

Obesity And Body Image Among Adolescent Female Nursing Students

Nadia Mohammed Fahmy, Hadyat Abd-EL Raouf Amasha, Abeer Elsayed

Berma, Shireen Samy Ibrahim Mohammed

*Professor of Maternity & Gynecological Nursing, Assistant Professor of Maternity,
Gynecologic & Obstetric Nursing Lecturer of Psychiatric Nursing and Mental
Health, Teacher at Nursing Secondary School, Faculty of Nursing, Port Said
University*

ABSTRACT

Background: The adolescents who are overweight or obese are more likely to experience stigma, lower self-esteem and negative body image compared to those with a healthy weight. Adolescents living with overweight or obesity may also be more prone to developing psychological distress, including depression, anxiety, and mood disorders than the general population **Aim:** This study was aimed to assess effect of obesity on body image among adolescent female nursing students. **Subjects and Method:** A descriptive research design was utilized to conduct this study. The study has been carried out on **167** students in the technical secondary schools of nursing in Mansoura city. Three tools were used to collect data: first tool was Structured Questionnaire Sheet; the second one was anthropometric measurement sheet. The third one was Body Appreciation Scale. **Results:** The results of this study showed that, the majority of overweight adolescents have positive appreciation about their body image. **Conclusion and Recommendation:** The majority of overweight adolescents have positive appreciation about their body image. The study recommended that establishing a system of community health services that can cover all aspects of adolescents.

Keywords: Body image, Nursing students, and Obesity

INTRODUCTION

Adolescence is the developmental period between puberty and maturity. It spans the ages between 11 and 20 years, after which a person enters early adulthood (*Rosdahl & Kowalski 2010*). During this period there is some changes occur include physical, psychological, psychosocial and psychosexual changes take place. These changes are exciting and frightening at the same time (*Suraj, 2009*). Obesity is a significant public health problem because of the high prevalence of the condition (*Ogden et al., 2008*). It has become the major nutrition related disease and is define as a condition of excessive body fat accumulation to an extent that increases the risk for complicating diseases(*Catherine & Hilary, 2011*). Body Mass Index(BMI) is used to measure obesity which was classified according to (*AL-Mahroos and AL-Roomi, 2011*) as, overweight (BMI 25-29.9kg/m²) and obese (BMI>30kg/m²).

Overweight is an important risk factor for cardiovascular disease, hypertension and insulin resistance may be present in childhood and adolescence (*Botton et al 2010*). In addition to overweight can increased risk of morbidity and mortality in adulthood (*Berkowitz, 2010*). Also the most common mental health outcome examined in relation to obesity has been depression and low self-esteem (*Luppino et al, 2010*). Body image refers to how the adolescent felt about his body, physical appearance (*Vilhjalmsson et al.,2011*). Also the picture that individuals form of their bodies in their mind. A person's body image is influenced by their beliefs and attitudes. One's body image does not remain the same, but changes in response to lifestyle events(*Duncan et al, 2002*). Some studies suggest that the effect of obesity on psychosocial functioning operate through body image is body dissatisfaction(*Crow et al., 2006*). So that there is relation between obesity, poor body image, body dissatisfaction, social isolation, self –regression, suicide and development of eating disorders (anorexia nervosa, bulimia nervosa)(*EL-Sayed & Galea 2011*).

Significance of the study

The presence of body image dissatisfaction among adolescents is high because of increase the prevalence of obesity among adolescents which reach for 20.5% (*DNPCNCD, 2008*). Our society today portrays a very twisted image of beauty for

men and women of all ages. When adolescents view these images they get torn between their own actual body image and their perceived body image and the result is often devastating. Having a distorted body image among adolescent girls has been linked to the development of psychological effect such as depression and anxiety disorders which commonly occur with anorexia nervosa and low self –esteem. So that, nursing students should be expected to respect & assimilate obesity management strategies because of role modeling healthy behaviors which may positively impact on the patients. So this study will be conducted to assess the effect of obesity on body image among female nursing students.

AIM OF STUDY :

The aim of this study was to assess effect of obesity on body image among adolescent female nursing students.

