

Obesity in Adolescent Girls in North Jordan

¹Omer Turki Mamdoh Ershidat, ²Ayman Suliman Mazahreh and ³Jibreel Ejraed Alodat
¹Irbid University College, AL-Balqa Applied University, P.O. Box 941941, 11194 Amman, Jordan
²Department of Applied Science, ³Department of Social and Applied Science,
Princes Alia University College, Al-Balqa Applied University,
P.O. Box 941941, 11194 Amman, Jordan

Abstract: This research is concerned with studying some factors associated with obesity in adolescent girls within the age group of 13.00-16.00 (14.5971±1.12752). The research was conducted with middle-school and high-school age girls ranging from 7th-10th grade. Information was collected from 139 participants through a questionnaire. The results revealed the following about participants: mean age of 14.5971, an average weight of 54.7986 kg, average height of 1.5337 m, average Body Mass Index (BMI) of 23.2967. Typical family size is 2.8345. Father's education level is 4.6978. Father's job is 2.1223. Mother's education level is 4.1511. Mother's job is 2.1223. When responding to the question: Are any of your friends overweight? The response was 1.4388. When responding to the question: Do you have regular physical activity? The response was 1.9856. The study also made many recommendations to overcome the problem of obesity among adolescents.

Key words: Obesity, adolescent girls, education level, school, North Jordan

INTRODUCTION

According to the WHO in 1993, adolescence is defined as the age group between 10 and 19 years of age. Adolescence is the period of physical, psychological, social and physiological development from childhood to adulthood. It is a period during which patterns of behaviors are being formed. These behaviors set the stage for future health problems and risk taking and health compromising lifestyles are viewed as crucial determinants of future health, illness, disability and premature mortality.

Adolescents comprise 29% of the world's total population of whom 83% are in developing countries. Adolescent obesity is one of the most important current public health concerns. The prevalence of obesity among adolescents has dramatically increased (Daniels *et al.*, 2005) in several developing countries as well as in the USA and other Western countries. Its increasing prevalence has compelled the WHO to include obesity on the list of the essential health problems in the world. Obesity has been proposed as the most frequent cause of death after smoking (Abalkhail, 2002).

Obesity is a type of malnutrition characterised by storage of excess fat. Obesity is defined by experts as a body mass index (a measurement expressing the relationship between weight in kg and height in m²) ≥ 95 the percentile for age and sex (Barlow and Dietz, 2007).

Factors affecting obesity in adolescents include behavioral risk factors particularly the contemporary lifestyle of excessive fatty food consumption, increased television watching, computer games and chatting. Also, there are non-behavioral risk factors which include sex, race/ethnicity, socioeconomic status and one or both parents being overweight (Patten, 2005).

In general, a female adolescents growth spurts begin at age 10 or 11 and for males at 12 or 13; the spurts duration is about two and a half years. Before puberty the differences between male and female body composition are minimal. During the adolescent growth spurt, gender differences become apparent in the skeletal system, lean body mass and fat stores (Cataldo and Whitney, 2003).

Girls require 2200 kcal/day. Sometimes the large appetite characteristic of this rapid growth period leads adolescents to satisfy their hunger with snack foods that are high in sugar and fat and low in essential protein (Williams, 1999).

MATERIALS AND METHODS

This is a descriptive study using quantitative methods of research. It was conducted in schools for females in North Jordan. The sample consisted of 139 females. The sample included only pupils from 7th-10th classes. All participants were weighed and completed a questionnaire. The primary data was collected using

Table 1: General characteristics of the respondents-class

Class	Valid	
	Frequency	Percentage
7	33	23.7
8	28	20.1
9	40	28.8
10	38	27.3
Total	139	100.0

Table 2: General characteristics of the respondents age

Age (years)	Valid	
	Frequency	Percentage
13	33	23.7
14	28	20.1
15	40	28.8
16	38	27.3
Total	139	100.0

Table 3: General characteristics of the respondents-number of family members

Characteristics	Frequency	Percentage
3-5	61	43.9
6-8	40	28.8
>8	38	27.3
Total	139	100.0

structured questionnaires consisting of 37 open and close questions in which the first part was specified for recording the age, weight and height of the participant.

