Journal of
Pharmacology & Clinical Research
ISSN: 2473-5574

Juniper Publishers
key to the Researchers

Review Article
Volume 8 Issue 1 - September 2019
DOI: 10.19080/JPCR.2019.08.555727

J of Pharmacol & Clin Res

Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan

Madeeha Malik[1]*, Waseem Shaukat[2], Azhar Hussain[3], Ayisha Hashmi[4]

[1]*Hamdard Institute of Pharmaceutical Sciences, Hamdard University Islamabad, Pakistan*

[2]*Hamdard Institute of Pharmaceutical Sciences, Hamdard University Islamabad, Pakistan*

[3]*Faculty of Pharmacy, Hamdard University, Pakistan*

[4]*Hamdard Institute of Pharmaceutical Sciences, Hamdard University Islamabad, Pakistan*

Submission: August 12, 2019; **Published:** September 12, 2019

***Corresponding author:** Madeeha Malik, Professor/Director, Hamdard Institute of Pharmaceutical Sciences, Pakistan

Abstract

Introduction: Obesity interferes with the health-related quality of life in different manners and lower the well-being of a person by decreasing life expectancy and increasing morbidity risk. Objective: The present study was designed to assess health related quality of Life among overweight/obese in relation to BMI in two major cities of Pakistan. Method: A descriptive cross-sectional study design was used to assess health related quality of Life and binge eating disorder among overweight/obese in relation to BMI in two major cities Islamabad (Federal Capital) and Rawalpindi (Twin city) of Pakistan. Short Form Health Survey (SF-36) questionnaire was distributed to a sample of 382 overweight/obese patients selected through convenience sampling technique. After data collection, the data was cleaned, coded and entered in SPSS version-21. Mann Whitney and Kruskal-Wallis tests ($p \geq 0.05$) were performed to find out the difference among different variables. Results: The results highlighted that lower scores for HRQoL were observed in role emotional (32.46, ±14.79) followed by bodily pain (43.31, ±26.12) and role physical (15.41, ±15.41) whereas highest scores were observed in the domain of physical functioning (21.13, ±5.09). Conclusion: The current study concluded low HRQoL among overweight/obese in Pakistan. Role emotional, bodily pain and role physical were the most effected domains due to emotional problems among overweight/obese. HRQoL of males and patients aged between 18-30 years old were found to be more affected due to weight gain. In spite of the daily work walk/exercise and diet control plans poor HRQoL was reported among overweigh/obese.

Keywords: Health related quality of life, Obesity, Overweight, Pakistan

Abbreviation: HRQoL: Health related quality of life

Introduction

Obesity has been identified as global health issue since start of 21st century. Being overweight/obese is a complex chronic unhealthy state that is affected by genetic, social, metabolic, behavioral, and cultural factors. All these factors have important influence on health, functional capacity, psychosocial well-being, longevity and quality of life [1]. Recent trends like fast food, sedentary lifestyle, rapid industrialization and urbanization have been identified as important key factors which add to increasing burden of overweight/obesity [2]. Obesity interferes with the health-related quality of life in different manners and lower the well-being of a person by decreasing life expectancy and increasing morbidity risk [3]. Overweight/obese people have poor health related quality of life (HRQoL), particularly low physical health scores in comparison of individuals with normal BMI or with some chronic disorders [4]. The HRQoL vary by gender and BMI and are not consistent across all domains among overweight/obese especially physical functioning and mental health have been found to be lower in comparison with healthy adults [5]. Obese individuals who seek treatment versus who do not seek treatment are most likely to reported psychological disturbance, eating disorders and impaired HRQoL [6]. Out of 671 million obese reported worldwide, 50% of them live in ten countries: China, USA, Russia, India, Mexico, Brazil, Germany, Egypt, Pakistan, and Indonesia [7]. Pakistan is ranked 9th among 188 countries facing obesity challenge around the globe [7]. One quarter of Pakistani population has been classified as overweight/obese with the use of Indo-Asian-specific BMI cut-off values and reported shocking rates of obesity among youth and women, where interventional strategies should be targeted. Global statistics shows high prevalence of obesity in Pakistan but unfortunately strategies to control and tackle it are not integrated in the annual healthcare plans [8]. Limited evidence is available regarding impact of obesity on HRQoL in Pakistan. Therefore, the present study was designed to assess health

related quality of Life among overweight/obese in relation to BMI in two major cities of Pakistan.