Research Questions

- 1- What is the level of obesity among student nurses in the studied nursing schools?
- 2- Is their body image among student nurses in the studied nursing schools?
- 3- Is there a relationship between body image and obesity among student nurses in the studied nursing schools?

SUBJECTS AND METHOD:

Research design

A descriptive research design was followed in this study.

Type of Sample:

Purposive sample

Study setting:

The study was conducted in two nursing secondary schools (Academic and Health Insurance schools) in EL-Mansura city namely (Health Insurance hospital nursing school, Faculty of medicine – Mansura University nursing school).

Study subjects:

The study subjects included students in the three grades who studying in the two nursing schools (first, second, and third grades), eighty three students from the first school and eighty four students from the second school (167) students.

Inclusion criteria:-

Female and above 25kg/m²

Sample of the study:-

According to inclusion criteria, the sample consisted of (69) students.

Sampling:-

Sampling of present study was carried out through two phases:-

Phase I:-

Weight and height of all students were measured and categorized according to the formula of BMI by the researcher.

Phase II:-

All students who weight above 25kg/m² were included in the study and categorized into two groups overweight (25-29.9kg/m²) obese (above 30kg/m²).

Tools of data collection:-**TOOL I: Sociodemographic Questionnaire:**

It consists of two parts:

PART 1: It was developed by the researcher. It includes all the related personal data for the students including age, gender, faculty name, residence.

PART 2: It consists of three questions that cover knowledge about obesity, it was developed by the researcher.

PART 3: It included 12 items cover dietary habits such as: eating breakfast, eating fruits daily, intake soft drinks, frequency of fat rich meals intake and watching TV during meal.

PART 4: Nine questions included cover physical activity as the time spent on walking, lifting heavy things, watching TV and using computer and lab.

TOOL II: Anthropometric measurement sheet:

This Quetelet's was developed by *Campbell & Haslam (2010)*. This tool was applied to determine the weight of the students and deciding whether they are normal weight, overweight and obesity. The weight was measured by using bath scale, and height was measured by using a Graded Measuring tape. Quetelet's body mass index was calculated for each subject, using the table for calculated BMI values for selected height and weights for age 16-18.

TOOL II: Body image scale:

Body appreciation scale:-

Body image questionnaire developed by (*Avalos et al.,2012*), included 13 items and was scored by using likert scale with a choice of five answers ranging from never to always answers for each of the 13- items.

The photographic Figure Rating Scale:-

This scale was developed by (*Tovee & Cornelissen,2014*),it consisted of 10 figure, ranging from extremely thin to extremely fat. Students were asked to choose the figure that, they perceived as most accurately depicting their current body size and the figure that, they considered to be their ideal.

Pilot Study:

The pilot study was carried out on 10% of the total sample(N=69),for evaluating the reliability and applicability of tools , estimating the proper time required for answering the questionnaire, and exploring any problem that might interfere with the data collection . After obtaining the results of pilot study , no modifications were needed.

Method of Data Collection:

The researcher visited first school (nursing school in health insurance hospital) for 3days a week to assess weight and height of students in each grade , as well as ,in separate day she determined students with obesity. BMI was calculated to identify students with obesity. The researcher met students included in the study in each grade in both schools, in their class rooms for explaining them the purpose of study and distributing tool (I) to assess socio-demographic data, knowledge about obesity associated health risks and practices of students nurses trying to lose weight and maintain weight loss. Students were given tool(II)(BAS)to assessment their body image. The researcher distributed tool (III)(BFRS)to select ideal body. The researcher clarified any questions asked by students, and they were given half-hour to answer the tools. First day spent for collecting data from the students who were absent during past days. Second day : the researcher collected data from students in the second school(nursing school of medicine faculty), following the same research pattern.

Administrative Design:

Before starting any step in the study, An official permission was taken from the dean of the faculty of nursing in Port Said University to the directors of the technical secondary schools of nursing in EL-Mansoura city, to ensure their cooperation and permission after an explanation of purpose and objectives of the study.

