body shape. The second part included two questions designed to evaluate participants' desire and belief in their ability to lose weight. Responses to these questions were quantified using a "Likert scale" ranging from 1 to 10, with higher scores indicating stronger desire and belief.[25] Additional questions in this section addressed the participants' history of weight loss and the underlying reasons for any weight relapse.[26]

To ensure the reliability and validity of the questionnaire, a pilot study[27] was conducted prior to full implementation. The pilot study results were analyzed to refine the instrument, and the final version of the questionnaire was then utilized in the study.

Sampling Method

A purposive sampling strategy was employed to ensure adequate representation of individuals across different body weight categories (normal, overweight, and obese) and gender. This approach allowed for the examination of variations in attitudes and experiences based on body weight status.[28]

Sample Size: The sample size for this study was calculated using "Cochran's formula" (1),[29] considering the total population of Mysore city, which is approximately 1,316,460. Assuming an obesity prevalence of 25%,[30] a "confidence level of 95%," and a "margin of error of 5%," the calculation was as follows:

$$\mathrm{n} = Z^2 \quad .P \quad .(1-n)\frac{1}{E^2} \tag{1}$$

Where Z represents the "Z-score for a 95% confidence interval (1.96)," P denotes the "estimated prevalence of obesity (0.25)," and E refers to the "margin of error (0.05)," and E is the "margin of error (0.05)." This resulted in an initial sample size of 289 participants. To account for the finite population of Mysore city, the sample size was adjusted using the finite population correction (FPC) (2):

$$n_{adjusted} = \frac{n}{1+(\frac{n-1}{N})} \tag{2}$$

Substituting N with the total population (1,316,460), the adjusted sample size became 288. To account for potential non-response or dropouts, a 10% increase was applied, leading to a final sample size requirement of 317 participants. However, by increasing the sample size to 444, the statistical power and precision of the study ensured even greater.

Statistical Analysis

Quantitative data collected through the structured questionnaires were analyzed using Statistical Package for the Social Sciences version 27, including Chi-square tests to examine associations between variables and identify significant trends.

RESULTS

Literature provides sufficient references to emotional-related problems accompanying obesity. Mental ill health among obese has frequently been associated with social stigma and

social un-acceptance to disproportionate body size. Physical mobility problems and the related inconveniences also cause emotional problems among obese.[20,31]

Fortunately, Indian populations do not represent higher incidences of pathological obesity. However, overweight and obesity also independently give rise to restricted social mobility and self-consciousness unless the community accepts huge bodies to represent health and prosperity.[32,33] Therefore, information regarding the consciousness of body size and the desire to lose bodyweight and the related factors were elicited from the participants.

Table 1 provides a breakdown of various demographic and lifestyle characteristics of the study participants, along with percentages and counts for each category. The study includes 444 participants, with 161 females and 283 males. The gender distribution is slightly skewed towards females, with around 64% being female and 36% male. The majority of participants fall within the younger age group (27–36 years), constituting about 64% of the total sample.

Table 2 presents an intriguing exploration into the consciousness and emotionality linked to body weight status and appearance, disaggregated by gender. It provides valuable insights into how individuals perceive and react to their own bodies, shedding light on potential differences between males and females in these domains. It is obvious from the results that a considerable percentage of male (35.4%) and females (41.7%) were conscious about appearance although it does not affect their happiness. About 36.4 and 46.6% of overweight and obese men, 44.3 and 51.1% overweight and obese women were conscious about themselves being overweight and obese. However, they opined that they accept and agreed on what their body weight status is; while a small percentage (10.9 and 20.7%) of overweight and obese men and (13.9 and 20.5%) women were unhappy with their appearance. Nevertheless, there was no feeling of shame or disgust regarding their body weight status. Less than 6% of women participants who were overweight and obese mentioned to feel disgusted.

