

## Original Research Article

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# Prevalence of overweight and obesity among undergraduate nursing students: thematic analysis on experiences of overweight and obese participants

Shyamala D. Manivannan\*

Faculty of Nursing, Dr. MGR Educational and Research Institute University, Chennai, Tamil Nadu, India

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**\*Correspondence:**

Dr. Shyamala D. Manivannan,  
E-mail: shyamala\_61mani@yahoo.co.in

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## ABSTRACT

**Background:** Overweight and obesity is the growing concern of public health. Obesity is on the rise in adults as well as adolescents. Obesity becomes worse with the transition from the teen years into the young adult years. This study aimed to find the prevalence of overweight and obesity in undergraduate nursing students and conduct thematic analysis of the experiences of participants who were overweight and obese.

**Methods:** Descriptive survey and qualitative approach was used to collect data. Self-reported information on weight and height elicited using descriptive survey to assess the prevalence of overweight and obesity. After obtaining informed consent focus group interviews conducted for overweight and obese participants. Interviews transcribed.

**Results:** SPSS version 17 used for analysis. The mean body mass index (BMI) of the participants was  $21.46 \pm SD 4.17$ . The overweight and obesity prevalence was 11.60% and 5.20% respectively. Thematic analysis yielded several themes like change of place, caring family, support and assurance, shyness and bullying, unpleasant experiences and isolation, hereditary etc.

**Conclusions:** Harmful weight reduction strategies to be prevented through good monitoring, mentoring and by establishing “peer support groups” in nursing colleges.

**Keywords:** Overweight and obesity, Prevalence, Nursing students, Thematic analysis, Peer support

## INTRODUCTION

Overweight and obesity is the most experienced and widely prevalent issue among college students. Overweight and obesity are the predominant factors in predisposing many chronic diseases like diabetes, cardiovascular diseases etc. Earlier, overweight and obesity were the most frequent problem of high-income countries. To the contrary, now the overweight and obesity show a rise even in low- and middle-income countries. Overweight and obesity is the growing concern of public health. The World Health Organization (WHO) addresses overweight and obesity a global epidemic.

About 13% of the world's adult population (11% of men and 15% of women) was obese and 39% of adults aged 18 years and over (38% of men and 40% of women) were overweight in the year 2014.<sup>1</sup> World health organization recommends individuals to maintain body mass index between 18.5 to  $24.9 \text{ kg/m}^2$  to achieve optimum health. Obesity is on the rise in children, adolescents and adults. Obesity becomes worse while emerging into young adults from teens.<sup>2</sup> An elevated body-mass index is related to many risk predisposing factors of coronary heart disease like hypertension, diabetes etc.<sup>3</sup> There is a suggested need for more research to know about the

changes in physical activity, food preferences, and perceptions of people.<sup>4,5</sup>

A review on young women's weight gain, maintained that little is known about the factors determining weight gain in young adult women.<sup>6</sup> Females attach much importance on appearance and are preoccupied with their weight from a very young age. Actually, everyone wants to look good specifically the adolescents and emerging adults. Adolescence and the transition into adulthood are periods of crucial importance in relation to lifestyle habits and skills. This period of life prompts to follow peers and media, specifically in food habits.<sup>7</sup> Girls and young women are at risk for weight-balance issues while moving in to adulthood.<sup>6</sup>

The transition to college appears challenging period where the students will be laying a foundation to emerging adults. Body mass index (BMI) is the most common way of assessing obesity and is a measure of weight that adjusts for height. The pattern of work in nursing is, "on toes all time." Since the time of Florence Nightingale, nurses the hard working health care professionals known for their sincerity and commitment to care patients. Sincerity and commitment alone will not be sufficient to care the patient rather it requires healthy self and adequate energy. As care providers, nurses need to be good fielders in their "caring-ground". Nursing, the caring profession cannot say, "just a minute" excuse since that particular minute may endanger someone's life. Delay in attending patient call is a regular complaint usually heard. Generally, the applicants for nursing profession should be medically fit apart having the qualifying education and percentage; Other qualities set to appreciate may include but not limited to are walk brisk, speak well, smiling face, pleasing personality and good communication skill etc. She should be physically fit to walk brisk throughout and make excellent "run" in emergencies to meet the work-demands and challenges. She needs to be a role model for inculcating health-promoting behavior in her clients. It is important to know the experiences of overweight and obese nursing students' to have a comprehensive base for planning a future course of action that may help and support the individuals. There were many studies conducted on the pattern, determinants and shift influences on weight gain among staff nurses. However, there were few studies about the prevalence of overweight and obesity among nursing students. Further, article search yielded not many qualitative studies. More research is prompted to prevent adult weight gain.<sup>6</sup> The objectives of the study were to assess the prevalence of overweight and obesity among the undergraduate nursing students and conduct a thematic analysis on their experiences of being overweight and obese and the weight reduction strategies used by them.