Ethical Considerations:

The aim of the study has been explained to directors and students at schools before asking students to participate in the study, stressing on the confidentiality of the collected data. The researcher emphasized that participation were absolutely voluntary and each student had all rights to withdraw from the study at any time with no questions asked as well as confidentiality was assured.

Statistical Analysis:

Data were entered into the SPSS software program (version 18.0). Findings were presented in tables. Both descriptive and inferential statistics were used such as mean, percentage, standard deviation, Chi-Squire, and Spearman Rho correlation coefficient. The statistical significant difference was considered when P-Value \leq 0.05.

RESULTS :

Table (1): It proved that more than three quarters of the current perceived body image of the group 79.7% was thinner. The most of the body image preferred to self of the group 98.6% was thinner. The most of the body image preferred to other sex of the group 95.7% was thinner.

Table (2): shows that, the vast majority of overweight group 92.6% they have positive appreciation about their body image. There was no statistically significant differences between both groups regarding the score of BAS.

Table (3): Demonstrated that 43 students of studied group reported that they have family history of obesity. There was statistically significant differences between both groups regarding BAS score and their family history of obesity $p=0.003$.

Table (4): shows that 100% who reported that their perceived body image as fatter have positive appreciation about their body. There was no statistically significant differences between both groups regarding perceived body image and BAS.

Table (5): Illustrates that no statistically significant correlation between body appreciation and body image dissatisfaction.

Table (1): Perceived body image among studied adolescent female nursing students n=(69)

Perceived body image	Studied adolescents (n=69)	
	No.	%
Current perceived body image		
Perceived thinner	55	79.7
Perceived as actual	10	14.5
Perceived fatter	4	5.8
Body image Preferred to self		
Perceived thinner	68	98.6
Perceived as actual	0	0.0
Perceived fatter	1	1.4
Body image Preferred to other sex		
Perceived thinner	66	95.7
Perceived as actual	1	1.4
Perceived fatter	2	2.9

Table (2): Body appreciation score among a studied adolescent female nursing student N=(69)

Total score of BAS	Studied adolescents (n=69)				Significant test
	Overweight (n=54)		Obese (n=15)		
	No.	%	No.	%	
Negative appreciation	1	1.9	0	0.0	
Middle appreciation	3	5.6	4	26.7	
Positive appreciation	50	92.6	11	73.3	
Min-Max	18-61		31-65		t=0.795
Mean ±SD	49.1±9.8		47.1±11.6		P=0.429

Table (3): Relationship between body appreciation with medical and family history among studied adolescent female nursing students N=(69)

Medical and family history	BAS of studied adolescents (n=69)		Significance
	N	Mean \pm SD	
Suffering from chronic diseases			
No	10	44.2 \pm 11.4	t=1.389
Yes	59	49.1 \pm 10.0	P=0.169
Previously Suffering from diseases			
No	66	49.1 \pm 9.7	t=2.907
Yes	3	32.3 \pm 12.4	P=0.005*
Family history of chronic diseases			
No	46	49.2 \pm 10.4	t=1.091
Yes	22	46.3 \pm 10.3	P=0.279
Family history of obesity			
No	43	51.5 \pm 7.7	t=3.152
Yes	26	43.2 \pm 11.9	P=0.003*
Family member suffers from obesity			
Mother	21	42.9 \pm 12.2	t=0.421
Father	5	45.8 \pm 13.5	P=0.678

Table (4): Relationship between perceived body image and body appreciation among studied adolescent female nursing students

BAS score	Perceived as thinner (n=55)		Perceived as true image (n=10)		Perceived as fatter (n=4)		Significance
	No.	%	No.	%	No.	%	
Negative appreciation	0	0.0	1	10.0	0	0.0	F=1.942 P=0.153
Middle appreciation	4	7.3	3	30.0	0	0.0	
Positive appreciation	51	92.7	6	60.0	4	100.0	
Min-Max	41.5-100.0		27.7-93.9		63.1-92.3		
Mean ±SD	76.4±14.3		65.5±21.7		76.9±11.9		

X²: Chi-Square test MCP: Monte Carlo corrected P-value

Table (5): Correlation between body appreciation and body image dissatisfaction among studied adolescent female nursing students