One notable finding is the varying degrees of consciousness about appearance across different body weight statuses and genders. Interestingly, a significant proportion of both males and females report being conscious about their appearance, regardless of their body weight status. However, there is a clear trend indicating that consciousness about appearance

Table 1: Demographic information of the study participants

Variables	Characteristics	Total % (*n*)	Gender % (*n*)	
			Males	Females
		n-444	*n*-161	*n*-283
Age (yrs.)	27–36	64.1 (285)	65.2 (105)	63.6 (180)
	37–47	35.9 (159)	34.8 (56)	36.4 (103)
Marital status	Married	77.9 (346)	66.5 (107)	84.5 (239)
	Unmarried/divorces	22.1 (98)	33.5 (54)	15.5 (44)
Socio-economic status (SES)	Low	26.4 (117)	31.1 (50)	23.7 (67)
	Middle	58.1 (258)	54.0 (87)	60.4 (171)
	High	15.5 (69)	14.9 (24)	15.9 (45)
Weight status-BMI	Normal	36.9 (164)	29.8 (48)	41.0 (116)
	Overweight	30.2 (134)	34.2 (55)	27.9 (79)
	Obese	32.9 (146)	36.0 (58)	31.1 (88)

BMI: Body mass index

Table 2: Consciousness and emotionality associated with body weight status and appearance % (*n*)

Variables	Male *n*-161			Female *n*-283		
	Bodyweight status					
	Normal	Overweight	Obese	Normal	Overweight	Obese
n	48	55	58	116	79	88
Conscious about appearance, but it doesn't affect happiness						
Yes	20.8 (10)	36.4 (20)	46.6 (27)	32.8 (38)	44.3 (35)	51.1 (45)
Disappointment about appearance						
Yes	8.3 (4)	10.9 (6)	20.7 (12)	8.6 (10)	13.9 (11)	20.5 (18)
Feel ashamed and disgust about the appearance						
Yes	-	5.5 (3)	-	-	3.8 (3)	5.7 (5)
Not conscious about the appearance						
Yes	70.8 (34)	47.3 (26)	32.8 (19)	58.6 (68)	38.0 (30)	22.7 (20)

tends to increase with higher body weight status, particularly among females.

An attempt was made to understand the concept and belief among people in general about losing weight and maintain ideal bodyweight. The results clearly indicate that a greater proportion of females (65%) expressed a strong desire to lose weight compared to males (42.2%). It is encouraging to note [Table 3] that majority of overweight (female: 41.8%) and obese (male: 79.8%; female: 79.5%) participants had moderate to strong desire to lose their body weight. As higher percentage of participants were aware of the risks related to excess weight, a considerable percentage of normal weight subjects were also interested to regulate their body weights and had a positive attitude in weight loss programs. Hence, the right type and veracious programs for weight regulation must be provided to encourage and sustain interest to reduce body weight in the general population, more than 90% of overweight and obese participants (58% of overweight males) had moderate to strong desire to lose weight. Contrary to this observation when the subjects were enquired about the actual participation in weight loss programs, only a small percentage mentioned to have attended weight management programs [Table 4].

It is worthwhile to mention that higher percentages of women participants (30% overweight, 49% obese) partook in weight management programs as compared to men (15% overweight, 32% obese). Among these, more than 80% mentioned the program to be successful in weight reduction. Nevertheless, essentially 66.6% of the females and 61.7% of males mentioned to have experienced weight relapse. Participants were asked to provide reasons for weight relapse. "Getting back to previous lifestyle" (males - 67%; fameless - 62%) and "lack of motivation to follow weight loss programs" (males - 38%; females - 40%) was mentioned by majority of the participants. Importantly, the duration to which the weight loss program was followed by the participants was heartening because higher percentages attended for 1 month, 2–4 months and 6 months only.

DISCUSSION

The study shows that both males and females are conscious of their appearance, regardless of body weight, but this awareness tends to increase with higher body weight, particularly among females. Moreover, the data suggest that while individuals may be conscious about their appearance, it does not necessarily equate to a decrease in happiness. A substantial portion of respondents in all categories, albeit slightly higher among males, indicate that although they are conscious about their appearance, it does not affect their overall happiness. This implies a certain level of resilience or compartmentalization in how individuals perceive their appearance vis-à-vis their emotional well-being. This aligns with findings from Dittmar *et al*.,[34] who demonstrated that self-esteem and emotional well-being are not always tied to body image. Similarly, Tiggemann and McCourt[35] found that while body image concerns are prevalent, they do not inevitably result in diminished life satisfaction or happiness, suggesting a complex interaction between body image and emotional health.

