ASSOCIATIONS BETWEEN ACTUAL AND PERCEIVED WEIGHT STATUS AMONG FEMALE STUDENTS IN KARACHI

Maheen Saleem, Farzana Asar
RLAK Government College of Home Economics, Karachi
maheensaleem95@gmail.com

ABSTRACT

This study aimed at exploring the weight status, self-perceptions of weight and associations between the two among a selected group of female students in Karachi

This research was conducted on 300 female students of R.L.A.K college of Home Economics. Convenient sampling method was used to collect data from May 2017 till June 2017. Students filled questionnaire for the assessment of verbal and visual perception through structured questions and body image, weight managing practices were also answered through questions. Height and weight were measured on calibrated scales. Analysis was done on SPSS version 16 by using descriptive statistics. Pearson Chi square test and independent sample t-tests were applied.

Based on measured BMI; the prevalence of underweight, normal weight and overweight females was 27.7%, 46.7% and 25.7% respectively. Match between "perceptions indicated by choosing sketches" and actual weight category was highest among normal weight subjects (73.6%), followed by underweight (42.2%) and least among overweight subjects (27.2%). Match between "perceptions indicated by choosing words: underweight, normal weight, overweight" and actual weight category was also highest among normal weight subjects (73.6%), but was followed by overweight (39.8%) and least among underweight subjects (39.3%). Fifty seven percent of the underweight, 6.2% of normal weight and 1.5% of the overweight subjects were were trying to gain weight.

This study has explored accuracy of weight related perceptions and weight management practices and the results indicate need for better guidance of female college students in their weight management efforts.

Keywords: weight status, self-perception

INTRODUCTION

The global epidemic of overweight and obesity has now become a major public health problem in Pakistan. The Report on National Nutritional Survey 2011 states that alongside with overweight and obesity, Pakistan is also facing the double burden of underweight, especially in the females of reproductive age (UNICEF, 2011). Obesity is a well-known risk factor for cardiovascular diseases, diabetes and decreased life expectancy, whereas underweight people are at risk for irregular menstruation, weak immunity, osteoporosis (Sirang et al., 2013) and poor psychological health (Ali et al, 2006). Gaining an understanding of the body weight perceptions held by people has important health implications and encouraging people to perceive accurately their weight may be an effective method for managing body weight (Akinpelu et al., 2015).

Wrong perception of one's actual body weight might reduce a person's motivation to lose weight and maintain a healthy weight. Many factors such as age, gender, culture, educational attainment, socio-economic status, and BMI have been reported to influence the way people perceive their body weight in the literature (Akinpelu et al., 2015).

According to the literature, weight has been majorly misperceived all around the world. For example, a research conducted on Italian

adults demonstrated that only 66.4% of the individuals accurately perceived their weight whereas the remaining 33.6% had wrong perception. In this sample, 64.3% of underweight and 93.1% of obese individuals had misperceived their weight. Other studies stated that 46% adolescents of United States (Linder et al., 2010) and 40% Dutch adolescents had wrong perception of their weight (Martin et al., 2010)

In Pakistan, studies have been done on the prevalence of weight status but data on weight perception is still very limited. Literature shows that the overweight and obese adults of Pakistan, demonstrate poor agreement between self-perception and actual BMI with a 73% and 50% misperception amongst the obese and overweight participants respectively (Saleem et al., 2013). Regardless of the fact that whether a person is underweight, normal or overweight, weight perception is an important determinant of nutritional habits and weight management (Warraich et al, 2009). According to another research, which was done on the female university students of Karachi, very few underweight females were actively trying to lose weight, but on the other hand, this shows the poor weight related perceptions in the underweight group. A fairly large part of the normal and overweight groups were not satisfied with their weights which has also been reported for female students in UK and undergraduates in the US (Saleem et al., 2013).

The purpose of conducting this research is to study the assessment and association of weight status with the self-perception of weight status among the students of college and also to assess different weight management methods practiced by these students. Hence, the information obtained from this study might be useful in designing and implementing weight control and nutritional programs, as inaccurate weight perception could lead to practice of wrong weight management methods which drives the person to many health disorders.

METHODOLOGY

This study was conducted to assess the assessment and association of weight status with self-perception of the weight status among the students of R.L.A.K. college of home economics.

The data was collected from the female students of Rana Liaquat Ali Khan College of Home Economics. A total number of 300 female students were questioned. There was no restriction of socio economic level and ethnicity. Convenient sampling method was used to select the students. For the convenience of data collection the questionnaires were filled by the students of RLAK Govt. College of Home Economics.