Body image dissatisfaction (BID) [^]	BAS score	
	R	P
Current perceived body image	0.131	0.319
Body image Preferred body image to self	-0.056	0.673
Body image Preferred body image to other sex	0.0	0.998

X²: Chi-Square test MCP: Monte Carlo corrected P-value *significant at P≤0.05

DISCUSSION :

The adolescents who are overweight or obese are more likely to experience stigma, lower self-esteem and negative body image compared to those with a healthy weight. Adolescents living with overweight or obesity may also be more prone to developing psychological distress, including depression, anxiety, and mood disorders than the general population (*Furber & McGowan, 2010*). Obesity causes or exacerbates many health problems, both independently and \or in association with other diseases. In

particular, it is associated with the development of type 2 diabetes mellitus, coronary heart disease (CHD), an increasing of incidence of certain forms of cancer, respiratory complications and osteoarthritis of large and small joints (*Kopelman, 2009*). The present study was aimed at assessment of the effect of obesity on body image among female nursing students. As shown by the present study findings, the majority of overweight and obese students had positive body appreciation. Also, it was observed that, less than quarter of them had middle body appreciation, and the minority of them had negative body appreciation. From point of view of the researcher it is due to their self-worth is independent of their body shape or weight, despite imperfections they still like their body. The present study revealed that all study sample live in urban.

From point of view of the researcher urban has been found to be positively associated with rates of obesity due to their beliefs. People live in urban areas they believes that, obesity were important for girls and did not cause any problem for their obese daughters who will married and have children without any problems (*Berrigan & Troiano, 2011*). The current study indicated that majority of girls under study had positive perception about their body image, which is in harmony with (*Farhat et al., 2014*) who found that, the body image was positive among most participants .

In addition, the current study findings are going in the same line with (*Zofiran et al., 2011*), who reported that, the majority of participants had positive perception, and the minority of them had negative perception. However, other study showed that, increasing of obesity had a negative correlation with the body image (*Clay D et al., 2009*).

As noticed by the present study findings, there was no statistically significant correlation between body appreciation and body image dissatisfaction. From the point of view of the researcher, this finding may be due to girl's attitude and beliefs; they did not report that, they were not satisfied with their bodies. In contradiction with this result, (*Zawawi, 2014*), who established that, there was a positive correlation between the body shape and body satisfaction. As well as, (*Berga et al., 2007*) found that, body dissatisfaction was correlated to body mass index. However, the researcher has interpreted this attitude by the potential causes of negative body image include being overweight or obese; viewing media images of ideal body shapes; the influence of

family and peers; and personal psychological factors such as watching others bodies and envy them (*Burrowes, 2013*).

Regarding family members suffering from obesity, parental obesity has been identified as prominent risk factor for adolescents obesity, properly owing to combination of genetic, epigenetic, social and environmental factors, adolescents with two obese parents have a higher risk of obesity than those with one or no obese parent (*Zaborskis et al., 2009*).

The current study revealed that, most mothers of overweight group were suffering from obesity. There was statistically significance between family history of obesity and studied group which were in the same line with (*Liwellyne et al., 2010*), who reported that the majority mothers of overweight group were obese, which proved the strong relation between obesity genetic factors. Regarding past medical history of obese parents, World Health Organization established that there is an independent risk factor for morbidity and mortality related to coronary heart disease (CHD) (*WHO 2014*). It is associated with risk factors of CHD such as hypertension, non-insulin dependent diabetes mellitus, alterations in homeostatic variables, hypertriglyceridemia and reduced high density lipoprotein cholesterol (HDL) levels. Weight gain increases the risk of heart disease and mortality in both moderate and severe overweight (*Yu-Poth et al., 2013*).

The present study showed that parents of the studied group suffering from previously diseases. This is may be due to obesity and bad eating habits of elderly people. This findings are in accordance with (*Zofiran et al., 2011*), who stated that, most students of studied adolescents reported that, parents of the studied group suffering from previously diseases.

CONCLUSION:

The majority of overweight and obese students had positive body appreciation. There was no correlation between body image dissatisfaction and knowledge score. There were statistically significant differences between overweight and obese students regarding their current body image.

