Health-Related Quality of Life of Obese Patients Presenting at the General Outpatient Clinic of a Tertiary Hospital in South-Eastern Nigeria

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ABSTRACT

Background: Obesity and overweight are linked to more deaths than underweight. It is associated with reduced quality of life and poor mental health outcomes. Together with its associated comorbidities, obesity produces significant reduction in health related quality of life (HRQoL). While it is known that obesity decreases HRQoL in people, little information regarding quality of life in obese patients in this environment is available. **Objectives:** The study sought to determine the quality of life of obese individuals presenting to the General outpatient clinic. **Materials and Methods:** A cross-sectional descriptive survey was conducted at the General Out-patient Clinic of Nnamdi Azikiwe University Teaching Hospital Nnewi, Nigeria among obese patients. Data was collected using a pre-tested interviewer administered questionnaire and the SF-36 form to assess their HRQoL. Results were analyzed using SPSS V25**. Results:** The mean age of respondents was 46.9 years. The mean body mass index (BMI) was 36.4 with a significant difference in the mean physical and mental component scores among the different BMI classes. Males had higher physical component scores than females. Age, occupation, marital status and parity were significant predictors of HRQoL. **Conclusion:** The decline in quality of life increases as the BMI increases. There is need to involve the various components of quality of life domains that are affected in the management of obesity. A therapeutic approach with emphasis on increasing the quality of life on physical, emotional and mental domains will likely facilitate easier weight loss.

Keywords: Health-related quality of life, mental component score, obesity, physical component score

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INTRODUCTION

Obesity is the excessive fat accumulation that may impair health.[1] It is a substantial public health problem in both the developed and developing nations of the world.

Worldwide obesity has almost tripled since 1975.[1] Currently more than 650 million adults aged 18yrs and older are obese while 1.9 billion adults are overweight.[1] Most of the world's population lives in countries where overweight and obesity kill more people than underweight. More than four million people die each year as a result of being overweight or obese in 2017 according to the global burden of disease.[2] Obesity has posed a serious threat because of its association with the leading causes of death, poor mental health outcomes and decreased quality of life. Overall, it is associated with increases in all-cause mortality.[3]

Obesity is a major risk factor for non-communicable diseases. These diseases include cardiovascular diseases (e.g. heart disease and stroke), diabetes, osteoarthritis and some cancers such as endometrial, breast, ovarian, prostate, liver, gall bladder, kidney and coloncancers.[4] Childhood obesity has also been associated with a higher risk of adult obesity, increased disability in adulthood as well as premature death. Once regarded as a high income country problem, obesity is on the increase in both low and middle income countries especially in the urban areas. Studies have revealed that obesity accounted for about 3.9% of all cancers (544,300 cases), with the burden of these cancer cases higher for women (368,500 cases) than for men (175,800 cases).[5] Obesity with its associated complications produces significant deterioration in health–related quality of life. High body mass index (BMI) as studies have revealed, remain independently related to health-related quality of life (HRQoL).

There are many risk factors for obesity. These include individual factors such as lack of physical activity, combined with high amounts of TV, computer, video game, or other screen time which has been linked to a high body mass index (BMI).[5] Some unhealthy eating behaviors that increase the likelihood of obesity include consumption of more calories than required by the body, intake of excessive saturated fat as well as consumption of foods high in added sugar.[6] Poor sleep and long-term stress have been found to be possible risk factors for obesity.[6] While some people may be predisposed to obesity by virtue of genetic constitution, studies have revealed that instituting healthy lifestyle changes lowers that risk greatly.[7-9]

On the social scene, obesity is associated with the culturally created symbolic idea of what an ideal body should mean. The social expectation is more pronounced in women where perceived physical appearance as part of individual identity is based on acceptable body size in relation to beauty. This could lead to emotional disorders as well as mental stress as obese individuals strive to fit into this acceptable society body shape models. Obese stigmatization as well as attitude to obese persons could further lead to social discrimination, social exclusion and lack of social acceptance.[10]

