

QUALITY OF LIFE AND SOME RELATED FACTORS IN ELDERLY PATIENTS WITH DEMENTIA

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SUMMARY

Objectives: This study aims to determine associated factors to health-related quality of life in dementia patients at the National Geriatrics Hospital. **Materials and Methods:** A cross-sectional study included 87 dementia patients aged ≥ 60 years old examined or treated at National Geriatric Hospital from July 2021 to November 2021. Data were collected by using designed tools including characteristics of these patients. Entered data on Redcap and used SPSS version 22.0 for analysis. **Results:** The mean age of the patients was 76.84 ± 8.38 . The majority of the patients 57 people (65.5%) were females and 30 respondents (35.5%) were males. 42.5% ($n=87$) of participants had a high quality of life, and only 2.3% ($n=87$) of respondents had a poor quality of life. 54% of the sample reported slight or moderate problems in the dimension of mobility. 42.5% in the dimension of self-care. 44.8% in the dimension of usual activities. 69% in the dimension of pain/discomfort. Last one, the patients in the dimension of anxiety/depression reported slight or moderate problems was 70.1%. Besides, 22.9% of the sample reported severe or extreme problems in the dimension of mobility. 28.7% in the dimension of self-care. 49.4% in the dimension of usual activities. 11.4% in the dimension of pain/discomfort. And, finally, 9.1% of the sample reported severe or extreme problems in the dimension of anxiety/depression. The mean $\pm$ SD VAS score was 57.70 ± 18.518 . There was a significant association between depression and health-related quality of life ($p<0.05$). **Conclusions:** Routine health check-ups should be recommended for elderly with dementia to improve their health-related quality of life

Keywords: dementia, quality of life, older patients

1. INTRODUCTION

Elderly people may suffer from different chronic diseases and need special care that entails high expenditures. Dementia is one of the most important chronic diseases. The World Alzheimer Report 2009 report released for World Alzheimer's Day (2009) indicates that 35 million people are suffering from dementia and estimates that the number of cases will double every 20 years. During the next 20 years, this number will increase by 40% in Europe, 63% in North America, 77% in the Southern Cone of Latin America and 89% in the developed Asia Pacific countries. These figures are to be compared with the 117% growth in East

Asia, 107% in South Asia, 134– 146% in the rest of Latin America, and 125% in North Africa and the Middle East. Dementia is a progressive, disabling, chronic disease affecting 5% of all people above 65 and over 40% of people over 85 years [1].

Dementia is a global epidemic— whilst many cases have been recorded in the world's richest and most aged countries, already the clear majority (63%) of people living with dementia live in low- and middle-income countries (LAMIC) where access to social protection, services, support and care are very limited.

This situation leads to the impacts on patients, care-givers, and society.

Dementia is the leading chronic disease contributors to disability, and, particularly, dependence among older people worldwide. While older people can often cope well, and remain reasonably independent even with marked physical disability, the onset of cognitive impairment quickly compromises their ability to carry out complex but essential tasks in daily life. In addition, people living with dementia will increasingly have difficulty to meet their basic personal care needs. The need for support from a caregiver often starts early in the dementia journey, intensifies as the illness progresses over time, and continues until death. There is a large literature attesting to the extent of the strain that caregivers experience, which is practical (hours spent caregiving detracting from other activities, particularly leisure and socializing), psychological (emotional strain, leading to a high prevalence of anxiety and depression), and economic (increased costs, coupled with giving up or cutting back on work to care).

Health-related quality of life (HRQoL) is *“an individual’s or a group’s perception of physical and mental health over time”*, it also includes emotions and social functioning [2]. On the personal level, this contains physical and mental health perceptions and others –including health risks and conditions, functional status, social support, and socioeconomic status. On the community level, HRQoL contains resources, conditions, policies, and practices that affect a population’s health perceptions and functional status. Currently, more and more studies on the role of HRQoL in the treatment of dementia patients are being carried out, so improving the standard of care for dementia patients is also more important. However, most of it is research on caregivers, the reason is due to the difficulty in exploiting

information from the patient because of the specificity of dementia. Therefore, we conducted this research to describe the Quality of life and some related factors in elderly patients with dementia at the National Geriatrics Hospital.

2. SUBJECTS AND METHODS

2.1. Study subject

Patients at National Geriatric Hospital in age from 60 years old, who have been diagnosed by neurologists at the National Geriatric Hospital, volunteered to participate in this research. All of them were assigned to perform the same task. Informed consent was obtained from all participants.

