



Original Research Article

PERCEPTION OF BODY IMAGE AND ASSOCIATION WITH UNHEALTHY LIFESTYLE PRACTICES IN YOUNG ADULTS AGED 18-25 YEARS: AN OBSERVATIONAL STUDY

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ABSTRACT

Background: Body image is perception, a combination of thoughts and feelings, one have about their own body. Sometimes our body image is not in accordance to how we expect it to be and this can lead to low self-esteem and body dissatisfaction, which may further expedite to abnormal lifestyle practices.

Material and Methods: A cross-sectional study was done in May to assess perception of body image and association with gender, nutritional status (based on BMI) and unhealthy lifestyle practices in young adults aged 18-25 years. A semi structured questionnaire; which consisted of socio-demographic profile, 19 item Body Image Questionnaire (BIQ), International Physical Activity Questionnaires-short form (IPAQ-SF) and Short Evaluation of Eating Disorders (SEED); was sent through online google forms in general population who sufficed inclusion criteria using Snowball technique until the calculated sample size of 110 was met. Data was analyzed and the mean BIQ scores were compared between groups using independent sample-t and ANOVA tests.

Results: Mean age was 20.5±1.10 years with 63.8% females and 36.2% males. Mean BIQ score was 64.9±7.94 and results revealed body image had significant association with anorexia (p<0.001) and bulimia nervosa symptoms (p=0.001) but insignificant association with gender (p=0.111), nutritional status (p=0.400) and physical activity (p=0.942).

Conclusion: Young adults with lower body satisfaction were found to be having symptoms of eating disorders.

Key Words: Body image, physical activity, eating disorders.

INTRODUCTION

Body image is the how an individual perceives their own body and consequently how they feel about it. It not only includes their body shape and sizes but also focuses on height, weight, hair, skin or any scars they might have on their body. According to the National Eating Disorder Association (NEDA),^[1] a range of experiences, beliefs, generalizations, all of these contribute to body image.

A positive body image helps in developing a feeling of fulfilment and hence body satisfaction, as opposed to this a negative body image has currently

become a large cause of concern causing eating disorders, body dysmorphic disorder, depression, suicidal tendencies etc. According to some studies,^[2] 35%-81% girls and 16%-55% boys feel dissatisfied with their body, this means dissatisfaction is common in both female and male genders. A review,^[3] done in 2019 tells us that this dissatisfaction rather persists throughout a person's life but the 2022 review,^[4] highlighted that awareness and prevention programmes can help reduce body dissatisfaction.

People can change their body shape and sizes by doing exercises or doing some changes in this lifestyle pattern. Hence we can say that one's body

image perception is related to that person's physical activity and eating habits. According to a research done in 2015 it was found that people who exercise for functional reasons tend to improve body image. Moreover a research done in the state of Victoria,^[5] over 3 years to study the predictors of new eating disorders in adolescent cohort it was found that some of the female and male participants had partial syndromes of eating disorders.

Hence this study was done to assess body image perception and its relation to physical activities and some of the prevalent eating disorders. For this purpose principally we used a 19 item Body Image Questionnaire (BIQ).

Objectives

Primary objective

1. To assess the perception of body image among young adults aged between 18 years and 25 years.

Secondary objectives

1. To compare the perception of body image among males and females.
2. To compare the perception of body image among the study participants based upon their nutritional status.
3. To evaluate the association of body image perception with unhealthy lifestyle practices like physical activity and dietary behavior.

MATERIALS AND METHODS

A cross sectional observational study was conducted among the general population of young adults aged between 18-25 years of India in the months of August and September 2022 after the approval of the institutional ethics committee. The subjects were fully informed regarding the purpose of the study. The body image survey was done using a semi-structured questionnaire through google forms for obtaining information. The forms were sent out in the general population who sufficed the inclusion criteria. The participants were asked for their consent before they filled the questionnaire (Consent form). The responses were collected and data was then interpreted based on the responses we got.

Sample Size Calculation

Based on the observational study,^[6] conducted at Noida, India in 2020 which showed the standard deviation (SD) of 8.106 based on body image questionnaire which was used in this study, sample size was calculated at 95% confidence levels, 5% α error and 20% relative precision.