There are many instruments for measuring obesity. These include body mass index (BMI) and body fat percentage to mention a few. The anthropometric measures include BMI, Waist circumference (WC), Hip circumference (HC), waist– to– hip ratio (WHR) and waist–to–height ratio (WHtR). BMI is very easy to measure and calculate and is therefore the most commonly used tool to assess the risk of health problems with the weight at population level. While body mass index may have some limitations, it has been recommended by WHO as the universal criterion for obesity.[11]

Since 1946 when WHO defined health as not being only the absence of disease and infirmity, but also the presence of physical and mental wellbeing,[12] the issues of quality of life have become crucial in health care practice and research. The term “quality of life” and more specifically “health-related quality of life” refer to an individual's perceived physical and mental health over time.[13] Health related quality of life is defined as an individual's perception of wellbeing in the physical, social and mental domains of health.[14] It includes only those factors

that are part of an individual's health. It can be regarded as a multidimensional concept that refers to an 'individual's perception of their position in life in the context of the culture and value systems in which they live and in –relation to their goals, expectations and standards which is in turn affected by the individual's physical health and psychological state.[15] In view of the morbidities often associated with obesity, individual perception of physical and mental health status is necessary for effective functioning. The highest standard of health remains one of the fundamental rights of every human being without distinction of race, religion or any condition whatsoever.[12] Generally HRQoL goes beyond the direct measures of population health, life expectancy and causes of death to focus on the impact health status has on quality of life.[14]

Many assessment instruments have been used in quality of life studies such as SF-36, EuroQoL, EQ-5D, SF-12 and WHOQoL. The SF -36 as an instrument is the most common used QoL assessment tool and has been used in studies of obese individuals.[15] It is a validated generic questionnaire which has been widely used in population-based studies across countries. The SF-36 is validated and used as part of the international quality of life assessment project.[16] The generic SF36-item measures key eight health areas: physical functioning, bodily pain, role limitations due to physical health problems, role limitations due to personal or emotional problems, emotional well-being, social functioning, energy/fatigue and general health perceptions.

It is a well-known fact that obesity has been implicated in many chronic diseases. It is against this backdrop that this study was undertaken in this environment to determine the effect of degree of obesity on the different domains of health that constitute quality of life.

MATERIALS AND METHODS

Study Site

The study was conducted at the General Out-Patient (GOPD) Clinic of NAUTH, Nnewi. Nnewi is a semi-urban city in Anambra State and is largely a commercial city. About 80 to 100 patients are seen daily at the clinic and it runs daily for the five working days in a week.

Study Design

An institution-based cross-sectional study design was used.

Study Population

This consisted of all obese adults (aged > 18 years) presenting for one reason or the other at the GOPD.

Inclusion Criteria

All obese adults (BMI >30kg/m2) who met the eligibility criteria and voluntarily gave their consent to participate in the study.

Exclusion Criteria

Those who had been diagnosed of any chronic illness for more than three months prior to presentation at the clinic were excluded.

Sample Size Determination

The sample size for this study was derived using Cochrane formula,[17] $N = \frac{Z2\,Pq}{d2}$ which yielded 384 . Calculating for 10% attrition rate, the final sample size was estimated to be 422.

Sampling Technique

A consecutive sampling technique was used in which every obese individual who met the eligibility criteria was recruited into the study until the required sample size was reached.