Methodology

A descriptive cross-sectional study design was used to assess health related quality of Life and binge eating disorder among overweight/obese in relation to BMI in two major cities Islamabad (Federal Capital) and Rawalpindi (Twin city) of Pakistan. Research approval for the current study was obtained from the Ethical Committee of Hamdard University (Ref. No. HU/DRA/2017/554). For the collection of data, approval was taken from Medical Superintendents of hospitals (OPDs), owner of clinics, owner of fitness centers and proprietors or owner of community pharmacies. Study sites for this research included OPDs of different health care facilities, community pharmacies, fitness centers and obesity clinics located in twin cities of Pakistan. Study respondents included both genders lying in age group of 18-65 years, having BMI greater than 25 and who could easily read and write. While persons with physical limitations, body builders, pregnant ladies and those on treatment for a psychological disorder were excluded. Informed consent was taken from all the respondents and they were also assured of the confidentiality of data by the principal investigator. Sample size of study population was calculated by using Raosoft® sample size calculator which was 382 to achieve 95% confidence interval with 5% margin of error. Convenience sampling technique to select respondents.

A pre-validated data collection tool Short Form Health Survey (SF-36) was used to collect data after taking approval from the respective organization Optum and Shire US Inc for using SF-36. Short Form Health Survey (SF-36) is a marker of overall health status and comprises of 8 sections having total number of 36 questions that directly measure HRQoL. Section 1 is Physical Functioning Domain with total number of ten questions (3, 4, 5, 6, 7, 8, 9, 10, 11 and 12); Section 2 is Role Physical Domain containing four questions (13, 14, 15 and 16); Section 3 is Bodily Pain Domain comprises of two questions (21 and 22); Section 4 is General Health Domain having six questions (1, 2, 33, 34, 35 and 36); Section 5 is Social Functioning Domain containing two questions (20 and 32); Section 6 is Role Emotional Domain comprises of three questions (17, 18 and 19); Section 7 is Vitality Domain having four questions (23, 27, 29 and 31) and last Section 8 is Mental Health Domain with five questions (24, 25, 26, 28 and 30). Short Form Health Survey (SF-36) directly evaluate only the Health-related quality of life. While filling the tool by the respondent, follow-up discussion should be considered to assess the respondent behavior. Surety for filling of all questions honestly and without interruptions by a respondent should be a prime priority.

The first step of scoring of the tool was entering item response data and ensuring that survey forms were complete and unambiguous. The problems which were faced during scoring were items with out of range response values, missing item responses and single item with multiple responses. The next step was to recode the item response values into final responses or scores which were used in calculating the raw scores for each domain. Several steps were included in this process, including changing out of range values to missing, recoding values for 10 items, and substituting person-specific estimates for missing items. After recoding, the raw scale scores for each health domain were determined. The total raw score was simple algebraic sum of final response values of all items in a given scale. In the next step, health domain scale total raw scores were transformed to 0-100 score using the following formula: ((Actual Raw Score-Lowest Possible Raw Score)/Possible Raw Score Range) x 100 (Maruish, 2011).

Pilot testing was conducted at 10% of the sample size to test the reliability of the tool. The value of Cronbach's alpha was 0.82 which was satisfactory and considering that 0.68 is the acceptable cut off value. The questionnaire was given to the respondents by hand and collected back on same day to avoid any biasness of study. After data collection, the data was cleaned, coded and entered in SPSS version-21. Descriptive statistics comprising of frequency and percentages were calculated. Mann Whitney and Kruskal-Wallis tests ($p \leq 0.05$) were performed to find out the difference among different variables.

Results

Out of 382 respondents, 63.6% (n=243) were males while 36.4% (n=139) were females. Likewise, out of total respondent, 12% (n=46) were having qualification of matriculation and 43.2% (n=165) were having undergraduate qualification. Regarding occupation of the respondent, 43.5% (n=166) were students and 24.1% (n=92) were private employee. Out of all respondents, 52.9% (n=202) were overweight and 47.1% (n=180) were obese. Of the total respondents, 31.9% (n=122) had family history of overweight/obesity and 68.1% (n=260) had no family history of overweight/obesity. Out of all respondents, 47.9% (n=183) having carbohydrates and 32.7% (n=125) having proteins as weekly major diet portion in their daily life style (Table 1).