Sample size equal to $(Z\alpha)^2 (SD)^2 / d^2$; $SD=8.106$, $d=20\%$ of $SD=1.62$

Sample size was calculated to be 96 participants, making an allowance of 10% non-response rate the sample size was proposed to include 106 participants which was rounded up to 110 participants in the study.

Selection Criteria

Inclusion Criteria:

- Anyone aged between 18 to 25 years irrespective of gender.
- Participants who were able to understand and answer the given questions properly.

Exclusion Criteria

- Illiterate people
- Participants who refused to take part in the study, or did not complete the questionnaire.

Sampling Technique

Snowball sampling technique was used to collect the responses from study participants to meet the required sample size.

Study Instruments

A body image survey was done using a semi-structured questionnaire through google forms for obtaining information. It was distributed among the participants aged between 18 and 25 years.

- The first section of the survey questionnaire was regarding the identification particulars and socio demographic profile of the study participants.
- The second section was a 19 item Body Image Questionnaire⁷ (BIQ) to assess the body perception of the participants. It consisted of 19 bipolar items of opposite meaning where participants needed to rate the frequency of their body feelings on all of the dimensions listed. The total score varied from 19 to 95; a high score corresponding to Body Satisfaction.
- The third section of the questionnaire comprised of following 2 parts:
 - The International Physical Activity Questionnaires - short form⁸ (IPAQ-SF) comprised a set of 4 generic items to evaluate the physical activities in the last 7 days.
 - The Short Evaluation of Eating Disorders⁹ (SEED), for assessment of the key eating disorders symptoms, which used six items and allowed the calculation of two severity indices for anorexia and bulimia nervosa symptoms.

Statistical Tools

- The collected data was entered into a MS excel sheet and analysis was done using SPSS 23.0 version.
- Descriptive statistics was employed to summarize the quantitative data such as age, and standard deviation was calculated as a measure of variation.
- Qualitative variables were expressed as percentages.
- The mean and standard deviation was calculated for the score obtained from BIQ.

To compare the means of independent groups, independent sample t test was employed.

RESULTS

A total of 116 participants were included in the final analysis and the body image perception was

assessed. Of the total, majority were in the age group of 18-21 years i.e. 86.2%; remaining were in the age group 22-25 years (average age as 20 years); 63.79% were female and the remaining 36.2% males (F:M ratio is 7:4). A greater part of them were undergraduate making them 93.96% and 87.9% were Hindu by religion. [Table 1]

The body image perception scores were calculated using the responses collected from the 19 item BIQ according to which higher the score, higher the body satisfaction. The score ranged from a maximum of 88 to a minimum of 40. The mean body image (BIQ) score was 64.94 ± 7.937 . [Figure 1]

The participants were then grouped based upon their nutritional status using the WHO Classification for obesity. The body satisfaction perceived by males and females were compared and also between the groups based upon their nutritional status. Mean body image score in females came out to be 64.05 ± 8.002 and in males it came out to be 66.50 ± 7.668 . Among the 74 female (63.8%) and 42 male (36.2%) participants there was no significant association between body image scores with their gender (p value=0.111). The participants were divided into different nutritional status categories based on their BMI and mean body image scores were calculated for each category, 12 were underweight (10.3%) and mean score of 64.75 ± 7.238 ; 81 normal (69.8%) and mean score of 65.42 ± 6.741 ; 17 overweight (14.7%) and mean score of 64.65 ± 11.225 and 6 obese (5.2%) with mean score of 59.67 ± 12.879 . Based on the data there was no significant association between body image scores and nutritional status of the participants (p value=0.4) (Table 2).