To collect the data from the students, two data collection tools were used. Firstly, an interview cum questionnaire was used to collect the data. The questionnaire included open-ended questions for the general information of students (name, class, age etc.) as well as closed-ended questions which were related to individual's weight perception and practices. Students were asked to tick what in their opinion were the correct answers to the questions asked. Secondly, the Body Mass Index (BMI) measure of the participants was computed with the weight and height to find the weight status. BMI was calculated by taking weight in kilogram and height in meters. BMI is kilograms over meters squared.

Pre-testing was also carried out after designing the questionnaire to improve its quality and to minimize the errors associated with the questionnaire. Pre-testing was done on 10 students of RLAK college of Home Economics. During the pre-testing the respondents faced few difficulties in understanding and answering the questions asked, hence the format of the questionnaire was simplified.

After correcting the questionnaire the data was collected from the students of RLAK college of home economics over a period of one month, i.e. from April 2017 till May 2017. To collect the data first the questionnaires were filled by the participants and then height

and weight were measured by using calibrated scale for computing their BMI.

The data was entered and analyzed in SPSS (Statistical Package for the Social Sciences), version 16.0, whereas, the graphical and tabular representation was done on Microsoft Office 2013.

The weight status of the students was determined to be the independent variable and the self-perception of weight status (visual and verbal) was the dependent variable. The data was set on "nominal level" for general information, "scale" for height, weight and age, and "ordinal" for categories made.

To assess the weight status the data of Body Mass Index (BMI) of the students was grouped into three categories according to Asian cutoffs of BMI (i.e. "underweight", "normal weight" and "overweight and obese"). Whereas, the visual perception of weight status was assessed by categorizing six body images into "perceived underweight", "perceived normal weight" and "perceived overweight and obese" groups. Likewise, to assess the verbal perception of weight status, the similar three categories were made.

The data was analyzed using descriptive statistics. Pearson Chi-square was applied to find the association between the weight status and self-perception of weight status among the students. Independent sample T-test was used to assess the mean comparison of the two variables. The level of significance determined in the tests was 0.05.

RESULT

The data was collected from 300 female students of Rana Liaquat Ali Khan College of Home Economics to assess the assessment and association of weight status with self-perception of the weight status among the students of R.L.A.K. college of home economics. All the participants were living in Karachi and enrolled in the college. The average age of the participants was 18.5, their age ranging from 15 to 28 years. The mean weight and height of all the students was 53.26 kilogram and 1.58 meters respectively.

Based on the Body Mass Index (BMI), majority of the students, which were 46.70% (n =140 out of 300) were assessed as normal weight. More than one-fourth (27.70%) of the population was underweight and the other quarter (25.70%) of the population was in overweight and obese category. Overweight and obese category contained the least amount of students, even after combining the overweight and obese cutoffs of BMI in a single category. The average BMI of the participants was 21.1 kg/m2.

The perception of their weight status was assessed in two ways, i.e visual and verbal perceptions, because it was observed that participants tend to perceive themselves differently in both categories. Majority of the students considered themselves to be of normal weight in both visual and verbal perception (n= 65.3% and 58.7% respectively). The students perceiving themselves as "normal weight" were more in visual perception as compared to verbal perception. The amount of students who had perceived themselves to be "underweight" were equal (18%) in both types of perception, where as those who thought to be in "overweight and obese" category were less in visual perception (16.4%) than verbal perception(22.7%). Only 49 students considered themselves to be in "overweight and obese" category when they visually perceived themselves, it was the least perceived category.

The actual weight status of the students was compared to the visual perception of their weight status as shown in figure 1, to find the association between them. Among the underweight individuals less than half of the population perceived themselves accurately, whereas majority (52%) of them thought they were of normal weight. Among students who were actually normal weight individuals, a good majority perceived their weight status correctly. Normal weight individuals were more prone to over-estimate their weight status than under-estimate it. Out of the overweight and obese participants only about

a quarter of them perceived themselves as overweight or obese, the rest underestimated themselves. Majority of the overweight and obese individuals (79%) thought themselves to be of normal weight. The association was found to be significant (p-value < .001) between the actual weight status and visually perceived weight status of the students. Moreover, the independent t-test concluded that the mean of visual perception in underweight students was different than that of normal weight students (p-value < .001).

To find out the association, the actual weight status of the students was also compared with the verbal perception of their weight status as shown in figure 2. Within the whole population of underweight participants less than half (39.8%) correctly perceived their weight status whereas majorities were those who considered themselves as normal weight individuals. A high majority of the normal weight population had accurately perceived their weight status (70.7%), only about quarter were those who had either under-estimated or over- estimated their weight. Overweight and obese participants had half of the population who accurately perceived themselves as overweight or obese; the rest of them mostly thought that they had normal weight whereas there were also some who considered their weight to be under weight. The association was found to be significant (p-value < .001) between weight status and verbal perception of weight status among the students.