Table 1: Demographic Characteristics of Respondents.

Indicator		Total n (%)
Age	18-30Y	253 (66.2)
	31-40Y	85 (22.3)
	41-50Y	24 (6.3)
	>50Y	20 (5.2)

How to cite this article: Madeeha Malik, Iter un Nisha, Azhar Hussain, Ayisha Hashmi. Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan. J of Pharmacol & Clin Res. 2019; 8(1): 555727. DOI: 10.19080/JPCR.2019.08.555727

Gender	Male	243 (63.6)
	Female	139 (36.4)
Marital Status	Married	143 (37.4)
	Unmarried	239 (62.6)
Qualification	Matriculation	46 (12.0)
	Intermediate	63 (16.5)
	Under Graduate	165 (43.2)
	Post Graduate	108 (28.3)
Occupation	Govt-Employee	37 (9.7)
	Private Employee	92 (24.1)
	Self-Employee	35 (9.2)
	Un-Employee	52 (13.6)
	Student	166 (43.5)
Residency	Urban	293 (76.7)
	Rural	89 (23.3)
BMI	Overweight (25-29kg/m^2)	202 (52.9)
	Obese (30 and above kg/m^2)	180 (47.1)
Previously on any Diet Plan	Yes	53 (13.9)
	No	329 (86.1)
Regularly Walk and Exercise	Yes	103 (27.0)
	No	279 (73.0)
Using Anti-Obesity Drug	Yes	7 (1.8)
	No	375 (98.2)
Any Disease Present	Yes	61 (16.0)
	No	321 (84.0)
Overweight/Obesity in Family	Yes	122 (31.9)
	No	260 (68.1)
Smoking Habit	Yes	75 (19.6)
	No	307 (80.4)
Weekly Major Diet Portion	Carbohydrates	183 (47.9)
	Proteins	125 (32.7)
	Fats	74 (19.4)

The results highlighted that lower scores for HRQoL were observed in role emotional (32.46, ±14.79) followed by bodily pain (43.31, ±26.12) and role physical (15.41, ±15.41) whereas highest scores were observed in the domain of physical functioning (21.13, ±5.09). A detail description is given in Table 2. Results indicated respondents in age group 18-30 years had poor HRQoL in domains of general health (47.39, ±1.17) followed by vitality (64.05, ±1.82) and mental health (65.47, ±1.44). Moreover it was observed that female respondents had better HRQoL in overall all the domains as compared to male respondents. Furthermore, it was also highlighted that married respondents had better HRQoL in all the domains as compared to unmarried respondents. The results also indicated that post graduate respondents had lowest scores of HRQoL in domains of bodily pain (45.64, ±2.28), general health (44.98, ±9.65), social functioning (46.62, ±1.49) and vitality (61.06, ±1.58). Furthermore, it was reported that as compared to other respondents self employee had better HRQoL in domains of role physical (37.89, ±14.41), role emotional (34.94, ±12.51) and general health (52.01, ±1.06). Moreover, it is also reported that respondents of rural area had better HRQoL in almost all domains as compared to respondents of urban areas. Overweight respondents had more low scores of HRQoL across the domains as compared to obese with bodily pain (46.51, ±2.25), social functioning (46.31, ±1.69), vitality (66.22, ±1.81) and physical health (56.39, ±24.10). Furthermore, respondents those were on any diet plan reported low scores of HRQoL in across domain as compared to those were not on any diet plan. Moreover, the respondents those were using anti-obesity drugs had better HRQoL in almost all domains and the respondents with family history of obesity had poor HRQoL in domains of role physical (33.95, ±14.46) and role emotional (34.38, ±11.84) as compared

How to cite this article: Madeeha Malik, Iter un Nisha, Azhar Hussain, Ayisha Hashmi. Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan. J of Pharmacol & Clin Res. 2019; 8(1): 555727. DOI: 10.19080/JPCR.2019.08.555727

to respondent those had not any history of overweight and obesity (Table 3).

Comparison of HRQoL domains among different age groups of overweight/obese demonstrated a significant difference (p=0.001) between ages 18-30 years had lower mental HRQoL scores. Analysis of the scores of married respondents reported a significant difference (p=0.022) in physical health component score (PCS). Similarly, significant difference (p=0.031) was reported in Mental component score of undergraduate respondents. HRQoL among overweight or obese persons of different occupations highlighted low scores of HRQoL among government employee. Similarly, significant differences was found in all domains of HRQoL among respondents doing regularly walk and exercise. Furthermore, comparison of HRQoL domains across respondents having any family history of overweight or obesity revealed a significant difference (p=0.022) in mental health score with poor HRQoL in persons having no family history of overweight/obesity (Table 4).