## METHODS

The study was conducted in college of nursing, MGR Educational and Research Institute University Chennai.

The period of the study was three months between first of March 2017 to end of May 2017. The study had two main objectives: 1. To assess the prevalence of overweight and obesity among undergraduate nursing students by calculating body mass index and 2. To conduct a thematic analysis on the experiences of being overweight and obese. Self-reported information on weight and height elicited using descriptive survey approach to assess the prevalence of overweight and obesity among nursing students. Following which a thematic analysis was conducted on the experiences and weight reduction strategies of overweight and obese participants. Thematic analysis is known for its flexibility. Thematic qualitative analysis is widely used and well accepted by the beginners. Virginia Braun & Victoria Clarke claims that it is a method in its own right.

### **Population**

The population of the study is all nursing students pursuing BSc nursing programme in college of nursing, Dr. MGR Educational and Research Institute University.

### **Inclusion criteria**

All willing BSc nursing students who were available during the study period were included in the study. Using purposive sampling technique the overweight (BMI 25-29.9), obese (BMI 30 and above) and willing participants were included for thematic analysis, the second part of the study.

### **Exclusion criteria**

The participants who were sick and absent for long period, on external clinical placements and those who were not willing to participate were excluded from the study.

### **Data collection**

After a formal permission, undergraduate nursing students' name list obtained from the college. The list had 195 students that included boys and girls. All these nursing students pursuing BSc nursing course under the faculty of nursing in the university located in Chennai. After an open announcement, detailed explanation provided about the study to all students. Informed consent obtained from those interested to participate in the study. Fifteen were on clinical assignments and eight were absent due to sickness. Totally, 172 students enrolled in to the first part of the study. Information on participants' weight and height elicited through self-report. The studies that had used self-report for eliciting information on weight and height, correlated with objectively measured values.<sup>8</sup> Body dissatisfaction tends to rise while on journey into young adulthood.<sup>9</sup> The body mass index (BMI) calculated for all the study participants using the formula, weight in kilograms divided by height in meters squared. Participants' were assigned into

underweight (<18.5), Normal weight (18.5-24.9), over weight (25-29.9) and obesity (30 and above) using world health organization's classification on weight. The researcher invited only those participants who were overweight (BMI 25-29.9) and obese (BMI 30 and above) to take part in the second part of the study.

Approval obtained from the research and ethical committee of the university. Written consent obtained from the participants at two stages of the study. First, for enrolling in to preliminary survey to assess the body mass index of the participants. Second, before the focus group interview for participants identified as overweight, obese, and willing to participate in the second part of the study.

## RESULTS

The statistical package for social sciences (SPSS) software, version 17.0, was used to analyzing the quantitative data collected in the first part of the study. Descriptive statistics was used to examine anthropometric measurements like weight and height. Twenty (11.6%) of the participants were overweight and 9 (5.20%) were obese (Table 1). The mean body mass index (BMI) of the participants was  $21.46 \pm 4.17$ . Out of 29 overweight and obese participants, no male participants (3) turned for focus group interview because they did not want to accept the fact they are overweight and obese. Among female participants, 3 were long absentees and another 3 were not willing since they were shy to get involved in the study. Hence, the remaining twenty (8 from obese category and 12 from overweight category) participated in the second part (qualitative) of the study. A written consent obtained from all the 20 participants with assurance on confidentiality, anonymity and informing their right to withdraw from the study anytime without penalty. The participants were divided in to five groups and each consisted of four participants. As requested by the participants the researcher placed the friends in the same group to help them have a sense of security to enhance interaction. Two faculty members (included the researcher) recorded the interview. The interview with the groups lasted for more than an hour in the office of the researcher who works in the "Faculty of nursing". The aim of qualitative research is to understand experience as unified. Qualitative analysis is not a linear process; it is recursive and should not be rushed. Accordingly, from the time of data collection throughout the process of analysis all the measures applied without breaching the said nature of qualitative analysis. Repeated reading given to the data set to familiarize the interesting content. Codes identified and took greater efforts to put them under themes that emerged. The researcher started the interview with open-ended questions. Two main questions at the start were:

Q1: what is your experience of being overweight or obese?

Q2: What are all the weight reduction strategies you practice?