To find the mean difference between the visual and verbal perceptions of weight status independent sample T-test was applied. The results concluded that the mean of visual perception in underweight students was different than that of normal weight students (p-value < .001). Similarly, the mean verbal perception of underweight and normal weight individuals were also not equal (p-value < .001).

Misperception was identified when the self-perceived weight status did not match the actual weight status of the students. There is a high prevalence of misperception as nearly half of the students misperceived their weight status in both types of perceptions. Participants' misperception was slightly low in verbal perception (43.4%) as compared to visual perception (47%).

Verbal perception of weight status was also compared with weight managing practices, because verbal perception was less misperceived than visual perception. It was found that there was significant association between both variables (p-value < .001). As shown in table 5, the students perceiving themselves to be underweight were mostly trying to gain weight but one-third of them were also those who were not doing anything to manage their weight. None of the underweight perceiving students were trying to lose weight. Among students who thought to have normal weight were equally interested in either maintaining their weight or doing nothing to manage their weight, but there were also one-fourth of them who were trying to lose (n= 46) and gain (n= 11) weight. Overweight and obese perceiving students were most accurate among all as 79% were trying to lose their weight. Only one participant perceiving herself to be overweight or obese was trying to gain weight.

Four different weight managing methods were assessed to determine weight managing practices of those participants who were involved in weight managing practices (n= 285). The most commonly cited methods by all the respondents were managing weight through diet (42%). About one third (31.70%) of them exercised to manage their weight. There were only few who were using supplements or medicines (1.30% and 2.70% respectively) to manage their weight.