Table 2: Domains of Health Related Quality of Life (HRQoL) among Overweight/Obese.

Indicator	Mean Score	Standard Deviation
Physical Functioning	55.69	± 25.41
Role Physical	33.55	± 15.41
Bodily Pain	43.31	± 26.12
General Health	44.45	± 14.71
Social Functioning	42.21	± 22.46
Role Emotional	32.46	± 14.79
Vitality	60.57	± 21.93
Mental Health	62.49	± 19.65

Table 3: Impact of Demographic Characteristics on Domains of HRQoL.

Indicator		Physical Health	Role Physical	Bodily Pain	General Health	Social Functioning	Role Emotional	Vitality	Mental Health
Age	18-30Y	55.32	35.13	47.56	47.39	50.16	36.45	64.05	65.47
		(±23.38)	(±15.79)	(±2.19)	(±1.17)	(±1.80)	(±14.19)	(±1.82)	(±1.44)
	31-40Y	58.63	34.46	53.59	48.93	44.85	35.52	70.22	69.7
		(±21.61))	(±14.31)	(±2.36)	(±1.03)	(±1.94)	(±14.27)	(±1.96)	(±1.67)
	41-50Y	66	32.5	56.29	55.01	44.17	33.89	74.58	74
		(±21.72)	(±12.83)	(±2.50)	(±1.01)	(±1.88)	(±12.49)	(±1.59)	(±1.35)
	>50Y	72.35	33.23	49.02	50.01	41.91	33.72	73.89	81.17
		(±19.77)	(±14.23)	(±2.52)	(±9.99)	(±9.82)	(±11.55)	(±1.53)	(±1.74)
Gender	Male	58.41	34.48	50.82	46.22	49.07	36.21	66.89	67.6
		(±21.48)	(±14.10)	(±2.27)	(±1.01)	(±1.79)	(±12.36)	(±1.76)	(±1.49)
	Female	57.07	35.01	47.34	51.85	46.47	35.39	66.44	68.69
		(±25.51)	(±12.49)	(±2.26)	(±1.21)	(±1.82)	(±14.87)	(±2.00)	(±1.67)
Marital Status	Married	61.74	34.01	50.41	49.47	43.28	36.05	69.8	72
		(±22.74)	(±14.16)	(±2.21)	(±1.17)	(±1.51)	(±15.79)	(±1.91)	(±1.68)
	Unmarried	55.38	35.13	48.88	47.67	51.25	35.8	64.69	65.41
		(±22.99)	(±15.54)	(±2.32)	(±1.10)	(±1.92)	(±14.42)	(±1.80)	(±1.43)
Qualification	Matriculation	61.33	35.21	49.62	55.55	49.16	36.94	77.71	70
		(±28.46)	(±15.09)	(±2.71)	(±1.12)	(±2.04)	(±12.08)	(±1.77)	(±2.00)
	Intermediate	55.36	34.73	51.32	50.59	46.13	35.08	73.81	72.62
		(±22.53)	(±12.98)	(±2.25)	(±1.24)	(±1.84)	(±13.18)	(±2.34)	(±1.68)
	Under Grad.	55.27	34.42	51.65	47.78	49.73	36.05	64.49	65.85
		(±20.35)	(±13.87)	(±2.11)	(±1.09)	(±1.94)	(±14.26)	(±1.60)	(±1.31)
	Post Grad.	61.28	34.78	45.64	44.98	46.62	35.77	61.06	67.36
		(±24.03)	(±14.59)	(±2.28)	(±9.65)	(±1.49)	(±14.41)	(±1.58)	(±1.56)

How to cite this article: Madeeha Malik, Iter un Nisha, Azhar Hussain, Ayisha Hashmi. Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan. J of Pharmacol & Clin Res. 2019; 8(1): 555727. DOI: 10.19080/JPCR.2019.08.555727

