ORIGINAL ARTICLE

Quality of Life in Obese Females of Child-Bearing Age in Urban Population (Pakistan)

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ABSTRACT

WHO has recognized obesity as a global epidemic and it leads to many co morbidities[1]. Due to the impact of the problems of obesity on quality of life it is called as today's principal neglected public health problem[2]. According to Pakistan Demographic Health Survey report 2013, 25 percent of women are overweight and 15% are obese in Pakistan. Females living in urban areas are more susceptible to obesity than males. Growth spurts, hormonal changes, pregnancy, metabolic and eating disorders and physical inactive living is major factors to cause obesity[3]. Self-rated poor quality of health is predictor of mortality[4]. To explore the quality of life in obese females of child bearing age, a descriptive cross-sectional study was carried out in Children's Library Complex Lahore by using WHO QOL assessment (in Urdu translation). Purposive Sampling based on pre-determined selection criteria was done. Results presented in this study are based on 90 females questioned for one month. This study found statistically significant relationship between physical (p=0.039) and social (p=0.044) domains of quality of life in morbidly obese females. With the help of this study we will be able to describe the quality of life in obese females. This study encourages our health care system to take note of the impact of obesity on physical and psychosocial health and incorporate inexpensive measures like assessment of quality of life to prevent and assess comorbidities and behavioral weight loss therapy to improve quality of life.

Keywords: QOL=Quality of life, obesity, WHO, BMI, WHO QOL assessment, morbid obese

INTRODUCTION

The burden of deaths and disability in developing countries caused by non-communicable diseases outweighs that of long-standing communicable diseases.[5] South Asia still has a long way to go to meet the United Nations' millennium development goals and has one of the worst health indicators in the world. It is home to over 1.5 billion people which is about a quarter of the world's population. It has unacceptably high rates of maternal and child's mortality indicators[6]. We are in transition period from acute and infectious diseases to chronic disease burden with obesity as one of major risk factors[7].

According to WHO, quality of life is defined as individuals' perception of their position in life in the context of the culture and the value system in which they live and in relation to their goals, expectations, standards and concerns[8]. Obesity is defined as abnormal or excessive accumulation of fat. The increased prevalence of overweight and obesity is a major public health concern.[1] Factors which are commonly associated with obesity are diet patterns and physical inactivity. As increase in obesity is being observed in poor countries so obesity has implications for global health now. Gender specific predictors of body weight include demographic factors (age, race, education, employment, ethnicity) lifestyle factors (diet, physical activity, smoking) and psychosocial factors i.e. anxiety and depression[9].

Obesity is classified as a disease in itself, responsible for a myriad of health problems including physical illnesses, mental health and poor quality of life. The issue is of particular concern in the South Asian region as overweight and obesity appear to have more serious consequences in this population than the Caucasians. Change from indigenous towards western diet patterns coupled with physical inactivity are the major factors thought to be responsible for this increased risk.

Traditionally, stigma of obesity is greater for females than males. Obesity is a major cause of morbidity and mortality and is associated with impaired health related quality of life and social functioning as well as excess disability[10]. Obesity causes psychological stress, which in turn, increases the appetite and decreases physical activity, thus contributing to weight gain[11]. Body image dissatisfaction and mood disorders are commonly seen in obese females[12]. Causal relationship between obesity and depression is still unclear[13]. Certain biological consequences mediated via immune system leading to accumulation of leukocytes in fat tissues. This causes state of chronic inflammation which links obesity with chronic degenerative diseases and poor quality of life[14]. Adipose tissue cytokine stimulates production of CRP in liver which is also associated with low-grade inflammation[15].

The most accepted measure to calculate obesity is body mass index (BMI). Overweight is defined as having BMI 25Kg/m^2 or more and obesity as BMI 30 Kg/m^{2}or more[1].

Assessment of health-related quality of life predicts future morbidity and mortality. It evaluates the impact of perceived mental and physical stress (like obesity) on the well-being of a person leading to the development of poor health related quality of life (HRQOL)[16].

The subjective perception of patients' well-being as outcome measure in chronic diseases like obesity can be measured by using different scales. WHO's scale to measure quality of life (WHO QOL) is validated cross culturally. WHO QOL assessment determines quality of life embedded in physical, psychological, social and environmental domains[8].

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In 2009, a study showed the relationship between health-related quality of life (HRQOL) and body mass index in Chinese adults. Obese people had poor physical function while underweight people had poor HRQOL in both physical domain and psychological domains[17].

In a study Andersen JR et al investigated the major predictor of symptoms of depression in patients with morbid obesity before and one and two years after the duodenal switch procedure. Self-reported physical health was improved significantly with reductions in BMI, symptoms of anxiety and depression[18].

Lifestyle modifications are the cornerstone of weight management and the best weight loss results are obtained by combining intensive behavioral modification programs in a structured setting[19]. Positive effects of cognitive behavioral therapy can result in a significant decrease in BMI, especially binge eating, depression and low self-esteem. In the long run, the patients receiving cognitive dietetic treatment with physical dietetic treatment can maintain weight loss as compared to those with physical dietetic treatment only[20]. The evidence for behavioral weight loss therapy in the management of obesity in Pakistan is lacking.

