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Quality of Life and obesity among Female Employee at Assiut University

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Abstract
Egypt is one of the countries where the problem of obesity has been nearing an epidemic level. Currently, nearly 70% of adult women and 48% of men in Egypt are overweight or obese. This matter should be taken seriously because it can burden the health care system and lower the quality of life. Aim of the study: To identify the relationship between quality of Life and obesity among female employee at Assiut University. Subject and Method: descriptive correlation design was utilized to carry out this study. Sample: The studied sample was consisted of 1000 female. Data were collected by using three tools; the first tool is self administered questionnaire includes socio-demographic characteristics of the studied sample. The second tool was an Anthropometric Measurements (weight, height and BMI) and the third tool was the World Health Organization Quality of life (WHOQOL-BREF). Results: the mean age was 36.97 ± 10.80. There was statistical significant difference between Socio-demographic characteristic such as age, marital status, educational level and obesity, also BMI effect on the three QOL domains (physical, psychological and social) while there was no significance differences with environmental aspects of QOL. Conclusion: Obesity has a negative effect on QOL among obese female employees. Recommendation: Awareness about nutritional needs and balanced diet should be increased for every age group through mass media. As well as developing a health education programs about balanced diet and prevention of obesity. Also regular exercise should be included within the daily routine activities of the female employees.
Keywords: Quality Of Life (QOL), Obesity, Body Mass Index and Nursing Intervention.

1. Introduction

Overweight and obesity are defined by the World Health Organization (WHO) as abnormal or excessive fat accumulation that may impair health. WHO added that by 2015, approximately 2.3 billion adults will be overweight and more than 700 million adults will be obese (WHO, 2012). In low-income countries the problems of overweight and obesity have achieved global recognition only during the past decade, in contrast to underweight, malnutrition and infectious diseases which have always dominated as concerns. Excess body weight is an important risk factor contributing to the overall burden of disease worldwide. There is an overall consensus that obesity poses a significant risk for the development of cardiovascular disease, alterations in glucose metabolism and certain cancers, and reduces life expectancy. Body mass index (BMI) is a simple index of weight-for-height that correlates reasonably with body fat content. It is also a measure of underweight in adults, specifically in women, for whom a BMI < 18.5 kg/m2 is an indicator of maternal under nutrition (Gunaid, 2012).

In Egypt the problem of obesity and overweight are increasing gradually from 1995-2001, with higher prevalence of overweight among men (41.1%) than women (36.4%) and higher prevalence of obesity among women (50.4%) than men (21.1%) (National Nutrition Institute of Egypt, 2004). Obesity is a chronic multi-faceted disorder associated with an increased frequency of a number of diseases as hypertension, diabetes mellitus, arthritis, gout and gall bladder diseases (AL Qauhiz, 2010).

Body Mass Index (BMI), a measure of weight adjusted for height is often used as an indicator of overall adiposity. BMI is influenced by genes, diet and other aspects of lifestyle such as alcohol consumption, smoking habits, physical activity and other socio-demographic factors such as educational level or marital status (Fang and Lee, 2009).

QOL is a broad ranging concept affected in a complex way by the person's physical health, psychological state, self dependence, social relationships, and their relationship to salient features of their environment (Arslantas, et al., 2009). Obesity decreases both physical and mental aspects of quality of life, especially in women. Health-related quality of life (HRQOL) decreases proportionally to increased BMI and fluctuations in body weight, coexisting co morbidities including mental illness and binge eating. The physical aspect of HRQOL is deteriorated especially by the coexistence of mood disorders, obesity, and its co morbidities. Obesity decreases self-esteem and increases body dissatisfaction especially in adolescents and young women. Low self-esteem particularly coexisting with anxiety is the reason of social isolation among obese subjects (Kocełak et al., 2012).

The community health nurse works with adults at all age groups using the three levels of prevention-primary, secondary and tertiary – as a guide. Primary prevention activities focus on education to promote a healthy lifestyle. Much of the community health nurse's time is spent in the educator role. At other times, the nurse works with small groups of adults who could benefit from making healthy choices in diet, relaxation, and physical activity (Allender et al, 2010). Secondary prevention focuses on screening for early detection and prompt treatment of diseases. Examples of secondary prevention program include conducting for obesity detection, BMI and cholesterol screening. Tertiary prevention attempts to reduce the extent and severity of a health problem to its lowest possible level, so as to minimize disability and restore or preserve function (Allender et al, 2010).