RECOMMENDATIONS:

Based on the findings of the present study, the following recommendations are suggested:

Future recommendation:-

- 1) There is a great need to establish a system of community health services that can cover all aspects / dimensions of adolescents as well as, their family's needs.
- 2) Importance of dietary assessment integration, as important part of adolescent nursing assessment.
- 3) Psycho education of adolescents should be an important part of their nursing management. This may cover the followings:-
 - The importance of physical exercises.
 - The risk factors of obesity.
 - The importance of periodic check-up to detect co-morbid disease that may affect adolescents.

REFERENCES:

- AL-Mahroos F & AL-Roomi, K (2011):*** Obesity among adult bahraini population: Impact of physical activity and educational level. *Ann Saudi Med*, 21(3-4), 183-7.
- Avalos L., Tylka T., & Wood-Barcalow N (2012):*** The body appreciation scale: Development and psychometric evaluation. *Body Image*, 2nd ed., 285–297.
- Berga P., Paxtonb S., Keeryc H., Walla M., Guoa K & NeumarkSztainer D (2007):*** Body dissatisfaction and body comparison with media images in males and females. *Science Direct*; 4 (2007): 257–268.
- Berkowitz I (2010):*** Cardiovascular Diseases are killing us: The Official Bulletin of the international academy of cardiovascular science; 9 (1): 1-4.
- Berrigan D, Troiano R (2011):*** The association between urban form and physical activity in U.S. adults. *American Journal of Preventive Medicine* 23; 74–79.
- Botton J, Heude B, Kettaneh A, Borys J, Lommez A, Bresson J (2010):*** Cardiovascular risk factor levels and their relationships with overweight and fat distribution in children: the FleurbaixLaventie Ville Santé II study. *Metabolism*; 56 (5): 614-22.
- Burrowes N (2013):*** Body image – a rapid evidence assessment of the literature. Retrieved from: [/https://www.gov.uk/government/](https://www.gov.uk/government/)

[uploads/system/uploads/attachment_data/file/202946/120715_RAE_on_body_image_final.pdf](http://www.annecollins.com/uploads/system/uploads/attachment_data/file/202946/120715_RAE_on_body_image_final.pdf)

Campbell I. & Haslam D (2010): Obesity: Your Questions Answered. London: Churchill Livingstone. Causes of obesity. Available at: <http://www.annecollins.com/obesity/causes-of-obesity.htm> [accessed 03/03/2008]

Catherine A & Hilary J (2011): Human nutrition: Obesity. 12 ed., Philadelphia: pp 403.

Clay D, Vignoles V & Dittmar H (2009): Body image and self-esteem among adolescent girls: Testing the influence of sociocultural factors. *J Res Adolesc*; 451-77.

Crow S., Eisenberg M., Story M., & Neumark-Sztainer D (2006): Psychosocial and behavioral correlates of dieting among overweight and non overweight adolescents: *Journal of Adolescent Health*, 38, 569–574.

DNPCNCD (2008): Diet, nutrition and prevention of chronic non communicable diseases in Egyptian adolescents. Final Report 2008.

Duncan M., Woodfield L., Neill S., & Al-Nakeeb Y (2009): Relationship between body image and percent of body fat among British school children: Perceptual and Motor skills. 94, 197-203.

EL-Sayed A, Galea S (2011): Maternal immigrant status and high birth weight: implications for childhood obesity. *Ethn Dis*, 21: 47-50.

Farhat T., Iannotti R., & Caccavale L (2014): Adolescent overweight, obesity and chronic disease-related health practices: mediation by body image. *Obes Facts*; 7(1): 1–14.

Furber C & McGowan L (2010): The psychological impact of being overweight/obese during pregnancy (pp.205-229), In Y. Richens and T. Lavender (Eds.), *Care for pregnant women who are obese*. London: Quay Books.

Kopelman P (2009): Causes and consequences of obesity. *Med. Int.* 22, 385–388.

Liewellyn C., van J., Boniface D., Carnell S., & Wardle J (2010): Eating rate is a heritable phenotype related to weight in children. *Am. J. Clin.Nutr.*, 88(6), 1560-6.