**Table 1: Distribution of participants based on their weight.**

Weight category	Sex		Total N (%)
	Male N (%)	Female N (%)	
<b>Underweight</b>	4 (2.30)	50 (29.10)	54 (31.4)
<b>Normal weight</b>	12 (7.00)	77 (44.80)	89 (51.70)
<b>Overweight</b>	2 (1.20)	18 (10.50)	20 (11.60)
<b>Obesity</b>	1 (0.60)	8 (4.70)	9 (5.20)
<b>Total</b>	19 (11)	153 (89)	172 (100)

### Themes identified

The collected data corpus repeatedly read to code the data. The codes were put together under suitable themes. There were, several important themes emerged like change of place, caring family, support and assurance, shyness and bullying, unpleasant experiences and isolation, hereditary, home remedies, dieting, recreation and sleep and reasons to stop exercise/walking.

### Change of place

Names of the participants not mentioned to maintain confidentiality.

*Participant 1, "When I was in my house my mother used to take care of me...I was thin. Home is always home. I am in hostel..."* She stated that she was maintaining normal weight until she moved out from her house for higher education; the food cooked by her mother did not increase her weight.

*Participant 4, "When I was in eleventh standard my father was transferred on job to other state; our family went to new place. There no work...inactive, I put on lot of weight..."*

Though high caloric consumption highlighted as the cause to obesity, reduced energy expenditure may also play a role.<sup>10</sup>

### Caring family, support and assurance

Family stands at the forefront in supporting, caring, advocating, and consoling the members when they are worried or frustrated. The researcher could read sparkling confidence and secured feeling when the participants linked the family members:

*Participant 2: I know I am fat. I eat more when food is tasty; I like my mom's food. I eat more.*

*Participant 9: My mother tells eat more...to keep healthy...*

*Participant 3: I have irregular periods... from eighth standard... I am fat. Mother took me to doctors. My aunt said slowly I reduce... This is ok ...I am healthy.* "Participant 7, "When I joined nursing...dad said to my mother, "Do not give work, free her to study. I watch television long time, late night, sleep in class, now I am pumpkin, I feel...sad."

*Participant 14: "My brother advised me reduce... so I will be healthy"*

*Participant 6 said, "...My mom saw me having mouth ulcers...she warned me never drink lemon in empty stomach and no fasting"*

#### **Shyness and bullying**

Some participants expressed that they feel shy to go for buying their dresses.

*Participant 4 said, "I want to purchase dress... shy to tell my size... Many times I returned home, not buy."*

*Participant 7, "I want to wear short dresses, jeans and leggings...my fate, I cannot...feel shy"*

*Participant 12 said, "I am shy to go out...even small children tease..."*

#### **Unpleasant experiences and isolation**

From participants it is evident that they restrict themselves to be among people because they want to avoid the unpleasant experiences.

*Participant 15, "It is difficult to use "share- auto" ... people show face..."*

*Participant 8 says, "My cousins wait me...Stopped visiting relatives ...years. They laugh, mock..."*

*Participant 1 "I want to play with others, but I am isolated."*

*Participant 5 "I don't go out...people laugh..Soon I reduce...I am dieting now."*

#### **Hereditary**

There are studies revealed the intergenerational relationship and estimated that 40–75% of the phenotypic variance of obesity are the responsibility of genes.<sup>11,12</sup> Nevertheless, we cannot deny the influence of the obesogenic environment.

*Participant 5 said, "I feel bad I am fat...most relatives are fat....and me, mom."*

*My mother said, "I will reduce after marriage... it is so in my family."*

#### **Home remedies**

All the participants tried drinking lemon and honey mix in early morning in empty stomach for one week to a month and above. Participants developed some bad consequences because of drinking lemon in the empty stomach. Participant 4 said, "I had severe burning in the stomach and mouth ulcers developed due to lemon drinks...stopped lemon drinks."

#### **Dieting and others**

'Dieting' was a common practice among all the participants. Participants adopted various strategies to diet like reducing the number of meal /day, forgoing the breakfast, consuming less quantity in each meal, eating only two chappathis/meal, etc

Another participant said, "I never took breakfast for more than six months now...just to reduce."

Another participant 6 said "I take 1500ml of butter milk daily and stayed with no food for many days."

Drinking more water to fill the stomach, consuming more buttermilk when hungry are some of the other strategies practiced to cut hunger thereby reduce food intake.

#### **Recreation and sleep**

It was quiet interesting to note that some of the participants used "sleeping for long hours" to reduce weight. The reason stated was sleeping in meal times may help them skip the food. Some of them stated that by spending more time on TV they try to forget hunger and go without eating. Participant 5 said, "I sleep more... to forget food."

Adding to the above in general participants avoided stuff like curds, milk mutton which they believed that increases their weight.