The findings suggest that individuals who are overweight or obese tend to exhibit a stronger desire to lose weight in Mysore city, with 79.3% of obese males and 79.5% of obese females expressing a desire for weight loss. Results also reveal a higher belief among them in the success of weight loss programs compared to those with normal weight, regardless of gender. This indicates an awareness among participants about the need for weight management interventions, particularly as body weight status increases. Our observation is consistent with numerous studies suggesting that individuals with higher body mass index are more likely to pursue weight loss, largely due to the perceived health risks of excess weight. For example, Elfhag and Rössner[36] reported that obese individuals exhibit stronger weight loss motivation, driven by both health concerns and societal pressures. Similarly, a study by Okop *et al*.[37] found that a higher proportion of obese individuals, particularly males, were interested in losing weight.

However, it is crucial to note that despite the desire and belief in the success of weight loss programs, there may be barriers preventing individuals from actively engaging in weight loss efforts.[38,39] These barriers could include access to resources, societal pressures, psychological factors, and personal motivations.[38,40,41]

Table 3: Level of desire and belief to lose weight among the participants with varying body weight status % (*n*)

Variables (*n*)	Male (*n*-161)			Female (*n*-283)		
	Normal	Overweight	Obese	Normal	Overweight	Obese
	48	55	58	116	79	88
Level of desire to lose weight						
Strong	8.3 (4)	32.7 (18)	79.3 (46)	13.8 (16)	41.8 (33)	79.5 (70)
Moderate	20.8 (10)	25.5 (14)	15.5 (9)	24.1 (28)	32.9 (26)	12.5 (11)
Low	70.8 (34)	41.8 (23)	5.2 (3)	62.1 (72)	25.3 (20)	8.0 (7)
Chi-square	χ^2=65.328, P=0.001*			χ^2=103.9, P=0.001*		
Belief in the success of weight loss program						
High	22.9 (11)	38.2 (21)	67.2 (39)	25.0 (29)	43.0 (34)	53.4 (47)
Moderate	22.9 (11)	21.8 (12)	27.6 (16)	20.7 (24)	36.7 (29)	39.8 (35)
Low	54.2 (26)	40.0 (22)	5.2 (3)	54.3 (63)	20.3 (16)	6.8 (6)
Chi-square	χ^2=58.919, P=0.001*			χ^2=34.53, P=0.001*		

Table 4: Participation in weight management program and follow-up and reasons for withdrawal-experience of participants

Variables	Male (*n*-161)			Female (*n*-283)		
	Normal	Overweight	Obese	Normal	Overweight	Obese
N	48	55	58	116	79	88
History of participation in weight loss program						
Have you ever participated in a weight loss program?						
Yes	10.4 (5)	18.2 (10)	32.8 (19)	17.2 (20)	30.4 (24)	48.9 (43)
Chi-square		χ^2=8.302, *P*=0.016*			χ^2=23.508, *P*=0.001*	
			χ^2=477.1, *P*=0.001			
Those who participated in a weight loss program only (Total responses: Males-34; female-87)*						
Weight loss successful						
N	5	10	19	20	24	43
Yes	100.0 (5)	80.0 (8)	84.2 (16)	85.0 (17)	91.7 (22)	86.0 (37)
Chi-square		χ^2=1.103b, *P*=0.576			χ^2=0.571a, *P*=0.752	
Weight relapse experienced (Total number: Males-21; female-58)						
Yes	20.0 (1)	87.5 (7)	81.2 (13)	58.8 (10)	81.8 (18)	81.1 (30)
Chi-square		χ^2=8.413b, *P*=0.015			χ^2=3.711a, *P*=0.156	
Reasons for weight relapsing according to participants **						
Getting back to previous lifestyle						
Yes	-	57.1 (4)	76.9 (10)	60.0 (6)	61.1 (11)	66.7 (20)
Chi-square		χ^2=1.292b, *P*=0.524			χ^2=0.226a, *P*=0.893	
Coping with depression and stress/anxiety						
Yes	-	14.3 (1)	30.8 (4)	50.0 (5)	16.7 (3)	30.0 (9)
Chi-square		χ^2=1.010b, *P*=0.604			χ^2=3.462a, *P*=0.177	
Influence of family and friends						
Yes	-	-	7.7 (1)	20.0 (2)	-	6.7 (2)
Chi-square		χ^2=0.646, *P*=0.724			χ^2=4.010, *P*=0.135	
Lack of motivation to follow the weight loss regimen						
Yes	100.0 (1)	42.9 (3)	30.8 (4)	30.0 (3)	38.9 (7)	43.3 (13)
Chi-square		χ^2=1.988b, *P*=0.370			χ^2=0.564a, *P*=0.754	
Duration of participation in the weight loss program***						
<than 1 month	40.0 (2)	20.0 (2)	52.6 (10)	50.0 (10)	25.0 (6)	25.6 (11)
2–4 months	20.0 (1)	20.0 (2)	21.1 (4)	30.0 (6)	33.3 (8)	34.9 (15)
6 months	-	50.0 (5)	10.5 (2)	-	20.8 (5)	11.6 (5)
1 year	40.0 (2)	10.0 (1)	15.8 (3)	20.0 (4)	20.8 (5)	27.9 (12)
Chi-square		χ^2=9.650b, *P*=0.140			χ^2=7.733a, *P*=0.258	