Luppino F., Bouvy F., Stijnen T., Cuijpers P & Penninx B (2010): Overweight, obesity, and depression: A systematic review and meta-analysis of longitudinal studies. *Archives of General Psychiatry*, 67(3), 220–9.

Ogden C., Carroll M., & Flegal K (2008): High body mass index for age among US children and adolescents, *The Journal of the American Medical Association*, 299(20), 2401–05.

Rosdahl B., &Kowalski T (2010): Textbook of basic nursing: (8th ed)., Philadelphia: Lippincott Williams &Wilkins.

Suraj G (2009): The short text book of Pediatrics: Adolescence. 11 ed., India: PP(60).

Tove'e M., &Cornelissen P (2014): Female and male perceptions of female physical attractiveness in front-view and profile. British Journal of Psychology, 92, 391–402.

Vilhjalmsson R., Kristjansdotti G., & Ward D (2011): Bodily deviations and body image in adolescence: Youth and Society. doi: 10.1177/0044118X11402850(Advance online publication).

World Health Organization (2014): Maternal, newborn, child and adolescent health. Adolescent pregnancy.

http://www.who.int/maternal_child_adolescent/topics/maternal/2014

adolescent_pregnancy/en/. Accessed October 24 .

Yu-Poth S, Zhao G, Etherton T, Naglak M, Jonnalagadda S & Kris-Etherton P (2013): Effects of the national Cholesterol Education Program's Step 1 and Step II dietary intervention programs on cardiovascular disease risk factors: a meta-analysis. Am J ClinNutr; 69: 632-646.

Zaborskis A, Petronyte G, Sumskas L, Kuzman M & Iannotti R (2009): Body image and weight control among adolescents in Lithuania, Carroatia and United States in the context of global obesity. Croat med J; 49: 233-42.

Zawawi J (2014): Relationships between body mass index, body image dissatisfaction and psychological distress among fitness center female users in Zarqa-Jordan. International Journal of Humanities and Social Science; 11(1): 109-130.

Zofiran N., Kartini M., Sabariah B., &Ajau D (2011): The relationship between eating behaviors, body image and BMI status among adolescence age 13 to 17 years in Meru, Klang, Malaysia. Am. J. Food. Nutr; 1(4): 185-192

تأثير السمنة علي صورته الجسم بين طالبات مدارس التمريض المراهقات

شرين سامي إبراهيم محمد حلقه ، أ.د. نادية محمد فهمي ، أ.م.د هديات عبد الرؤوف عماشة، د. عبير السيد

محمد برمه

بكالوريوس التمريض – جامعة المنصورة ، أستاذة تمريض الأمومة وأمراض النساء كلية التمريض
جامعة عين شمس ، أستاذة مساعد تمريض الأمومة والنساء والتوليد كلية التمريض جامعة بورسعيد ،
مدرس تمريض النفسية والصحة العقلية كلية التمريض جامعة بورسعيد

الخلاصة

أجريت هذه الدراسة بهدف تقييم تأثير السمنة على صورته الجسم بين طالبات مدارس التمريض المراهقات، استخدمت الدراسة المنهج الوصفي، وقد أجريت على ١٦٧ طالبة من طالبات المدارس الثانوية الفنية للتمريض بمدينة المنصورة. وتم تجميع البيانات باستخدام ثلاث أدوات الأداة الأولى: الاستبيان وهو من إعداد الباحثة والأداة الثانية: مقياس لتحديد السمنة من عدمها. أما الأداة الثالثة فهي معيار لتقييم صورة الجسم. وقد أسفرت الدراسة عن مجموعة من النتائج كان من أهمها: الغالبية العظمى من المراهقات اللاتي يعانين من البدانة كان لهن تصور ايجابي حول صور أجسامهن. ومن توصيات هذه الدراسة: إنشاء نظام الخدمات الصحية المجتمعية التي يمكن أن تغطي جميع جوانب / أبعاد المراهقين.

الكلمات المرشدة : السمنة، طالبات مدارس التمريض، صورة الجسم.