#### **Reasons to stop exercise and walking**

Being nursing students, almost all the student-participants are well aware about the importance of physical exercises. The participants showed interest and adopted physical exercises and sports. One or the other time all study participants chose physical activity as one of the highly appreciable components of weight reduction. Most of them tried "morning-walk" for more than 30 minutes on daily basis. However, due to various reasons some of them have stopped it. Only three of them are continuing it as a measure to keep them healthy though there were no appreciable reductions in their weight. Others go for walking occasionally. Reasons given for stopping exercise and walking were:

*"No use...I stopped... Not showing any reduction."*

*"My knee hurts...still fat. I have Knee and body pain due to walking and exercise."*

*"I feel tired...feel sleepy in classroom..."*

*"I bleed more in my period time"*

Although the participants adopted walking and other physical exercises as an initial measure to weight reduction, they discontinued/stopped these measures due to unseen desired outcomes. . They also reported development of problems like fatigue, knee pain, and back pain because of physical activities like walking and exercises. The most stated reason for not joining Jim and other sports clubs was poor socioeconomic background and unaffordability to pay.

## DISCUSSION

Overweight and obesity prevention cannot occur as a miracle. It needs efforts to modify lifestyle and behavior at the individual level. This also calls for family and social support. It is stated that people suffering from illnesses linked to overweight and obesity are greater in numbers than that from malnutrition and underweight.<sup>13</sup> Most occasions, people do not engage in eating more than the required and the reason is to prevent from overweight or obesity.<sup>10</sup>

The overweight and obese participants of this study came out with many factors that predisposed their weight increase, the weight reduction strategies and the reasons for stopping those. The change of place gives students a feel of "big miss of parents and home, specifically the mother who feeds and nourishes from childhood through adolescence and adult."*...I was thin. Home is always home.*" This is one of the statements that highlighted the influence of family. The emerging adulthood is a risky period for weight gain. College freshmen gain weight at a much higher rate than that of average American adults.<sup>14</sup>

The participants' reported experience on mother's caring behavior, father's concern, brother's advice and relatives' assurance emerged as the theme, "caring family and support. Primomo et al maintained that family relationships to have stronger emotional power in chronic-disease management and outcomes in comparing with social relationships.<sup>15</sup> Parents' effective influence on genes and environments of children facilitate food and eating behavior of children. Family diet, culturally acceptable eating patterns and behaviors in children are influenced by the family.<sup>16</sup> Shyness restricts them to buy or wear the dresses of their choice; due to fear of getting bullied they do not visit friends and relatives. Their unpleasant experiences gave them a feel of social isolation.

Long-term weight control measures may call for the combined efforts from individual and society to modify the environment especially when heredity plays a role.<sup>12</sup> In the present study it is interesting to note that all

the participants showed keen interest in adopting weight reduction strategies. However, their choices of weight reduction strategies were such that may induce many health hazards. Fasting and skipping meals for weight reduction were considered 'red flags' that needs routine assessments.<sup>17</sup>

Participants of the study went without breakfast, filled their stomach with butter milk, slept for longer time and watched TV for longer time to forget their hunger and tried walking and exercising. Many studies talk about adolescent's weight control behaviors. One of the participants of the study stated that she had developed mouth ulcers and burning stomach because of drinking lemon in empty stomach. Nursing students join undergraduate nursing programme at the age of 17 to 18 years and continue to pursue the course till the age of 21 to 22 years. In this emerging adult period change of place is common for the sake of pursuing education. Most students stay in hostel in the campus or outside for their study purposes. It is natural they tend to make many of their own decisions and weight reduction strategies are no exception. Given the complex health issues of transitional ages it is critical to monitor adolescent and young adult health.<sup>18</sup>

Nursing students need to be hale and energetic to meet the work nature of the profession. One of the studies from Jordan had recommended to include physical education in to nursing syllabus for providing optimal setting and to promote health.<sup>19</sup> This study strongly recommends placing mentors who will help in causing awareness on right choice of health promoting strategies in nursing students. The nursing colleges also may have link-dietician from parental or affiliated hospitals to advice on diet for the overweight and obese nursing students. In this current, highly competitive nursing field, "personal health" counts a lot to get jobs. The nursing colleges should come forward to plan "fitness talks" by experts to promote the preparation of "healthy professional nurses" to serve as role models in the society for inculcating health-promoting behaviors. Faw stated that the "social support" is identified as a key element in weight-loss attempts.<sup>7</sup> This study strongly recommends placing mentors to create awareness on right choices for weight reduction and assign "healthy peer groups" to provide psychological and social support in promoting and inculcating healthy behavior among overweight and obese nursing students.

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