MATERIALS AND METHODS

A descriptive cross-sectional Study was carried out atChildren's Library Complex Lahore. It is a resource center of education and recreational activities for children. During summer vacations the number of children is increased therefore it was convenient to find females of reproductive age which accompany their children. Also, there is gymnasium for ladies only and majority of females coming to gymnasium are overweight and obese. After getting permission from ethical committee of Children's Library Complex all the obese females of child bearing age coming there were selected. Data was collected for one month. To be able to estimate the quality of life of obese females, the sample size calculated was 90, using formula for estimating population proportion with absolute precision of 10% and at 95% confidence interval. Sampling technique was purposive sampling based on predetermined selection criteria. Informed verbal consent about procedures of study was sought. In a separate room, the subjects underwent anthropometric evaluation. Weight was taken on bathroom scale on leveled floor and height was measured on wall mounted inches tape. The respondents were interviewed with the help of pretested close ended structured questionnaires. The questionnaire consisted of two parts. First issocio demographic characteristics including age, address, education, marital status, occupation, income and family system. Second isWHO quality of life (WHO QOL) assessment. Shorter version of original instrument (WHO QOL BRIEF) in Urdu translation is used in this study. It is in simple understandable language and convenient for use. It has 26 items. First two questions are about overall perception of quality of life and health. Rest of the 24 items are divided into four domains: physical health, psychological health, social relationships and environment, in the previous two weeks. In this assessment individual questions are rated on a five-point Likert scale. One indicates low or negative perception and five indicates high or positive perception. Scores of domains are scaled in a positive direction that is higher score denote higher quality of life. Some aspects like pain and discomfort, negative feelings, dependence on medication, death and dying are not scaled in a positive direction, meaning that lower scores denote higher quality of life. The scores of questions in each domain were calculated according to formula given by WHO. The mean domain scores when multiplied by four are transformed to scores used in WHO QOL-100 assessment. They can then be transformed to a 0-100 scale. Data was entered and cleaned using EPI data version 3. Data was analyzed using Epi info version 3.5.1. The general characteristics were evaluated by descriptive statistics using frequencies. Frequency tables were generated for all possible variables. Mean and other parameters of central tendency were calculated for continuous data. Bars diagrams were used to present categorical data whereas scatter plots were used for continuous data.

RESULTS AND DISCUSSION

Total 90 females participated in this study. The average age of the participants was 32.18 ± 8.20 years. In the study participants BMI had steadily increased with age till the age of 40 years and then it dropped (r=0.43). The mean height of the participants was 155.37± 4.85cm, the mean weight of participants was 83.96± 11.84Kgs. The mean BMI was 34.71 ± 4.26Kg/m^2. Maximum number of study participants were obese (88%) falling in BMI group of 27-39.9Kg/m^2 and 11.1% were morbidly obese with BMI ranging from 40.5-47.5Kg per/m^2. Almost all of them were literate (97.8%), except 2.2% participants who were illiterate. Eighty eight percent of obese and 60% of morbidly obese participants had more than five years of education. This finding is statistically significant (p=0.034). More than half (62.2%) were either housewives or unemployed. The total income of each family of 54 females belong from income category of 15,000-50,000 per month. Out of 90 females 62.2% were married living with partner, 23.3% were un-married, 5.5% females were separated or divorced and 2.2% were widowed. Sixty percent of all females were living in the joint family system and 40% were living as nuclear family. 62.2% females had family history of obesity. 52.2% females had history of chronic disease such as hypertension, diabetes mellitus, osteoarthritis and gallstones.Out of 69 married females 5.7% were infertile, 24.6% had two children and 69.5% had more than two children.

Our outcome variable is Quality of Life. First question is about 'overall perception of quality of life.' 91% of females reported fair to good quality of life. This relationship is not significant. The question number two is about 'overall satisfaction of health.' None of morbidly obese female was completely satisfied from her health status.This relationship is statistically significant. (p=0.010) (Table 1). This is due to presence of co morbidities. Rest of 24 items are divided in four domains according to WHO QOL BRIEF. Individual's perception of quality of life in each particular domain is calculated by the mean score of items within each domain.

Table1: Relationship of general perception of quality of life and health with obesity

Quality of life	Obese	Morbidity obese
General perception of quality of life (p value=0.583)		
Fair	73(91.2%)	9(90%)
Poor	7(08.8%)	1(10%)
Total	80	10
Health satisfaction (p value0.010)		
Fair	70(87.4%)	5(50%)
Poor	10(12.6%)	5(50%)
Total:	80	10

Fair=>2 scores on WHO QOL
Poor= upto 2 scores on WHO QPL)

Physical Domain: There is negative and strong correlation between BMI and physical domain of WHO QOL that is as BMI increased the QOL in physical domain had decreased and it is more in morbidly obese (r=-0.46) as compared to obese (r=-0.51) (Fig. 1). More percentage (81.2%) among obese females reported fair to good perception of quality of life in physical domain as compared to 50% of morbidly obese females who reported fair to good perceptionin physical domain. This relationship is significant statistically (p=0.039) (Table 2). This could be due to physical discomfort related to more weight. As physical domain is related to activities of daily living, dependence on medical aids for pain, fatigue, sleep and work capacity, all these activities are compromised due to more weight therefore increased weight had led to poor QOL in physical domain.