Data collection method

Data was collected using a pre-tested, semi-structured, interviewer-administered questionnaire which was divided into 3 sections:

- Sociodemographic variables
- Anthropometric measurements
- Quality of life Subscales

Anthropometric measurements

- This was obtained with the help of well-trained research assistants who were undergraduates with

experience in administering survey instruments. A pre-test was conducted in an outstation of the institution which helped to ascertain the associated logistics as well as standardize time required for administering the tools. The weight and height of each subject was obtained. Weight was measured in kilograms (to the nearest 0.5kg) using a calibrated bathroom scale placed on a firm horizontal surface, with subject in light clothing and without shoes. The height was measured (in meters) using a stadiometer to the nearest 0.1 cm. The subjects were erect, without shoes and headgears or caps, with the heels and occiput in contact with the stadiometer. Thereafter, the BMI was calculated by dividing the weight of the patient by the square of his/her height in metres. Obesity was then graded as follows:

Obesity class I……BMI > 30 to < 34.9
Obesity class II……BMI > 35……<39.9
Obesity class III……..> 40

-Quality of Life Subscales

The SF-36 health survey was used to obtain the quality of life scores. It consists of 36-items that assess the eight HRQoL domains, covering physical functioning (PF), role physical (RP), bodily pain (BP), general health (GH), vitality (VT), Social functioning (SF), role emotional (RE), and mental health (MH). All dimensions were analyzed as standardized scores expressed as standard deviations. The physical component summary (PCS) consists of four domains: physical functioning, physical role, bodily pain and general health domains while the mental component summary (MCS) consists of another four domains: vitality, social functioning, emotional role and mental health. Individual components as well as aggregate subscales PCS and MCS were used to compute the domain scores.

Data analysis

Both qualitative and quantitative techniques were used to analyze the data. Data was cleaned, coded and analyzed using Statistical Package for Social Sciences version 25. Categorical variables were summarized using percentages and continuous variables were summarized using mean and standard deviation. Analysis of Variance, Independent t-test and Pearson's Correlation were used to determine the differences between various groups. Statistical significance was set at $p < 0.05$.

Ethical Consideration

Research Ethics approval was obtained from the Ethics and Research Committee of NAUTH, Nnewi. Written informed consent for the interview was obtained from each respondent after thoroughly debriefing the participant on the nature, aim and benefit of the research.

RESULTS

Table 1 indicates the frequency distribution of study population according to age groups, marital status, occupation, parity, LMP and blood pressure status. The groups with the highest frequency in the study population are indicated by the symbol *. It also showed the mean baseline characteristics of the study population for 'all' patients and according to gender. Continuous variable is expressed as mean ± standard deviation.

Four hundred subjects with complete and correct data were finally studied giving a response rate of 94.8%. Of the 400 obese participants studied 150 (37.5%) were males while females were 250 (62.5%). The mean age of the participants was 46.91 ± 12.72. The mean weight was 98.8±11.48 while mean BMI was 36.4±4.79. The males had a lower BMI (34.5±4.0) than the females (37.6±4.81). The age distribution had the age category 41-50years having the highest number of participants for the females while the age category of 31-40years had the highest number of participants for males. Three hundred and forty eight (87%) of the study participants were married. Twenty seven males (18.7%) and twenty females (8.0%) were single. Two hundred and nine (52.2%) participants were traders while 42 (10.5%) were civil servants. One hundred and forty-four (57.6%) of the female participants had parity of ≥ Para 5 while only 38(15.2%) were nulliparous. One hundred and eighty-eight (47%) of the participants had mild

Table 1 Frequency distribution of some baseline demographic, anthropometric and clinical characteristics of subjects.