Occupation	Govt. Employee	76.05	36.77	39.76	43.64	44.07	35.78	74.01	73.94
		(±24.75)	(±12.93)	(±2.17)	(±8.02)	(±1.57)	(±14.29)	(±2.46)	(±1.99)
	Pvt. Employee	56.96	34.09	53.16	45.5	42.64	36.83	67.03	67.25
		(±24.04)	(±14.27)	(±2.35)	(±1.03)	(±1.75)	(±12.56)	(±1.74)	(±1.67)
	Self Employee	58.62	37.89	46..74	52.01	49.56	34.94	60.12	66.72
		(±28.62)	(±14.41)	(±2.54)	(±1.06)	(±1.78)	(±12.51)	(±2.03)	(±1.73)
	Un-Employee	60.32	33.31	50.89	51.34	47.58	35.85	72.17	76.77
		(±22.98)	(±12.60)	(±2.67)	(±1.37)	(±1.56)	(±13.56)	(±2.15)	(±1.35)
	Student	54.32	34.14	49.79	48.74	51.02	35.76	65.51	65.22
		(±19.27)	(±13.13)	(±2.03)	(±1.12)	(±1.89)	(±12.90)	(±1.58)	(±1.33)
Residency	Urban	56.39	34.89	46.51	48.56	46.31	36.34	66.22	68.27
		(±24.10)	(±13.53)	(±2.25)	(±1.11)	(±1.69)	(±13.62)	(±1.81)	(±1.62)
	Rural	62.72	34.03	59.07	47.81	53.73	34.47	68.31	67.19
		(±18.73)	(±15.18)	(±2.11)	(±1.20)	(±2.04)	(±12.21)	(±2.01)	(±1.39)
BMI	Overweight	60.47	34.97	43.08	47.83	45.28	37.61	66.8	68.25
		(±24.94)	(±14.20)	(±1.87)	(±1.18)	(±1.47)	(±12.64)	(±1.89)	(±1.74)
	Obese	55.86	34.45	54.56	48.81	50.28	34.55	66.65	67.84
		(±21.33)	(±14.29)	(±2.43)	(±1.09)	(±2.01)	(±11.19)	(±1.83)	(±1.42)
Previously on any diet plan	Yes	58.62	36.81	46.36	51.72	43.53	36.66	63.36	70.86
		(±20.44)	(±12.67)	(±2.62)	(±1.16)	(±1.23)	(±14.03)	(±1.20)	(±1.29)
	No	57.8	34.39	49.92	47.93	48.69	35.79	67.18	67.63
		(±23.44)	(±13.98)	(±2.22)	(±1.12)	(±1.86)	(±14.34)	(±1.92)	(±1.59)
Regularly Walk and Exercise	Yes	54.88	36.67	46.82	44.64	47.02	36.67	62.05	70.95
		(±25.67)	(±12.99)	(±2.49)	(±1.18)	(±2.01)	(±14.02)	(±1.92)	(±1.77)
	No	58.54	34.27	50.05	49.17	48.29	35.74	67.71	67.39
		(±22.48)	(±12.01)	(±2.23)	(±1.11)	(±1.76)	(±14.22)	(±1.83)	(±1.51)
Using anti-obesity drug	Yes	67.5	37.29	45.92	58.33	43.75	36.09	66.58	68.33
		(±14.74)	(±12.55)	(±2.57)	(±8.33)	(±6.85)	(±15.53)	(±1.86)	(±1.38)
	No	57.65	34.87	48.81	48.13	48.18	37.87	68.33	68.01
		(±23.20)	(±15.19)	(±2.33)	(±1.12)	(±1.82)	(±12.16)	(±1.53)	(±1.58)
Any family history of overweight or obese	Yes	58.49	33.95	51.14	51.37	49.82	34.38	65.23	67.94
		(±21.46)	(±14.46)	(±2.55)	(±1.29)	(±2.12)	(±11.84)	(±1.62)	(±1.64)
	No	57.63	35.01	48.76	47.08	47.3	36.56	67.36	68.05
		(±23.78)	(±15.14)	(±2.14)	(±1.03)	(±1.64)	(±12.34)	(±1.95)	(±1.53)
Any disease present	Yes	65.54	34.81	50.24	53.26	47.01	34.31	76.35	74.67
		(±22.09)	(±11.72)	(±2.49)	(±1.02)	(±1.71)	(±12.25)	(±1.81)	(±1.42)
	No	56.08	34.65	49.31	47.22	48.32	36.28	64.43	66.44
		(±22.96)	(±15.86)	(±2.22)	(±1.12)	(±1.83)	(±14.58)	(±1.79)	(±1.56)
Smoking Habit	Yes	55.1	33.75	49.77	44.16	53	37.01	65.37	68.3
		(±22.73)	(±11.50)	(±2.55)	(±1.07)	(±1.95)	(±14.51)	(±1.66)	(±1.93)
	No	58.63	34.93	49.41	49.49	46.77	35.61	67.07	67.95
		(±23.15)	(±12.42)	(±2.20)	(±1.12)	(±1.74)	(±11.56)	(±1.91)	(±1.45)
Weekly diet pattern having major portion of	Carbohydrates	56.34	34.92	48.64	49.29	47.16	35.61	67.96	65.71
		(±20.81)	(±12.20)	(±2.35)	(±1.14)	(±1.86)	(±11.37)	(±1.92)	(±1.45)
	Proteins	61.36	34.46	53.01	50.01	49.64	36.95	66.16	71.78
		(±25.35)	(±12.34)	(±2.09)	(±1.14)	(±1.75)	(±14.06)	(±1.90)	(±1.46)
	Fats	56.76	34.46	46.62	44.04	48.04	36.5	64.58	68.23
		(±24.69)	(±12.31)	(±2.33)	(±1.00)	(±1.76)	(±14.34)	(±1.62)	(±1.86)