Psychological Domain: Psychological domain is also disturbed but it is more disturbed in obese participants as compared to morbidly obese. This can be explained simply because overweight and obesity is now more common. As majority of our participants were selected from gymnasium and were physically more active during past few weeks thus they could have reduction in the psychological symptoms.

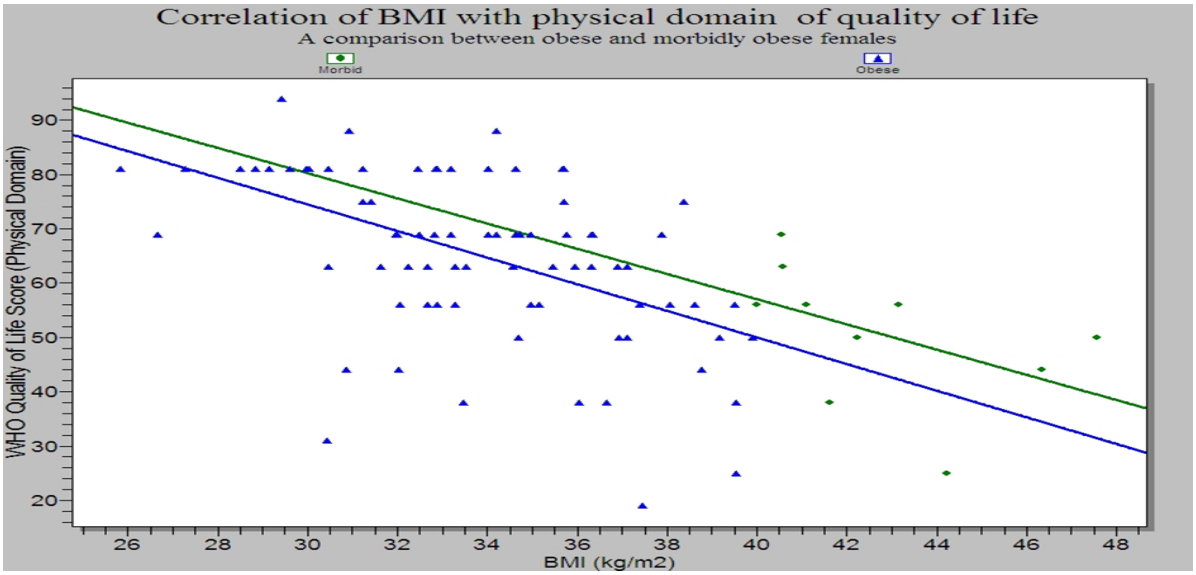
Table 2: Relationship of WHO quality of life with obesity

Domains	Obese	Morbidity obese
Physical domains (p value=0.039)		
Fair	65(72.2%)	5(5.5%)
Poor	15(16.6%)	5(5.5%)
Psychological domains (p value 0.55)		
Fair	53(58.8%)	7(3.3%)
Poor	27(30%)	3(6.6%)
Social domains (p value-0.044)		
Fair	29(32.2%)	7(7.7%)
Poor	51(32.2%)	3(3.3%)
Environmental domain (p value=0.172)		
Fair	32(35.5%)	6(6.6%)
Poor	48(53.3%)	4(4.4%)

Social Domain: In the category of fair to good level of QOL the percentage of obese is less (36.2%) as compared to morbid obese participants (70%). This is statistically significant relationship (p=0.044) (Table 2). As with obesity less likelihood of marriage and employment and less involvement in social meetings due to weight related stigma therefore the social domain was affected significantly in morbid obese females (p=0.044) as compared to obese. Among married females' social domain affected due to disturbed marital and personal relationships and social support.

Environmental Domain: The environmental domain of QOL had no correlation with BMI(r=0.0). Poor residential facilities and means of communication, freedom, security health and social care, accessibility and quality, home environment physical environment (pollution / noise / traffic / climate) and transport are the different factors in environmental domain which has no direct influence with weight.

Fig. 1



Morbid obese (r=-0.46) Obese (r=-0.51)

CONCLUSION

This study shows that obesity is linked with poor quality of life which is more disturbed in morbidly obese, especially in physical and social domains. In order to have better approach in the treatment of obesity resources should be focused on low cost primary care strategies like evaluation of quality of life and incorporation of behavioral weight loss therapy along with changes in life style and dietary management. Further evidence is needed to determine the benefit of adding behavioral weight loss therapy in order to improve quality of life in obese females.

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