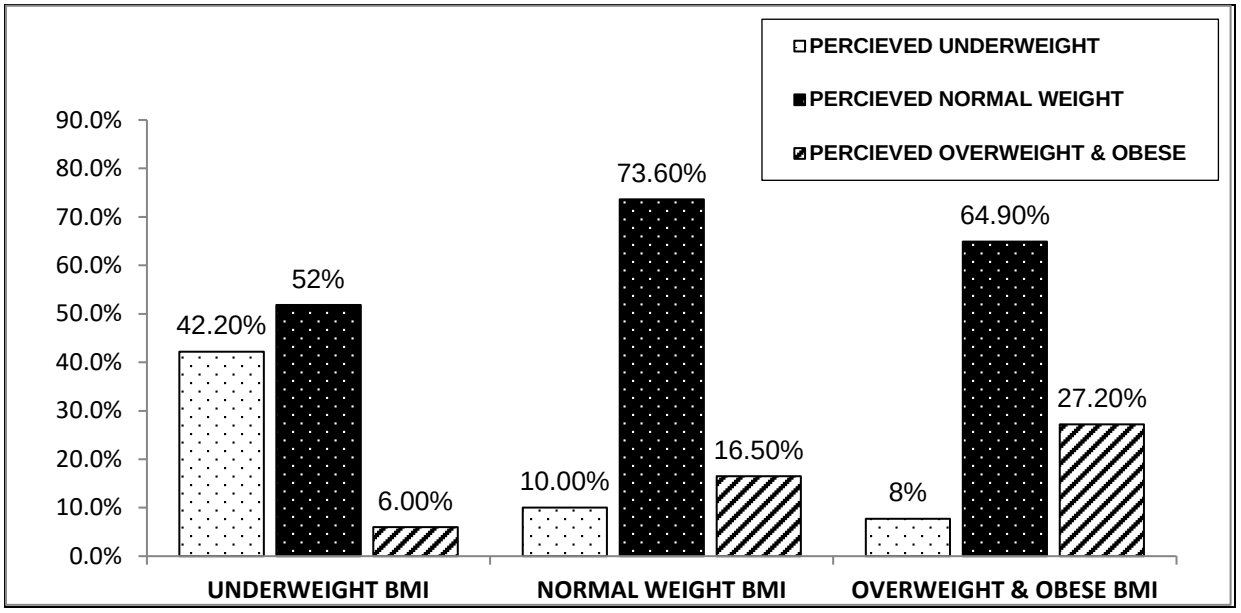

FIGURE 1: ASSOCIATION OF WEIGHT STATUS WITH VISUALLY PERCEIVED WEIGHT STATUS

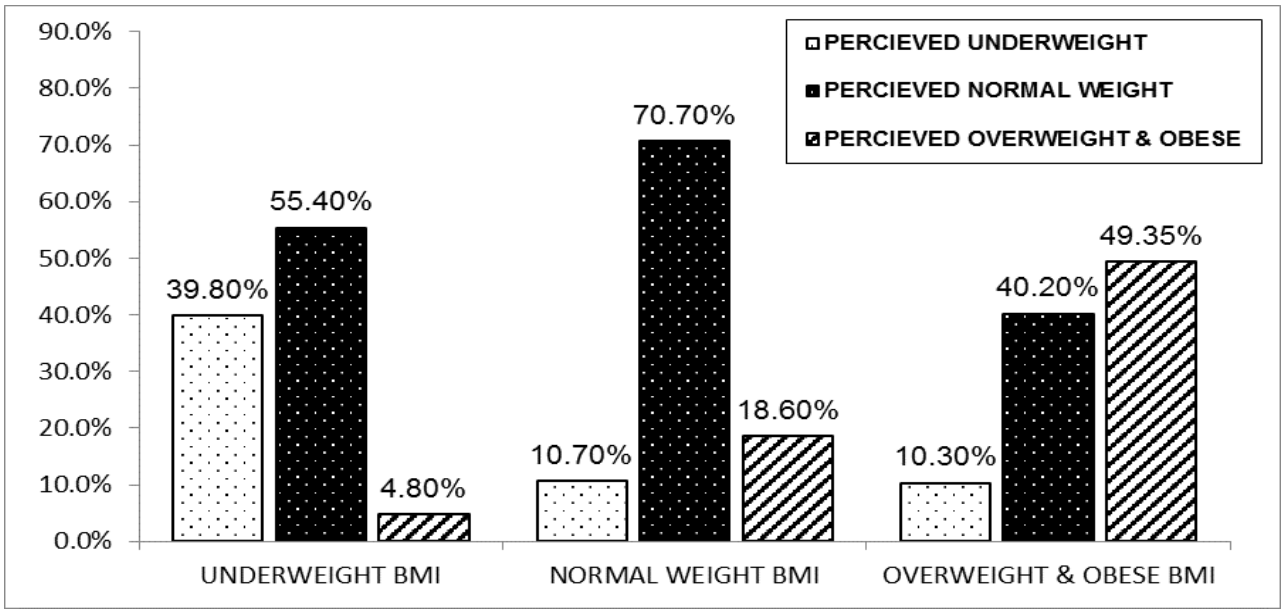

FIGURE 2: ASSOCIATION OF WEIGHT STATUS WITH VERBALLY PERCEIVED WEIGHT STATUS

TABLE 1: ASSOCIATION OF SELF-PERCEPTION OF WEIGHT STATUS AND WEIGHT MANAGING PRACTICES

	UNDERWEIGHT	NORMAL WEIGHT	OVERWEIGHT & OBESE	TOTAL
Trying To Lose Weight	0%	26.1%	79.4%	33.3%
Trying To Gain Weight	57.1%	6.2%	1.5%	14.7%
Trying To Maintain Weight	8.9%	34.7%	7.4%	23.7%
Do Not Worry About Their Weight	33.9%	33.0%	11.8%	28.3%
TOTAL	100%	100%	100%	100%

Discussion:

This study was conducted to assess and associate the actual weight status, self-perceived weight status and weight managing practices of the students of R.L.A.K college of Home Economics. The study revealed that not even half of the population was of normal weight and had high rates of underweight and overweight students. This proved that the National Nutritional Survey 2011 is still accurate in saying that Pakistan is facing the double burden of underweight and overweight ("Policy Brief 41 - Nutritional Status.pdf," n.d.).

The high rates of unsatisfactory weight status is of great concern as it puts the female population at risk of many health problems. Literature concludes that female population does not have realistic perception of their actual weight. Our study give results that both verbal and visual perception of weight status are dependent on actual weight status. Majority of the normal weight individuals did considered themselves accurately, whereas most underweight students overestimated and overweight student underestimated themselves. These results are similar to the results of previous researches, for instance a study conducted on university going female students of Karachi concluded that majority of the normal weight student were correctly perceiving their weight status, also there were many underweight females who overestimated themselves. But the overweight participants were more accurate in perceiving their weight status in that study than this one (Sirang et al., 2013).

Weight misperception was quite high (47%) in this study population. Overweight and obese individuals had highest rates of misperception among all. This means that if overweight students consider themselves to have normal or underweight then they will not even try to lose their weight.

This study also assessed the weight managing practices according to the perceived weight status. It was found that weight perception is very well associated to weight managing practices. This indicates that if the perception is not correct then the individuals will more likely to practice wrong weight managing practices for their actual weight status and can resort to practices which can greatly harm their health. There was a very positive finding that mostly all of the participants in this research were trying to manage their weight either through diet or exercise and were not involved in any extreme practices as reported in literature (López-Guimerà et al., 2013).

This research can be useful in designing and implementing weight control and nutritional programs, as inaccurate weight perception could lead to practice of wrong weight management methods which drives the person to many health disorders. A lot of work is still has to be done in Pakistan on this subject, for example this study as well as others of its kind have all been done only on urban settings, there is no research of this kind found on rural population of Pakistan. Gender diversity is also important along with larger population size.

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