The second part included information on economic status of the parents. The questionnaire also included several questions concerning the family history of obesity, food habits and choices and general lifestyle of the adolescent. The number of family members of the pupil's families ranged between (3-5) members for 43.9% of the students and for 28.8% it ranged from (6-8) members.

Data analysis: The data was analyzed manually. Results were presented in Table 1-3 of simple statistics (frequency and percentage) and in charts.

RESULTS AND DISCUSSION

General characteristics of the respondents: The results revealed the following; the mean age of participants was 14.5971, average weight 54.7986 kg, average height 1.5337 m, average Body Mass Index (BMI) 23.2967. Typical family size is 2.8345, average education level for participants fathers is 4.6978 and fathers employment is 2.1223. While average education level for participants mothers was 4.1511 and mother employments was 2.1223.

When responding to the question: Are any of your friends overweight? The response was 1.4388. When responding to the question, Do you have regular physical activity? The response was 1.9856 (Table 4). More than

Table 4: General characteristics of the respondents means and Std. deviation

Characteristics	N	Mean	SD
Class	139	2.5971	1.12752
Age	139	14.5971	1.12752
Weight	139	54.7986	13.51981
Tall	139	1.5337	0.20787
BMI		23.2967	
Family size	139	2.8345	0.83055
Father's education level	139	4.6978	1.15880
Father's job	139	2.1511	1.81744
Mother's education level	139	4.1511	0.84196
Mother's job	139	2.1223	0.99608
Is there any obesity in yours freind?	139	1.4388	0.49804
Did you have physical activity?	139	1.9856	1.20377

half of the respondents have large family sizes and the majority of respondents are of low socioeconomic status. This is consistent with previous studies where obesity was found to increase among the poor (Cataldo and Whitney, 2003).

CONCLUSION

The research was conducted in middle-school and high-school age girls ranging from 7th-10th grade. Information was collected from 139 girls through a questionnaire. It can be concluded from the discussion of the results that the level of obesity is increasing especially among adolescents who come from relatively low-income families where the average BMI of adolescent girl is 23.2967. The following are recommendations resulting from the study:

- School-based health and nutrition programs have practical benefits and need to be implemented at low costs to improve knowledge of food selection and an adequate balanced diet
- Proper nutrition and health education is urgently needed for overweight and obese adolescents to avoid high fat intake and to promote physical exercise
- Parents and family, as the gatekeepers of food and role models for eating behavior should be educated about nutrition and helped to influence their adolescent's eating behavior

REFERENCES

- Abalkhail, B., 2002. Overweight and obesity among Saudi Arabian children and adolescents between 1994 and 2000. Eastern Mediterranean Health J., 8: 470-479.
- Barlow, S.E. and W.H. Dietz, 2007. Obesity evaluation and treatment: Expert committee recommendations. Pediatrics, Vol. 102. 10.1542/peds.102.3.e29.

- Cataldo, C.B. and E.N. Whitney, 2003. Nutrition and Diet Therapy. 6th Edn., Thomson Wadsworth, USA.
- Daniels, S.R., D.K. Arnett, R.H. Eckel, S.S. Gidding and L.L. Hayman *et al.*, 2005. Overweight in children and adolescents: Pathophysiology, consequences, prevention and treatment. J. Am. Heart Assoc., 111: 1999-2012.
- Patten, M., 2005. Teenage Obesity: Causes and Effects and Implications for the Family. Houston Publishers, USA.
- Williams, S.R., 1999. Essentials Nutrition and Diet Therapy. 7th Edn., Mosby Inc., USA., ISBN: 978032-3003988, Pages: 729.