1.1 Significance of the study

Obesity among adults, particularly women, has reached very high proportions in Egypt in the last few years. According to the WHO estimate more than half of the adults are overweight or obese (WHO, 2006). The lifestyles changes and urbanization has occurred rapidly and has been accompanied by new technologies that promote sedentary lifestyles. Due to accessibility of private cars, television, and household appliances, the population as a whole is engaging in less physical activity. The rise in caloric and fat intake in a region where exercise is not defining part of the culture has added to the overall increased percentages of overweight and obese populations. In addition, women are more likely to be overweight or obese due to cultural norms and perceptions of appropriate female behavior and occupations inside and outside of the home (Ginter & Simko , 2008).

2. Aim of the study

To identify the relationship between quality of Life and the obesity among female employee at Assiut University

3. Subjects and Methods

3.1. Research Design

Descriptive correlation design was used in carrying out this study

3.2. Setting:

The study was conducted in 16 faculties, which are affiliated to Assiut University; namely science, agriculture, engineering, medicine, pharmacy, veterinary medicine, education, art, commerce, law, physical education, social work, nursing, specific education, faculty of computers & information, and technical nursing institute.

3.3. Sample:

The total number of the registered female employee was 2500 but the actual number was 2100 that already presented at work. Around 50% of female employees (1000) was selected, the researcher utilized the study tools; to determine prevalence of obesity, assess knowledge and to detect QOL for the females employees. While the pregnant and lactating females were excluded**.**

3.4. Tool of data collection:

Data was collected by using three tools; *the first tool* include self administered questionnaire consisted questions on socio-demographic characteristics of the studied sample such as: age, marital status, residence, level of education. The second tool Anthropometric Measurements (weight, height, BMI) and the *third tool*; Quality of life scale adapted by WHO (1996), it contains a total of 24 facets contained in the four domains (physical, psychological, social and environmental health).

3.5. Ethical Consideration:

The purpose of this study was explained for all participants. The participants have ethical rights to agree or refuse to participate in the study; oral consent was taken from all participants who participated in the study to ensure active participation and informed that the information obtained will be confidential and used only for the purpose of the study.

3.6. Data collection:

An official permission was obtained from administrative personnel to carry out the study; These letters includes a permission to carry out the study and explains the purpose and nature of the study. the researcher introduced her self to the females and explains the purpose of the study in order to obtain. A pilot study was conducted before starting data collection on 10% of female employees who were excluded from the sample. The aim of pilot study is to test the clarity of the tools and to estimate the time required to fill the sheets. Based on the result of pilot study, the necessary modification in the sheets was done.

3.7. Field Work:

The study was conducted during the period from first of September 2011 until end of September 2012.

3.8. Data Analysis

The data obtained were reviewed, prepared for computer entry, coded, analyzed and tabulated. Descriptive statistics (i.e., frequencies, percentage, mean and standard deviation, etc) was done using computer program SPSS version 16.

Chi-square, T-test, used to compare differences in the distribution of frequencies among different groups. It is considered * significant when P-values were less than 0.05 or (P≤ 0.05). Pearson correlation was used to measure correlation between quantitative variables.

4. Results

Table (1): Distribution of the studied sample regarding to socio-demographic characteristics at Assiut University

Items	No. (1000)	%
Age: (years)		
< 30 years	340	34.0
30 - < 40 years	271	27.1
40 - < 50 years	197	19.7
≥ 50 years	192	19.2
Mean ± SD (Range)	36.97 ± 10.80 (20 – 59)	
Marital status:		
Single	252	25.2
Married	675	67.5
Divorced	22	2.2
Widow	51	5.1
Residence**:**		
Rural	146	14.6
Urban	854	85.4
Level of education:		
Secondary	437	43.7
University	500	50.0
Post University	63	6.3

Table (1) shows the distribution of the study sample regarding to socio-demographic characteristic. It clarifies that more than one third (34%) of the studied sample aged less than 30 years; while only less than one fifth (19.2%) of them have 50 years and above. According to marital status more than two third (67.5%) of the studied sample are married while only (2.2% and 5.1%) of them are divorced and widowed respectively. Most of the studied sample (85.4%) from urban compared to (14.6%) from rural. Also this table reveals that half of the studied sample has university education while only (6.3%) has post university education.