How to cite this article: Madeeha Malik, Iter un Nisha, Azhar Hussain, Ayisha Hashmi. Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan. J of Pharmacol & Clin Res. 2019; 8(1): 555727. DOI: 10.19080/JPCR.2019.08.555727

Table 4: Comparison of HRQoL Domains by Demographic Characteristics.

Demographic	Physical Health Component Score				Mental Health Component Score				Composite Score			
	n	Mean Rank	Test Statistics	P Value	n	Mean Rank	Test Statistics	P Value	n	Mean Rank	Test Statistics	P Value
Age	18-30Y=253	193.23	0.397[a]	0.942	18-30Y=253	181.95	18.65[a]	0.001	18-30Y=253	188.05	5.522[a]	0.13
	30-40Y=85	185.61			30-40Y=85	185.9			30-40Y=85	184.45		
	40-50Y=24	188.54			40-50Y=24	243.12			40-50Y=24	210.69		
	>50Y=20	198.28			>50Y=20	274.18			>50Y=20	242.08		
Gender	Male=243	184.15	15103.50[b]	0.084	Male=243	187.64	15950.5[b]	0.367	Male=243	184.51	15190.50[b]	0.096
	Female=139	204.34			Female=139	198.25			Female=139	203.72		
Marital Status	Married=143	174.92	14717.50[b]	0.022	Married=143	204.62	15212.00[b]	0.07	Married=143	186.55	16380.00[b]	0.499
	Unmarried=239	201.42			Unmarried=239	183.65			Unmarried=239	194.46		
Qualification	Matriculation=46	214.5	2.47[a]	0.483	Matriculation=46	216.59	8.74[a]	0.031	Matriculation=46	224.99	6.09[a]	0.112
	Intermediate=63	185.4			Intermediate=63	212.59			Intermediate=63	198.55		
	Under Grad=165	191			Under Grad=165	174.44			Under Grad=165	180.78		
	Post Grad=108	185.9			Post Grad=108	194.58			Post Grad=108	189.5		
Occupation	Govt. Employee=37	138.14	21.6[a]	0.001	Govt. Employee=37	159.93	14.6[a]	0.004	Govt. Employee=37	146.99	13.9[a]	0.003
	Pvt. Employee=92	179.13			Pvt. Employee=92	165.98			Pvt. Employee=92	172.08		
	Self Employee=35	203			Self Employee=35	215.66			Self Employee=35	209.64		
	Un-Employee=52	164.56			Un-Employee=52	223.78			Un-Employee=52	189.82		
	Student=166	216.27			Student=166	197.48			Student=166	208.89		
Residency	Urban=293	187.36	11825.00[b]	0.186	Urban=293	190.76	12821.50[b]	0.814	Urban=293	188.29	12098.00[b]	0.301
	Rural=89	205.13			Rural=89	193.94			Rural=89	202.07		
Regularly walk and exercise	Yes=103	163.86	11521.50[b]	0.002	Yes=103	165.38	11678.50[b]	0.004	Yes=103	164.59	11597.00[b]	0.005
	No=279	201.7			No=279	201.14			No=279	201.43		
Using anti-obesity drugs	Yes=7	146.21	1016.50[b]	0.32	Yes=7	258.07	846.50[b]	0.112	Yes=7	190.64	1306.50[b]	0.985
	No=375	192.29			No=375	190.26			No=375	191.52		
Family history of overweight/obese	Yes=122	191.62	15845.50[b]	0.989	Yes=122	210.06	13596.00[b]	0.022	Yes=122	198.01	15066.00[b]	0.431
	No=260	191.44			No=260	182.79			No=260	188.45		
Smoking Habit	Yes=75	182.03	10802.00[b]	0.746	Yes=75	198.42	10993.50[b]	0.552	Yes=75	187.91	11243.00[b]	0.746
	No=307	193.81			No=307	189.81			No=307	192.38		
Major Weekly Diet Portion	Carbohydrates=183	193.84	1.04[a]	0.06	Carbohydrates=183	191.42	0.32	0.86[a]	Carbohydrates=183	191.91	0.06[a]	0.969
	Proteins=125	183.71			Proteins=125	194.97			Proteins=125	189.73		
	Fats=74	198.87			Fats=74	185.83			Fats=74	193.47		