Later we compared mean body image score to physical activity using the responses collected from IPAQ-SF which divides physical activity into 3 categories- High, Moderate and Low. Participants were categorized accordingly; 35 had high physical activity (30.2%) and mean score of 65.26 ± 8.624 ; 58 had moderate physical activity (50%) and mean

score of 64.69 ± 7.921 ; 23 had low physical activity (19.8%) and mean score of 65.09 ± 7.173 . There was no statistically significant association between mean body image score and physical activity (p value=0.942). [Table 3]

Lastly we compared mean body image score with eating disorders in accordance to the results we got from the SEED questionnaire. In case of anorexia nervosa 77 participants (66.37%) had no symptoms and a mean score of 67.26 ± 6.705 , 37 participants (31.89%) had mild symptoms and a mean score of 59.97 ± 7.935 while 2 participants (1.72%) who had symptoms that met the criteria for diagnosis were found to have a mean score of 57.5 ± 4.849 , we found statistically significant association between mean body image score and anorexia nervosa (p value<0.001). In case of bulimia nervosa 70 participants (60.34%) had no symptoms and a mean score of 66.43 ± 7.482 , 38 participants (32.75%) had mild symptoms and a mean score of 64.21 ± 7.902 while 8 participants (6.89%) who had symptoms that met the criteria for diagnosis were found to have a mean score of 55.38 ± 4.838 , we found statistically significant association between mean body image score and anorexia nervosa (p value=0.001). [Table 4]

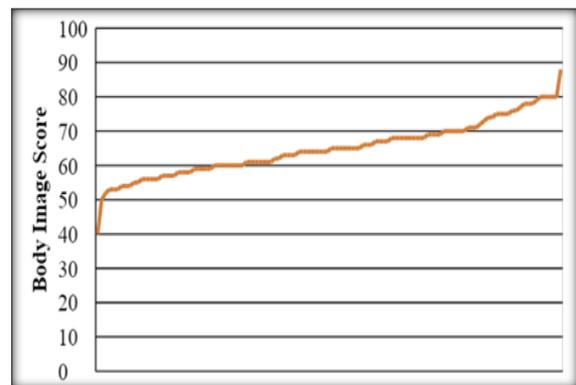


Figure 1: Line graph showing Scores of Body Image Perception among study participants

Table 1: Distribution of Socio-demographic details of study participants

| General Characters | Number(N) | % |
|-------------------------|------------|------------|
| A.Age (in years) | | |
| 1. 18-21 | 100 | 86.2 |
| 2. 22-25 | 16 | 13.8 |
| B.Gender | | |
| 1.Female | 74 | 63.8 |
| 2.Male | 42 | 36.2 |
| C. Religion | | |
| 1. Hindu | 102 | 88 |
| 2.Christian | 7 | 6 |
| 3. Muslim | 7 | 6 |
| D.Education | | |
| 1. High School | 6 | 5.2 |
| 2. Undergraduate | 109 | 93.96 |
| 3. Postgraduate | 1 | 0.9 |
| E.Working | | |
| 1. Student | 110 | 94.9 |
| 2. Intern | 2 | 1.7 |
| 3. Currently Employed | 2 | 1.7 |
| 4. Currently Unemployed | 2 | 1.7 |
| Total | 116 | 100 |

Table 2: Comparison of Mean Body Image Score based on Gender and Nutritional Status of study participants

| Characteristics | N(%) | Body Image Score Mean \pm SD | p value |
|---------------------------|-----------|--------------------------------|---------|
| Gender | | | |
| Female | 74(63.8%) | 64.05 \pm 8.002 | 0.111 |
| Male | 42(36.2%) | 66.50 \pm 7.668 | |
| Nutritional status | | | |
| Underweight | 12(10.3%) | 64.75 \pm 7.238 | 0.4 |
| Normal | 81(69.8%) | 65.42 \pm 6.741 | |
| Overweight | 17(14.7%) | 64.65 \pm 11.225 | |
| Obese | 6(5.2%) | 59.67 \pm 12.879 | |

Table 3: Association between Mean Body Image Score and Physical Activity

| Physical Activity Category | N(%) | Body Image Score Mean \pm SD | p value |
|----------------------------|-----------|--------------------------------|---------|
| High | 35(30.2%) | 65.26 \pm 8.624 | 0.942 |
| Moderate | 58(50%) | 64.69 \pm 7.921 | |
| Low | 23(19.8%) | 65.09 \pm 7.173 | |

