HEALTH-RELATED QUALITY OF LIFE AND ASSOCIATIONS WITH GENERAL CHARACTERISTICS AMONG OLDER PATIENTS WITH OVERWEIGHT AND OBESITY

Vu Thi Thanh Huyen[1,2], Tran Viet Luc[1,2], Nguyen Lan Anh[2], Tran Thi Cuc[2], Nguyen Ngoc Tam[1,2], Nguyen Trung Anh[1,2]

1. Hanoi Medical University, 2. National Geriatric Hospital

DOI: 10.47122/VJDE.2023.64.2

SUMMARY

Objectives: To assess health-related quality of life (HRQoL) and associations with general characteristics among older people with overweight and obesity. **Subjects and Methods**: A cross-sectional study on 220 older patients with overweight and obesity examined and treated at National Geriatric Hospital from January to May 2023. HRQoL were assessed using the EQ–5D–5L questionnaire. General information and classification of obesity were also collected. **Results:** Of the total 220 participants, the proportion of patients with difficulties in aspects such as mobility was 57.3%; self-care is 48.6%; usual activities is 55.5%; pain/discomfort is 65% and anxiety/depression is 49.5%. The results showed that HRQoL in women was significantly lower than in men in terms of pain/discomfort and anxiety/depression ($p<0.05$). People living in urban areas have better HRQoL than those living in rural areas in terms of usual activities with $p<0.05$. People living in rural areas have lower EQ-VAS health self-assessment scores than those living in urban areas, which is statistically significant with $p<0.05$. Between groups with the different numbers of hospital stays in the past year, there was a significant difference in almost all aspects of HRQoL ($p<0.05$) except for pain/discomfort. The more hospital stays, the lower the HRQoL, especially the lower the EQ - VAS score ($p < 0.001$). **Conclusion:** About 50% of the participants self-rated as having problems with one of the aspects of HRQoL among older patients with overweight and obesity. Our results highlighted that aspects of quality of life EQ - 5D are related to gender, living area, and number of hospitalization in the past year among this population.

Keywords: Health-related quality of life, elderly, obesity, overweight.

Correspondence: Vu Thi Thanh Huyen
Submission date: .....August 2023
Revised date: 12th August 2023
Acceptance date: 30th September 2023
Email: vuthanhhuyen11@hmu.edu.vn
Tel: 0913531579

1. INTRODUCTION

Overweight and obesity have become a "pandemic" spreading across the globe [1],[2]. The prevalence of overweight and obesity has increased in all age groups in many countries around the world including Vietnam [3-5]. Besides the aging population and increasing life expectancy, the proportion of elderly people who are overweight and obese is also increasing rapidly [6].

Overweight and obesity is a public health concern of concern due to its increasing morbidity and has become one of the leading causes of disability and death, affecting quality of life and health care costs [7]. The rate of deaths from overweight and obesity is at least 2.8 million people per year.1 Treatment costs for obesity and related diseases are very expensive. It is estimated that each year, the total cost of overweight and obesity on health services globally is US$990 billion, accounting for more than 13% of total healthcare costs [8].

Obesity and its associated complications affect the health status of sufferers resulting in a reduced quality of life. Quality of life is an important concept in the health field, defined by the World Health Organization as "an individual's perception of their place in life within the cultural context in which they live." and in relation to their goals, expectations, standards, and concerns" [9]. Health-related quality of life (HRQoL) is a multidimensional concept that helps to assess a child's general health status. people, including areas related to social, emotional, mental, and physical functioning [10].

A comprehensive understanding of the HRQoL of overweight and obese people is very important, especially in the elderly, to help prevent complications caused by obesity and reduce economic burden, thereby helping to improve their quality of life. Thus, the aims of this study were to assess HRQoL and associations with general characteristics among older people with overweight and obesity at the National Geriatric Hospital.

2. SUBJECTS AND METHODS

2.1. Subjects

Patients aged 65 years old and older were diagnosed with overweight and obesity according to WHO criteria for Asian, who were examined and treated at National Geriatric Hospital from January to May 2023, and have the physical and cognitive abilities to do a face-to-face interview.

Exclusion criteria: patients with severe acute conditions such as ketoacidosis coma, hyperosmolar coma, coma due to cerebrovascular accident, exacerbation of heart failure decompensation, liver failure, exacerbation of chronic obstructive pulmonary disease.

2.2. Study design

- A cross-sectional descriptive study
- The sample was selected according to the convenience sampling method
- The sample size is calculated using the formula:

$$n = \frac{(z_{1-a/2})^2}{d^2} p(1-p)$$

p=0.5433 (The HRQoL ratio is good/no problem in any aspect of the EQ – 5D – 5L scale for adults aged 18 and over in Vietnam) [11].

According to the formula, the smallest sample size is n = 195 patients. In fact, 220 patients participated in this study.

2.3. Variables

• Feneral information: age, gender, living area, weight, height, body mass index (BMI), number of hospitalizations in the past year.