Table (2): Distribution of the studied sample according to health complains at Assiut University

Complains#	No. (1000)	%
Joint pain	379	37.9
Low back ache	364	36.4
Dyspnea	115	11.5
Diabetes mellitus (D.M)	55	5.5
Hypertension	132	13.2
Infertility	54	5.4
Cardiovascular	19	1.9
Deep venous thrombosis (DVT)	163	16.3
Exfoliation in the thighs	115	11.5
None	357	35.7

#More than one answer

Table (2) reveals that more than one third (37.9%) of the studied sample complains of Joint pain followed by low back ache, DVT and hypertension (37.9%, 36.4%, 16.3% and 13.2%) respectively while only (5.5% and 5.4%) complains of D.M and infertility respectively. Also this table clarifies that more than one third (35.7%) of the studied sample doesn't have any health complains.

Table (3): Relation by F-test (ANOVA) between BMI grades of the studied sample and QOL at Assiut University (n=1000).

Health Domain	Normal	Overweight	Obese	P-value
	Mean ± SD	Mean ± SD	Mean ± SD	
Physical	24.29 ± 3.40	23.67 ± 3.95	23.38 ± 4.07	0.020*
Psychological	19.66 ± 3.32	18.95 ± 3.54	18.35 ± 3.93	0.000*
Social	8.99 ± 2.44	9.28 ± 2.47	10.19 ± 2.58	0.000*
Environmental	24.93 ± 4.86	24.36 ± 4.96	25.11 ± 5.32	0.166
Total QOL	77.87 ± 0.25	76.27 ± 1.51	77.04 ± 2.71	0.370

*There is a statistical significant difference.

Table (3) illustrates that individuals who suffer from obesity has lower QOL scores on three of four domains of WHOQOL (physical, psychological and social) than this with normal weight. But there is no effect on environmental and total QOL, P= 0.020*, 0.000*, 0.000* and 0.166 respectively.

Table (4): Correlation coefficient between BMI grades and items of QOL

Health Domains	r-value	P-value
Physical	-0.126	0.000*
Psychological	-0.188	0.000*
Social	0.182	0.000*
Environmental	0.012	0.699
Total QOL	-0.056	0.077

*There is a statistical significant difference.

Table (4) shows that there is a significant negative correlation between BMI grades and physical, psychological social quality of life while there is no significant correlation between environmental as well as total QOL.

Table (5): Relation between BMI grades of the studied sample and their socio-demographic characteristics at Assiut University (n=1000).

socio-demographic characteristics	BMI grades						P-value (X^2)
	Normal (n= 201)		Overweight (n= 245)		Obese (n= 554)		
	No.	%	No.	%	No.	%	
Age: (years)							
< 30 years	137	40.3	116	34.1	87	25.6	0.000* (246.06)
30 - < 40 years	44	16.2	72	26.6	155	57.2	
40 - < 50 years	14	7.1	36	18.3	147	74.6	
≥ 50 years	6	3.1	21	10.9	165	85.9	
Marital status:							
Single	105	41.7	83	32.9	64	25.4	0.000* (159.95)
Married	88	13.0	147	21.8	440	65.2	
Divorced	6	27.3	9	40.9	7	31.8	
Widow	2	3.9	6	11.8	43	84.3	
Level of education:							
Secondary	74	16.9	88	20.1	275	62.9	0.001* (18.61)
University	111	22.2	138	27.6	251	50.2	
Postgraduate	16	25.4	19	30.2	28	44.4	
Residence							
Rural	59	29.4	40	16.3	47	8.5	0.000*
Urban	142	70.6	205	83.7	507	91.5	

(*) there is a significant difference Significant at P < 0.05

Table (5) shows that there is a statistical significant difference between obesity and age P= 0.000, Marital status P= 0.000 and the level of education P= 0.001. It observes that the majority (85.9%) of these who have high prevalence of obesity from the age group 50 years and above. Also this table shows that obesity is higher among widow, married, divorced and finally single as follow (84.3%, 65.2%, 31.8%, and 25.4%). Regarding the residence the table shows that there is a statistical significant difference between residence and obesity it was observed that the vast majority (91.5%) of the studied sample who suffer from obesity were living in urban areas.