a. Kruskal Wallis Test; b. Mann-Whitney Test (p≥ 0.05)

How to cite this article: Madeeha Malik, Iter un Nisha, Azhar Hussain, Ayisha Hashmi. Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan. J of Pharmacol & Clin Res. 2019; 8(1): 555727. DOI: 10.19080/JPCR.2019.08.555727

Discussion

The increasing prevalence of obesity worldwide has been described as a global pandemic [7]. Obesity is a well-known risk factor for many diseases, including cardiovascular disorder, hypertension, diabetes mellitus, osteoarthritis, hyperlipidemia, obstructive sleep apnea and certain cancers [2]. Obesity contributes as one of the major factors towards poor HRQoL. The results of the present study showed a significant impact of obesity on several domains of HRQoL. Highest HRQoL scores had been observed in the domain of physical functioning whereas lowest HRQoL scores were observed for the domain of role emotional among overweight/obese followed by bodily pain. These results are in accordance with a study conducted in Italy which reported high scores of HRQoL for physical functioning and lower scores for role emotional and bodily pain [9].

Constraints in physical functioning of overweight or obese persons are important to consider because of increased risk of disability. The results of the present study revealed that physical functioning like vigorous activities, climbing several flights of stairs and walking for more than a mile were limited a little in most of the overweight/obese. Most of the time they didn't have to cut down their time spent on the work or other activities and similarly accomplished less than they would. Similar results are reported in a study conducted in North Carolina that obesity affected physical functioning and role physical of obese individual. Their activities were reported limited due to their health [4].

Vitality in overweight/obese reflects the feeling of having energy as compared to fatigue. According to the results of current study a little of the time respondents felt worn out and tired. Majority of the overweight/obese also considered their general health below good. Similar findings were reported from study of Taiwan which reported low vitality and general health among overweight and obese [1]. Bodily pain can interfere with normal activities of overweight/obese persons and subsequently affect their HRQoL. The current findings of research study reported that most overweight/obese felt moderate bodily pain and this pain interfered quite a bit with their normal work. Similar results were reported from North Carolina where pain had moderate effect on person's HRQoL [4].

Obesity can have an impact on social functioning due to social stigma associated with it. The present study results showed that social functioning of most of the overweight/obese was affected. Furthermore, evaluation of the mental health of overweight/obese in the current study revealed that respondents felt nervous, down in the dumps, downhearted and blue at times. These results are parallel with a study conducted in Taiwan which reported high levels of psychological distress among obese [1]. Furthermore, the current study showed that most of the overweight/obese had to cut down the amount of time spent on work or other activities, similarly accomplished less and did work or other activities less carefully than usual due to emotional problems. These findings are in accordance with a study conducted in Iran where obese persons felt that their health had greater effect on their role emotional [10].

The current study reported low scores in both physical and mental component score of HRQoL among overweight/obese who were married. This might be due to the fact that Asian has culture that they are less conscious about their health after marriage and give priority to other life issues like more financial support and care towards their families. Furthermore, the current study results highlighted that overweight/obese persons aged between 18-30 years and having low level of qualification had lower mental HRQoL scores. This might be due to the reason that life changes like educational/vocational changes and less leisure time that tend to normally come about at about age 20, which can induce stress that lead to compromised mental HRQoL. Similar results are reported in studies conducted in Switzerland and Australia that obesity was associated with a decline in HRQoL including both physical and mental health domains with age [11,12].