Variables	Males (N = 150)	Females (N = 250)	All (N = 400)
	N (%)	N (%)	N (%)
Age			
20 -30	13 (8.7)	32 (12.8)	45 (11.2)
[illegible]	40 (26.7) *	53 (21.2)	93 (23.2)
[illegible]	36 (24.0)	70 (28.0) *	106 (26.5) *
[illegible]	35 (23.3)	60 (24.0)	95 (23.8)
[illegible]	19 (12.7)	30 (12.0)	49 (12.2)
[illegible]	7 (4.7)	5 (2.0)	12 (3.0)
Marital Status			
Married	122 (81.3) *	226 (90.4) *	348 (87.0) *
Single	28 (18.7)	20 (8.0)	48 (12.0)
Separated	0 (0)	3 (1.2)	3 (0.8)
Others	0 (0)	1 (0.4)	1 (0.2)
Occupation			
Civil Servants	13 (8.7)	29 (11.6)	42 (10.5)
Dependants	2 (1.3)	24 (9.6)	26 (6.5)
Professionals	7 (4.7)	26 (10.4)	33 (8.2)
Traders	89 (59.3) *	120 (48.0) *	209 (52.2) *
Self Employed	2 (1.3)	9 (3.6)	11 (2.8)
Students	20 (13.3)	25 (10.0)	45 (11.2)
Others	17 (11.3)	17 (6.8)	34 (8.5)
Blood Pressure			
Normal	56 (37.3) *	119 (47.6) *	175 (43.8) *
Pre-hypertension	31 (20.7)	43 (17.2)	74 (18.5)
Hypertension I	35 (23.3)	56 (22.4)	91 (22.8)
Hypertension II	28 (18.7)	32 (12.8)	60 (15.0)
Parity		38 (15.2)	38 (15.2)
Nulliparous	-	13 (5.2)	13 (5.2)
1	-	14 (5.6)	14 (5.6)
2	-	19 (7.6)	19 (7.6)
3	-	22 (8.8)	22 (8.8)
4	-	144 (57.6) *	144 (57.6) *
[illegible]	-		
		6 (2.4)	6 (2.4)
LMP		102 (40.8)	102 (40.8)
Menses only once	-	23 (9.2)	23 (9.2)
Regular	-	105 (42.0) *	105 (42.0) *
Irregular	-	14 (5.6)	14 (5.6)
Post-menopausal	-		
Peri-menopausal	-		
Age (years)	[illegible]	46.4 ± 12.53	46.91 ± 12.72
Height (m)	[illegible]	1.61 ± 0.07	1.65 ± 0.08
Weight (kg)	[illegible]	98.3 ± 11.16	98.8 ± 11.48
Body Mass Index (kg/m2)	[illegible]	37.6 ± 4.81	36.4 ± 4.79

** Groups with the highest frequency., Data is expressed as mean ± standard deviation*

Indices Of Obesity	N	Mean ± Sd	P
(PCS)			< 0.001
Body Mass Index			
Class I (Mild)	188	79.9 ± 20.40	
Class II (M oderate)	133	72.1 ± 23.9	
Class III (Seve re)	79	64.8 ± 26.14	
(MCS)			
Body Mass Index			<0.001
Class I (Mild)	188	84.5 ± 13.68	
Class II (Moderate)	133	81.6 ± 14.77	
Class III (Severe)	79	78.5 ± 18.27	

obesity (class 1) while 133 (33.3%) had moderate obesity.

Table 2 shows the mean physical and mental component summary scores (PCS and MCS) of obese patients. Table 3 shows the sociodemographic variables and mean physical component summary scores (PCS) of obese patients while Table 4 shows the sociodemographic variables and mean mental component summary scores (MCS) of obese patients.

. There was a significant difference in the mean PCSs among the different classes of obesity. Subjects with class 1obesity had higher PCS than those with class II and class III obesity. The mean PCS for class 1 obesity participants was 79.9±20.40 while it was 64.8±26.14 for class 3 obese subjects.

Table 3 Sociodemographic variables and mean physical component summary scores (PCS) of obese patients