Table 4: Association between Mean Body Image Score and Eating Disorders among study participants

| Anorexia nervosa | N(%) | Body Image Score Mean \pm SD | p value |
|--------------------------------------|------------|--------------------------------|---------|
| Symptom not present | 77(66.37%) | 67.26 \pm 6.705 | < 0.001 |
| Symptom is mild | 37(31.89%) | 59.97 \pm 7.935 | |
| Symptom meets criteria for diagnosis | 2(1.72%) | 57.5 \pm 4.849 | |
| Symptom is extreme | none | none | |
| Bulimia nervosa | | | |
| Symptom not present | 70(60.34%) | 66.43 \pm 7.482 | 0.001 |
| Symptom is mild | 38(32.75%) | 64.21 \pm 7.902 | |
| Symptom meets criteria for diagnosis | 8(6.89%) | 55.38 \pm 4.838 | |
| Symptom is extreme | none | none | |

DISCUSSION

An individual's body image is a complex construct that encompasses their perception of themselves (perceptual body image), their emotions and feelings regarding their body (affective body image), their thoughts and cognitive perception of their body (cognitive body image) and the behaviors that stem from their body image (behavioral body image). The self esteem and confidence of a person is tightly knot to their body image due to which it can positively or negatively affect them.

The aim of the study was to assess the perception of body image among young adults aged between 18 years and 25 years using the 19 item body image questionnaire by Bruchon-Schweitzer (1987). Out of 116 participants majority belonged to the 18-21 years age group and were females (63.79%). Majority of them were Hindus (87.9%) and were undergraduate students. A similar study done at the University of Estado de Minas Gerais (UMEG),^[10] consisted of 100 students, with an average of 26 while in another study that was done in Noida⁶ 150 students participated with equal number of male and female counterparts.

We then calculated the mean body image score which was found to be 64.94 \pm 7.937. The mean score for females came to be 64.05 \pm 8.002 and for males 66.50 \pm 7.668. We also calculated mean scores for different nutritional status categories ranging from 64.75 \pm 7.238 in underweight to 59.67 \pm 12.879 in obese. It was concluded that there was no significant gender and nutritional status difference in perception of body image for males

and females and those who were underweight, normal, overweight or obese. We saw similar results in the Noida 6 study, the mean body image score for females and males were calculated to be 65.33 \pm 8.106 and 67.32 \pm 7.717 respectively which were close to our findings, indicating there is no gender difference body image. The University of Estado de Minas Gerais¹⁰ study also concluded that there was no gender differences in the satisfaction with body image variable. Lady Harding¹¹ medical College, New Delhi, India conducted a study of a total of 191 students, where they found that 25% were underweight, 75% normal and only student was found overweight but none obese, in comparison to which in our study we found 14.7% overweight and 5.2% obese students.

The mean body image scores for people with high physical activity was 65.26 \pm 8624, moderate physical activity was 64.69 \pm 7.921 and low physical activity was 65.09 \pm 7.173. There was not much difference in the body image perception scores of participants belonging to different physical activity categories. Three quarters (77%) of the participants in the study at the Lady Harding,^[11] medical College, New Delhi, India had low physical activity. The major portion the subjects (90.05%) had no concerns related to their bodies. On the contrary we found that 50% of the students in our study were involved in moderate physical activity but in the end there was no discernible link between physical activity and the perception of their physique in both of the studies.

We found statistically significant association between mean body image score and eating

disorders mainly anorexia nervosa and bulimia nervosa. The people who had symptoms that met criteria for diagnosis of Anorexia nervosa (1.72%) had mean body image score of 57.5 ± 4.849 and the people who had symptoms that met criteria for diagnosis of Bulimia nervosa (6.89%) had mean body image score of 55.38 ± 4.838 . A study was undertaken to assess the predisposition of the students towards certain eating behaviors by employing the 26-item eating attitudes test (EAT-26) in the Yasar University,^[12] that involved 554 participants. It was found that 20.9% of the students had an eating behavior disorder. Another study¹³ that was done among female medical students also supports our finding, observed that there was a significant correlation between body image satisfaction and eating disorders. From this data we can say that body image perception of an individual does not correlate to their gender or nutritional status or their extent of physical activity but we discovered that people who had eating disorders were found to have low body image scores and hence poor body image perception.

CONCLUSION

Aim of study was to understand relationship between body image and unhealthy lifestyle practices among young adults.

It was discovered that there was no significant gender and nutritional status difference in perceptions of Body Image for males and females and those who were normal, overweight and obese. Body image perception was not associated with level of physical activity.

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