The results of current study revealed a significant difference in mental component score with poor HRQoL in persons those having no family history of overweight and obesity. This might be due to the fact that person that have negative family history of obesity becomes tense about their sudden weight gain as compared to these having positive history of obesity. The most prominent significant differences found in all domains of HRQoL among overweight/obese of different occupations were low scores of HRQoL of govt-employee. This might be due to their sedentary lifestyle, co-morbidities, inadequate knowledge and adherence with diet plans and regular walk/exercise. Moreover, current study reported low scores in all domains of HRQoL among respondents even doing regular walk and exercise. A study from United States also suggested that obesity control programs should include awareness about weight misperceptions associated with weight gain and the harmful effects of unhealthy methods and programs of weight control [13].

Conclusion

The current study concluded low HRQoL among overweight/obese in Pakistan. Role emotional, bodily pain and role physical were the most effected domains due to emotional problems among overweight/obese. HRQoL of males and patients aged between 18-30 years old were found to be more affected due to weight gain. In spite of the daily work walk/exercise and diet control plans poor HRQoL was reported among overweigh/obese. Effective strategies addressing awareness of behavioural change, developing a positive self-image, tackling psycho-social problems and harmful social norms are required to be designed. All the stakeholders need to work together for implementation of effective weight control strategies to enhance physical and mental HRQoL among overweight/obese.

How to cite this article: Madeeha Malik, Iter un Nisha, Azhar Hussain, Ayisha Hashmi. Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan. J of Pharmacol & Clin Res. 2019; 8(1): 555727. DOI: 10.19080/JPCR.2019.08.555727

References

1. Lee P H (2006) Stage of exercise and health-related quality of life among overweight and obese adults. Journal of advanced nursing 53(3): 295-303.
2. Tanzil S and T Jamali (2016) Obesity, An Emerging Epidemic in Pakistan-A Review of Evidence. Journal of Ayub Medical College Abbottabad 28(3): 597-600.
3. Renzaho A, M Wooden, B Houng (2010) Associations between body mass index and health-related quality of life among Australian adults. Quality of life research 19(4): 515-520.
4. Yancy W S (2002) Relationship between Obesity and Health-Related Quality of Life in Men. Obesity 10(10): 1057-1064.
5. Schwimmer JB, TM Burwinkle, JW Varni (2003) Health-related quality of life of severely obese children and adolescents. Jama 289(14): 1813-1819.
6. Kolotkin RL, RD Crosby, GR Williams (2002) Health-related quality of life varies among obese subgroups. Obesity10(8): 748-756.
7. Marie Ng (2014) Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the Global Burden of Disease Study in the lancet. 384(9945): 766-781.
8. Jafar TH, N Chaturvedi, G Pappas (2006) Prevalence of overweight and obesity and their association with hypertension and diabetes mellitus in an Indo-Asian population. Canadian Medical Association Journal 175(9): 1071-1077.
9. Mannucci E (2010) Clinical and psychological correlates of health-related quality of life in obese patients. Health and quality of life outcomes 8(1): 90.
10. Jalali-Farahani S (2014) Body mass index (BMI)-for-age and health-related quality of life (HRQOL) among high school students in Tehran. Child: care, health and development 40(5): 731-739.
11. Dey M, G Gmel, M Mohler-Kuo (2013) Body mass index and health-related quality of life among young Swiss men. BMC Public Health 13(1): 1028.
12. Cameron A (2012) A bi-directional relationship between obesity and health-related quality of life: evidence from the longitudinal AusDiab study. International journal of obesity 36(2): 295-303.
13. Talamayan KS (2006) Prevalence of overweight misperception and weight control behaviors among normal weight adolescents in the United States. The Scientific World Journal 6: 365-373.

DOI: 10.19080/JPCR.2019.08.555727

How to cite this article: Madeeha Malik, Iter un Nisha, Azhar Hussain, Ayisha Hashmi. Impact of Obesity on Health-Related Quality of Life: An Emerging Pandemic in Pakistan. J of Pharmacol & Clin Res. 2019; 8(1): 555727. DOI: 10.19080/JPCR.2019.08.555727