5. Discussion

Obesity negatively impacts the health of women in many ways. Being overweight or obese increases the relative risk of diabetes and coronary artery disease in women. Women who are obese have a higher risk of low back pain and knee osteoarthritis. Obesity negatively affects both contraception and fertility as well. Female obesity is linked with higher rates of cesarean section as well as higher rates of high risk obstetrical conditions such as diabetes and hypertension. Pregnancy outcomes are negatively affected by maternal obesity (increased risk of neonatal mortality and malformations). There seems to be an association between obesity and depression in women though cultural factors may influence this association. Obese females are at higher risk for multiple cancers including endometrial cancer, cervical cancer, breast cancer, and perhaps ovarian cancer Kulie et al., (2011).

Regarding the health complains, the results of the present study revealed that more than one third of them didn't complain from any thing; while the rest were complaining from joint pain, low back ache, hypertension, DVT, and exfoliation in the thighs. These may be due to the inverse effect of obesity on health. These results are in accordance with Heo et al, (2003) who observed poor general health status among obese subjects in their study. At the same line Adams et al., (2006), mentioned that obese persons are at a higher risk for a variety of disabling, and co-morbidities, including high blood pressure, cardiovascular disease, diabetes mellitus, arthritis, gout, gallbladder disease, respiratory problems, and various skin conditions. These health problems are associated with many symptoms such as fatigue, headache, back and joint pain, frequent urination, and difficult breathing.

Also the results indicated that 5.4% of females' employee complains from infertility. These finding are consistent with Sidik and Rampal, (2009) who studied the prevalence and factors associated with obesity among adult women in Selangor, Malaysia and reported that 5.9% of respondents had difficulty in getting pregnant for the past two years.

The current study showed that; individual with obesity had lower WHOQOL scores on three of four domains of WHOQOL (physical, psychological and social health), than those with normal weight. These results are consistent with many other studies that noted the relationship between QOL and BMI. Other studies supported the finding of the current study for example; Farahat and Abou El-Fath, (2001) who noted significant deterioration in the total scores of quality of life dimensions including physical health, and self image in their study conducted on students at Menoufiya University. In the same line with the present findings Ghorbani et al., (2013) showed that the overweight and obese subjects suffer from poor QL, as the increase in BMI had lowered the domains of QOL.

Also Marcus, (2002) supported the present finding and mentioned that obesity doesn't only affect the physical health but also leads to psychosocial impairment. As well as Tsai et al., (2004) who found a strong relationship between increasing BMI and prevalence of poor quality of life among obese subjects. This result was further supported by the study of Rosemann et al., (2008) who found that, increasing BMI leads to decreasing in physical activity and increasing in comorbidities and depression, so resulted in poor quality of life. Several reports have discussed the relationship between increasing BMI and complaining from physical disorders and incompetency (Kolotkin et al., 2001a Dinç et al., 2006; and Ucan & Ovayolu, 2010). Other studies found that, increasing severity of obesity resulted in reducing general health (Richards et al., 2000) and increasing number of physical disorders (De Zwaan et al., 2009; Sirtori et al., 2011). The findings of the present study were similar to previously mentioned studies. Another study conducted in Korean adults by Song, reported that obese women had lower QOL than men (Song et al., 2010).

Also the results of this study are consistent with many other studies for example (Han et al, 1998, Katz et al, 2000 and Fontaine & Barofsky; 2001) that noted the relationship between QOL and BMI. A reversible relationship between obesity and QOL was also demonstrated in a number of weight loss intervention studies which show that weight loss is associated with improvement in QOL, and weight regain is associated with deteriorations in QOL (Kolotkin et al., 2001b and Engel 2003).

6. Conclusion

There is statistical significant difference between Socio-demographic characteristic such as age, marital status, educational level and obesity. Also BMI has effect on physical, psychological and social quality of life but there is no effect on environmental QOL.

7. Recommendation

Regular exercise should be included in the daily routine of the employees. Booklets about obesity and management of body weight should be available in library of the faculties especially in Arabic versions. Increase awareness about nutritional needs and balanced diet in every age group through mass media. As well as developing a health education programs about balanced diet and obesity. Future studies could follow long-term effect of an obesity prevention program to reflect sustained change in the reduction of risk behavior.

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