*Percentages are based on the number of participants who responded positively to participation in the weight loss program. **The total number in each weight category reflects those who reported experiencing weight relapse for various reasons. ***Represents the participants who gave positive responses regarding their participation in the weight loss program.

Interestingly, gender differences in weight management were observed, with more females (30.7%) participating in weight loss programs compared to males (21.1%). This trend has been documented in various studies, such as Ball and Crawford,[42] who reported that women are more likely to engage in dieting and weight loss behaviors due to a greater emphasis on physical appearance. In contrast, men often exhibit lower levels of engagement in weight loss programs, which can be attributed to different social and cultural pressures regarding body image. Furthermore, the differences observed between genders highlight the importance of gender-sensitive approaches in designing and implementing weight management interventions. Tailored strategies that address the unique needs and challenges faced by males and females may enhance the effectiveness of such program.

Despite the desire for weight loss, a large proportion of participants experienced weight relapse (more than 60%). This mirrors findings from Wing and Phelan,[26] who reported that weight regain is a common issue even after successful initial weight loss. Reasons for weight relapse in this study, including returning to previous lifestyle habits and lack of motivation, reflect barriers seen in other studies. These challenges are often exacerbated by a lack of long-term support, as research has shown

that weight maintenance requires sustained behavior changes, including continuous diet and exercise modifications.[43]

The short duration of participation in weight loss programs observed in this study is another important factor. Similar to findings by Svetkey *et al*.,[44] participants in short-term weight loss interventions often struggle to maintain the results over time. Comprehensive and longer-term interventions, which include behavioral therapy and consistent follow-up, have been shown to produce better results in maintaining weight loss over time.

These results explicitly show the lacuna in the weight regulation programs available in the community. Literature provides abundant evidence regarding the characteristics of effective weight regulation programs that can offer sustainable weight loss. A combination of programs for exercise and diet modulation supported by education is essential to bring about a holistic behavior change among people to achieve successful body weight regulation,[45-47] Hence, the unsuccessful weight loss programs as reported by the participants and obvious from our results and may be due to lack of education regarding weight management. A sincere introspection of the programs offered for weight regulation has to be done by organizations offering the programs. Government and mass media should also consider themselves responsible to deliver information to sensitize population regarding the importance of behavioral changes, diet modification, and exercise under health programs.

CONCLUSION

The findings underscore the complex interplay between body weight perception, emotional states, and attitudes toward weight loss among Indian populations. Despite a notable portion of participants expressing dissatisfaction with their appearance, there was a prevalent desire to shed excess weight, particularly among overweight and obese individuals. However, the discrepancy between desire and actual participation in weight loss programs highlights existing gaps in the efficacy of available interventions. Addressing these gaps necessitates a comprehensive approach that integrates education, behavioral modification, and societal sensitization toward healthy lifestyle practices. Efforts by both governmental and non-governmental organizations, alongside media campaigns, are crucial in fostering a supportive environment conducive to sustainable weight management and emotional well-being.

ETHICAL APPROVAL

The study received approval from the Institutional Human Ethics Committee for Human Research (IHEC) at the University of Mysore, under reference number IHEC-UOM No. 148/Ph.D./2016-2017.

CONFLICTS OF INTEREST

The authors declare no conflict of interest related to the publication of this manuscript.

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