Variables	N	Mean ± Sd	Statistics	P
Age				
20 -30	45	88.2 ± 14.24		
31 – 40	93	84.3 ± 16.92		
41 – 50	106	73.9 ± 22.18		
51 – 60	95	67.6 ± 25.36		
61 – 70	49	61.8 ± 24.98		
> 70	12	53.5 ± 27.07	F = 14.94	<0.001
Sex				
Males	150	78.1 ± 21.18		
Females	250	72.1 ± 24.57	t = 2.49	0.013
Marital Status				
Married	348	72.7 ± 23.82		
Single	49	85.6 ± 18.39		
Separated	3	80.8 ± 8.1	F = 6.31	0.001
Occupation				
Civil Servants	42	85.0 ± 14.02		
Dependants	26	69.7 ± 21.81		
Professionals	33	82.7 ± 17.76		
Traders	209	73.4 ± 24.33		
Self Employed	11	83.6 ± 11.28		
Students	45	71.2 ± 23.86		
Others	34	63.5 ± 29.02	F = 4.18	<0.001
Parity				
Nulliparous	38	79.1 ± 20.86		
1	13	79.1 ± 21.19		
2	14	79.4 ± 20.59		
3	19	76.5 ± 21.54		
4	22	71.1 ± 28.46		
≥5	144	67.4 ± 25.19	F = 4.60	<0.001

Table 4 Sociodemographic variables and mean mental component summary scores (MCS) of obese patients

Variables	N	Mean ± Sd	Statistics	P
Age				
20 -30	45	87.9 ± 8.81		
31 – 40	93	85.1 ± 12.55		
41 – 50	106	82.2 ± 17.08	F = 4.34	0.001
51 – 60	95	81.3 ± 14.34		
61 – 70	49	76.3 ± 18.24		
> 70	12	74.4 ± 17.39		
Sex				
Males	150	83.7 ± 14.71		
Females	250	81.5 ± 15.43	t = 1.38	0.17
Marital Status				
Married	348	81.6 ± 15.63		
Single	49	87.2 ± 10.79		
Separated	3	89.6 ± 2.64	F = 3.34	0.04
Occupation				
Civil Servants	42	87.9 ± 11.38		
	26	84.6 ± 10.10		
Professionals	33	88.7 ± 8.78		
Traders	209	80.9 ± 16.56		
Self Employed	11	83.3 ± 11.98		
Students	45	80.4 ± 15.67		
Others	34	78.8 ± 16.05	F = 2.83	0.01
Parity				
Nulliparous	38	83.4 ± 14.63		
1	13	83.0 ± 18.81		
2	14	88.1 ± 5.58		
3	19	81.7 ± 13.69		
4	22	80.1 ± 20.53		
≥ 5	144	80.8 ± 15.39	F = 1.00	0.42

Table 5: BMI classes and Mean quality of life (QoL) sub-variable scores of obese patients.

Quality Of Life Variables	Bmi Classifications			F-Stat	P
	Mild (N = 188)	Moderate (N= 133)	Severe (N =79)		
Scale 1 – PF	86.1± 21.78	75.7 ± 29.08	66.14±32.83	16.74	<0.001
Scale 2 – RP	76.6± 39.60	65.6 ± 43.29	59.8 ± 45.54	5.35	0.005
Scale 3 – RE	93.8± 22.40	93.08 ± 23.86	89.9 ± 28.42	0.75	0.47
Scale 4 – Vt	77.6± 21.64	71.6 ± 23.45	69.1 ± 25.16	4.87	0.008
Scale 5 – MH	77.1± 14.74	77.7 ± 13.27	76.8 ± 14.74	0.13	0.88
Scale 6 – SF	89.9 ± 22.2	83.1 ± 29.12	77.9 ± 30.2	6.43	0.002
Scale 7 – BP	84.2± 22.91	78.3 ± 26.83	70.1 ± 29.48	8.53	<0.001
Scale 8 – GH	72.5± 20.67	69.7 ± 20.65	62.9 ± 22.52	5.78	0.003

***Abbreviations**: PF = Physical Functioning; RP = Role-Physical; RE = Role – Emotional; Vt = Vitality; MH = mental Health; SF = Social functioning; BP = Body Pain; GH = General Health.*

Table 6: Body mass index and quality of life sub-scale scores in obese patients.