• Obesity classification:

BMI (kg/m^2)	Classification
23 – 24.9	Overweight
25 – 29.9	Grade I obesity
≥ 30.0	Grade II obesity

• **Health-related Quality of life**: The EQ–5D–5L questionnaire includes 5 aspects: mobility, self-care, daily activities, pain/discomfort, and anxiety/depression. Each aspect has 5 levels: no problem, little problem, relative problem, much problem, and impossible (corresponding to a score of 1 to 5). A self-rated person who has no problem with any aspect of EQ–5D is a good HRQoL. Those who rated as having problems (from mild to very severe) were considered not good HRQoL.

Evaluate:

- No problem: There are no difficulties in all aspects of the EQ – 5D scale (corresponding to level 1)
- Problematic: There is at least one aspect of difficulty (corresponding to levels 2,3,4,5 of EQ-5D aspects)

• Evaluation using the EQ scale - VAS is a scale with values from 0 (worst state of health) to 100 (best state of health).

2.4. Tools and data collection method

Data were collected by using a research questionnaire through interviews at National Geriatric Hospital.

2.5. Data processing and data analysis

The process of data coding, entry into REDCap, and analysis was done by using Statistical Package for Social Science (SPSS)

software (version 22.0). Descriptive statistics were adopted to examine characteristic data: frequency, percentage, and mean with standard deviation. T-test and Chi-square were performed to evaluate the factors related to HRQoL among this population. Statistical significance was accepted at the 95% of confidence level ($p < 0.05$).

3. RESULTS

3.1. General characteristics

Out of a total of 220 subjects participating in the study, the percentage of men was 36.8% and the rate of women was 63.2%. The mean age was 75.5 ± 6.6 years old. The age group from 65 - 74 years old accounted for the largest proportion (51.4%), the age group from 75 - 84 accounted for 37.7% and the number of people aged ≥ 85 years old accounted for 10.9%. 67.3% of study participants currently live in urban areas and 32.7% live in rural areas. In the past year, 30.5% of study subjects were hospitalized 1-2 times and the number of people hospitalized >2 times accounted for 5%.

Table 1. Classification of overweight and obesity of subjects by gender

	Men (n=81)		**Women (n=139)**		**Total (n=220)**	
	n	**%**	**n**	**%**	**n**	**%**
Overweight	39	48.1	80	57.6	119	54.1
Grade I obesity	39	48.1	53	38.1	92	41.8
Grade II obesity	3	3.8	6	4.3	9	4.1
BMI (kg/m^2) (Mean ± SD)	24.7 ± 1.56		25.6 ± 2.36		25.3 ± 2.15	

Overweight accounted for a high rate in both sexes with 48.1% in men and 57.6% in women. Grade I obesity in men accounted for 48.1%, higher than in women (38.1%). Grade II obesity accounted for the lowest rate in both men and women, in which the rate was higher in women than in men.

3.2. Health-related quality of life in older patients with overweight and obesity

Table 2. Health-related quality of life characteristics of the study subjects (n=220)

Aspects of EQ-5D-5L	Mobility		Self-care		Usual activities		Pain/ Discomfort		Anxiety/ Depression	
	n	%	n	%	n	%	n	%	n	%
No problem	94	42.7	113	51.4	100	45.5	77	35.0	111	50.5
Sight problem	74	33.6	72	32.7	75	34.1	99	45.0	78	35.5
Moderate problem	38	17.3	27	12.3	33	15.0	34	15.5	22	10.0
Severe problem	13	5.9	6	2.7	6	2.7	10	4.5	9	4.1
Extremely problem	1	0.5	2	0.9	6	2.7	0	0	0	0
EQ-VAS (Mean ± SD)	68.2 ± 14.9									

The proportion of patients with difficulties in aspects such as mobility was 57.3%; self-care is 48.6%; usual activities is 55.5%; pain/discomfort is 65% and anxiety/depression is 49.5%.

3.3. Association between HRQoL and general characteristics

Table 3. Association between HRQoL and gender (n=220)

Aspects of EQ – 5D		Men (n=81)		Women (n=139)		p-value
		n	%	n	%	
Mobility	No problem	39	48.1	55	39.6	0.215
	Problem	42	51.9	84	60.4	
Self-care	No problem	43	53.1	70	50.4	0.696
	Problem	38	46.9	69	49.6	
Usual activities	No problem	40	49.4	60	43.2	0.372
	Problem	41	50.6	79	56.8	
Pain/Discomfort	No problem	37	45.7	40	28.8	**0.011**
	Problem	44	54.3	99	71.2	
Anxiety/ Depression	No problem	50	61.7	61	43.9	**0.011**
	Problem	31	38.3	78	56.1	
EQ – VAS (Mean ± SD)		69.2 ± 14.15		67.8 ± 15.28		0.511

The results showed that HRQoL in women was significantly lower than in men in terms of pain/discomfort and anxiety/depression ($p<0.05$). The EQ – VAS index was higher in men than in women, but this difference was not statistically significant ($p > 0.05$).