Variables	Unadjusted Correlation		Adjusted Correlation	
	Coefficient	P	Coefficient	P
BMI vs. Scale 1 – PF	-0.303	<0.001	-0.233	<0.001
BMI vs. Scale 2 - RP	-0.185	<0.001	-0.122	0.015
BMI vs. Scale 3 - RE	-0.106	0.03	-0.099	0.049
BMI vs. Scale 4 - Vt	-0.156	0.002	-0.120	0.017
BMI vs. Scale 5 - MH	-0.021	0.671	-0.029	0.565
BMI vs. Scale 6 – SF	-0.179	<0.001	-0.126	0.012
BMI vs. Scale 7 – BP	-0.205	<0.001	-0.144	0.004
BMI vs. Scale 8 – GH	-0.201	<0.001	-0.178	<0.001

The MCS was higher than PCS for all classes of obesity. ANOVA indicated significant differences for the mean PCS amongst the age groups (P<0.001): marital status (P<0.01); sex (P<0.013); occupational status (P<0.001) and parity (P<0.001). Mean MCS also indicated significant differences amongst the age groups (P<0.01); marital status (P<0.05) and occupation (P<0.05) but not gender and parity. Table 5 shows the BMI classes and mean quality of life (QoL) sub-variable scores of obese patients while Table 5 shows the BMI classes and mean quality of life (QoL) sub-variable scores of obese patients**.**

DISCUSSION

Over the last decades, there have been measures to address the obesity epidemic. It is associated with a wide range of dire health implications as well as reduced health-related quality of life.

Health-related quality of life focuses on the effect of health on a person's ability to live a fulfilling life. It includes concepts such as physical, mental and social functioning. This study revealed that unmarried subjects had higher PCS and MCS scores when compared to the married individuals. This difference was found to be significant. This is also similar to the finding in occupation where the civil servants and professionals were found to have higher mean PCS and MCS scores when compared to the traders. While there was a significant difference in the mean PCS scores in parity with females of higher parity having lower scores, there was no statistically significant difference in the mean MCS scores for parity. The various age categories also revealed differences in their various PCS and MCS scores with the younger age groups having significantly higher scores across both physical and mental domains. The sociodemographic variables that were found to be predictors of HRQoL were age, gender, occupation, marital status and parity.

The findings in this study revealed that as the BMI increased, the QoL as depicted by the mean physical component scores decreased. This supports previous studies by Stevenson et al, Almorjathe et al and Pimenta et al in UK, Saudi Arabia and Brazil.[18-20] A similar study in Spain by Busutil et al had also reported lower quality of life with increasing BMI.[21] In Nigeria, the findings are also similar to the results by Udoh et al and Fagbohun et al in South-South Nigeria and South West Nigeria.[22,23]

The mean MCS of the participants was noted to be higher than the corresponding PCS across each obesity class. The MCS was also noted to be significantly different across each class with those in class 1 obesity class having higher scores than those in class II and III groups. This implies that in this environment, obesity affects physical functioning more than mental health.

In the various domains, all the scores significantly decreased across the classes of obesity as the BMI increased except in mental health domain. After

adjusting for age, sex, marital status, parity and occupation, significant associations were maintained in all the domains except mental health. There were significant associations in PF($p<0.001$), RP ($P<0.001$), RE ($P<0.05$), Vt ($P<0.01$), SF ($P<0.01$), BP ($P<0.001$) and GH ($P<0.001$). On the overall, this study discovered no significant association between obesity and mental health component of health-related quality of life. This finding is supported by the study done by Busutil et al and Magallares which revealed no significant association between obesity and mental health,[21,24] but contrary to the finding by Mejaddam et al and Abbas et al in which the mental health domain was significantly affected by obesity.[25,26]

Subjects with mild obesity had significantly higher scores compared to the moderate and severe obese patients in physical function, role physical, vitality, social functioning, body pain and general health domains following post-hoc multiple comparative test. The mean PCS indicated significant differences in the various age groups. The PCS of patients in the 20-30years was significantly higher than those in the age groups of 41-50, 51-60, 61-70 and > 71 years. However, the study revealed that the PCS of patients within the 20-30years age group did not differ significantly from those of 31-40 years. This finding is similar to earlier studies where Stevenson et al reported higher quality of life among the younger age groups.[18]This study also revealed a similar significant difference between the mean MCS and various age categories with the younger age groups having higher MCS than the older age groups.

It was also discovered that obese males had higher mean PCS compared to the females ($p < 0.05$) whereas there was no significant difference in mean MCS between the males and females. The finding of higher mean PCS in males is similar to findings by Busitil et alas well as Ghorbani et al.[21,27] However, Pimenta et al in their study discovered no significant difference in quality of life between males and females.[20] Rosjabek et al also had quality of life affected by gender differences in their study.[28] Zawisza et al also discovered a linear relationship between the obese males and their quality of life.[29] While most previous studies had reported better HRQoL in physical functioning in males, they had no consensus on mental health component HRQoL in both sexes.

It was also discovered that the mean values for quality of life subscales of the different classes of obesity according to their BMI differed significantly except in the mental health and role emotional domains. This is similar to the findings by Ghorbani et al in Iran who also observed only significant differences in the subscales in 6 domains as discovered in this study.[27] However, on the overall, the mean MCS of obese individuals differed significantly aongst the different classes of obesity as the participants with mild obesity had significantly higher mean MCS compared to those with moderate and severe obesity respectively.

Analysis also revealed significant differences amongst th age groups with the younger obese individuals having higher mean MCS scores. This finding is also supported by earlier studies.[19] Some studies however had observed significant changes in both the physical, psychosocial and social relationship of obese individuals.[30] Further studies may be required to precisely determine the impact of obesity on mental health in this environment. It was also observed in this study that marital status was a significant predictor of HRQoL in obese females as the single obese individuals had significantly higher mean PCS and MCS scores than married obese individuals.

This study also revealed no significant difference in the mental health domain of HRQoL between obese males and females although the males had higher scores than females. A study had made similar observations in which there was no observed relationship between obesity and overall mental health in both obese male and female subjects.[31]. This is however contrary to the study done by Moly et al who observed that the obese males had better mental health than the obese females,[32] whereas for the physical HRQOL, there was a significant difference as the males had higher physical HRQOL

when compared to the females.

Strength and Limitations

The strength of this study lies in the exclusion of long-lasting chronic diseases which on their own could affect an individual's perception of quality of life. The questionnaires had a subjective component which was dependent on the relative perception and accurate recall of the individual at that point in time. The study has demonstrated that further work will be needed to establish the direction of associations

CONCLUSION

This study revealed a decrease in HRQOL among obese individuals with significant deterioration as the BMI increased. It is also revealed that obesity affected the physical component of HRQoL more than the mental component of HRQoL. Age, sex, marital status, parity and occupational status were significant predictors of physical HRQoL in obese individuals whereas age, marital status and occupational status were significant predictors of mental HRQoL in obese individuals. Care and management of obesity should be approached in diverse ways considering the multifaceted nature in which obesity impacts on QoL. A therapeutic approach with emphasis on increasing the QOL on physical, emotional and mental domains will likely facilitate easier weight loss. Putting the age and gender differences as well as the occupational status into consideration while managing obesity will go a long way to facilitate increase in QOL as well as mitigate the effects of chronic diseases on obese individuals.

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Author Contributions

ALO and BON conceptualized and designed the study. SIE, CMU and IDO were involved in data collection. All authors were involved in the writing and revision of the manuscript. The authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

Data Availability

Anonymised data and details used in this study are available from the corresponding author upon necessary request.

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Conflict of Interest

The authors declare that this research was conducted in the absence of any financial relationship that could be misconstrued as a potential conflict of interest

Ethical Approval: The study was approved by the institution's Ethics and Research Committee.

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