Table 4. Association between HRQoL and living area (n=220)

Aspects of EQ – 5D		Urban (n=148)		Rural (n=72)		p-value
		n	%	n	%	
Mobility	No problem	68	45,9	26	36,1	0,166
	Problem	80	54,1	46	63,9	
Self-care	No problem	80	54,1	33	45,8	0,252
	Problem	68	45,9	39	54,2	
Usual activities	No problem	75	50,7	25	34,7	**0,026**
	Problem	73	49,3	47	65,3	
Pain/Discomfort	No problem	58	39,2	19	26,4	0,062
	Problem	90	60,8	53	73,6	
Anxiety/ Depression	No problem	79	53,4	32	44,4	0,214
	Problem	69	46,6	40	55,6	
EQ – VAS (Mean ± SD)		69,9 ± 14,66		64,9 ± 14,77		**0,017**

People living in urban areas have better HRQoL than those living in rural areas in terms of usual activities with p<0.05. People living in rural areas have lower EQ-VAS health self-assessment scores than those living in urban areas, which is statistically significant with p<0.05.

Table 5. Association between HRQoL and number of hospitalization (n=220)

Aspects of EQ – 5D		0 times (n=142)		1-2 times (n=67)		> 2 times (n=11)		p-value
		n	%	n	%	n	%	
Mobility	No problem	70	49.3	24	35.8	0	0.0	0.002
	Problem	72	50.7	43	64.2	11	100.0	
Self-care	No problem	82	57.7	30	44.8	1	9.1	0.003
	Problem	60	42.3	37	55.2	10	90.9	
Usual activities	No problem	74	52.1	25	37.3	1	9.1	0.006
	Problem	68	47.9	42	62.7	10	90.9	
Pain/Discomfort	No problem	56	39.4	19	28.4	2	18.2	0.143
	Problem	86	60.6	48	71.6	9	81.8	
Anxiety/ Depression	No problem	82	57.7	25	37.3	4	36.4	0.014
	Problem	60	42.3	42	62.7	7	63.6	
EQ – VAS (Mean ± SD)		71.1 ± 14.09		64.4±14.04		55.5 ± 12.14		<0.001

Between groups with the different numbers of hospital stays in the past year, there was a difference in almost all aspects of HRQoL (p<0.05) except for pain/discomfort where there was no difference. The more hospital stays, the lower the HRQoL, especially the lower the EQ - VAS score (p < 0.001).

4. DISCUSSION

Our study used the EQ – 5D – 5L questionnaire to assess the HRQoL of 220 overweight and obese elderly subjects at the National Geriatric Hospital.

Research results show that about 50% of the participants self-rated as having problems in one of the aspects of EQ - 5D and the average EQ - VAS score was 68.2 ± 14.86, with a low score. The minimum is 30 and the highest is 95 points. A study investigating the impact of obesity on HRQoL in adults (≥18 years) in Spain by Rafael Busutil et al. found that 61.9% of subjects did not experience any type of problem at any point of the 5 EQ – 5D dimensions [7]. This difference is due to the age of the subjects in Rafael Busutil's study not only elderly subjects, and the study subjects included both normal weight and low birth weight. Most of the subjects had the most problems in terms of pain/ discomfort (accounting for 75%). This is similar to the study of Rafael Busutil et al. [7]. The percentage of subjects having difficulty so much that they could not perform was the most in terms of doing daily activities (2.7%), followed by self-care (0.9%) and mobility (0.5%).

Research on the relationship between common characteristics and HRQoL of

research subjects, analysis of the results shows that: aspects of quality of life EQ - 5D are related to gender, living area, and number of hospitalization in the past year. Quality of life was not associated with age, education, marital status, cohabitation, health insurance use, and overweight and obesity ($p > 0.05$).

When assessing the quality of life by sex, the research results show that men have a higher quality of life than women, especially in terms of pain/discomfort and anxiety/ melancholy ($p < 0.05$). This result is similar to the study of Rafael Busutil et al. [7]. This can be explained because women are often psychologically sensitive, emotional, and easily affected by many factors than men should, may be more affected by illness, more easily upset and upset, and more anxiety leads to lower HRQoL.

Our research shows that people living in urban areas have a better quality of life than people living in rural areas, especially in terms of pain/discomfort and activities There are fewer problems in daily life and higher EQ–VAS scores than those living in rural areas ($p < 0.05$). People living in urban areas have better access to health care than in rural areas, so when they have health problems, they will go to a medical facility to alleviate pain. their discomfort, the level of pain/ discomfort is milder or no longer painful/ discomfort.

The number of hospital stays in the past year was related to the HRQoL of the subjects in most aspects ($p<0.05$) except pain/discomfort. The more hospital stays, the lower the EQ - VAS score ($p < 0.001$). The more hospital stays, the more serious the patient's health problems are to the point of hospitalization. While in the hospital, the patient will not be as comfortable as at home and the level of discomfort will be more, and then the patient will notice that his or her health is worse.

5. CONCLUSIONS

About 50% of the participants self-rated as having problems with one of the aspects of HRQoL among older patients with overweight and obesity. Our results highlighted that aspects of quality of life EQ - 5D are related to gender, living area, and number of hospitalization in the past year among this population.

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