Excluded criteria:

- Acute and malignant diseases (advanced cancers, end-stage chronic diseases, acute myocardial infarction, and stroke).
- Symptomatic cardiovascular disease, coronary revascularization within 1 year.
- Clinical evidence of schizophrenia, severe depression, psychiatric or bipolar disorder (according to DSM-IV TR criteria [3]).
- Alcoholism or substance dependence (according to DSM-IV criteria [3]), currently, or within the past 2 years.
- Severe loss of vision, hearing or communicative ability (according to the interRAI Community Health Assessment).
- Participant or family unwilling to participate in the study.

2.2. Methods

We performed the cross-sectional descriptive study with convenience sampling methods from July to November 2021.

2.3. Tools and data collection method

General information including date of interview, contact information, full

name, age, gender, level of education, occupation, living status, living area.

Data were collected by using designed tools included: Mini-cog test, Mini-Mental State Exam (MMSE), general information, EuroQoL 5 Dimensions 5 levels (EQ-5D-5L), Pittsburgh Sleep Quality Index (PSQI), Mini Nutritional Assessment Short Form (MNA-SF), Barthel Index (BI) for Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL), Patient Health Questionnaire – 9 (PHQ-9).

Dementia was assessed by using Mini – cog and the Mini – Mental State Exam (MMSE). Eligible patients to participate in the study were asked to sign an informed consent, then they did test Mini-cog. Mini-cog is a test which asked patient to recall three words and clock drawing with exactly time (11:00) [3]. If the mini-cog test is positive, the patient will be referred to the doctor for diagnosis, negative cases were excluded from the study. The Mini – Mental State Exam (MMSE) which use to test the cognitive function included memory, attention, language, orientation and visual – spatial skills [4]. Patients who do the MMSE test with 24/30 points or less will be allowed to take the test to collect data for the study, above 24 points were excluded from the study: score 30 – 25: normal, score 24 – 21: mild dementia, score 20 – 10: moderate dementia, score 0 – 9: severe dementia.

Health – Related Quality of Life (HRQoL) and EuroQoL Visual Analogue Scale (EQ-5D-5L) in dementia patients were measured by EQ-5D HRQoL Questionnaire which is a standardized measure of health status developed by the EuroQoL Group. It includes the EQ-5D descriptive system and the EQ visual analogue scale (EQ VAS). The EQ-5D is a tool included 5 dimensions towards different aspects of health: mobility, self-

care, usual activities, pain/discomfort and anxiety/depression. Each dimension has five levels of classification in regard to functional state: extremely problems (=1), severe problems (=2), moderate problems (=3), slight problems (=4) no problem (=5). Continuous visual analogue scale (VAS) ranging from 0 (worse health) to 100 (best health) and then compare the results with EQ-5D value.

Patient Health Questionnaire – 9 (PHQ-9) is a self-administered version of the PRIME-MD diagnostic instrument for common mental disorders". The scale has 9 items about problems during the past 2 weeks and every-item were marked: not at all = 0, several days = 1, a half of days = 2, every day = 3. With a maximum score of 27 points and a minimum score of 0 point, the result was classified as follows: 1 – 4: Minimal depression, 5 – 9: Mild depression, 10 – 14: Moderate depression, 15 – 19: Moderately severe depression, 20 – 27: Severe depression.

2.4. Process of data analysis

The process of data recording, entries into Redcap and analyzed by using Statistical Package for Social Science (SPSS) software version 22 with statically p less than 0.05. Descriptive statistics were adopted to examine characteristic data: frequency, percentage, mean. Inferential statistics was done to perform comparisons between groups, using χ^2 .

2.5. Ethical consideration

All data collected was used for research. The results of the study were proposed for improving health of community, not for other purposes and ensure all ethical issues in biological research.

3. RESULTS

3.1. General characteristics

Of total 87 dementia patients, the mean age was 76.84 ± 8.38 . The age

was separated into three groups: 18 persons (20.7%) from 60 to 69 years old, 36 persons (41.4%) from 70 to 79 and 33 people (37.9%) in and over the age of 80. The majority of the patients 57 people (65.5%) were females and 30

respondents (35.5%) were males. There were 51 people (58.6%) did not graduate from high school, 28 others graduated (32.2%), some continued to study higher level (8%).

Table 1. Characteristics of dementia (n=87)

Characteristics		Frequency (n)	Percentage (%)
Type of dementia	Vascular	12	13.8
	Mixed	18	20.7
	Alzheimer	47	54.0
	Others	10	11.5
Stage of dementia	Mild dementia	30	34.5
	Moderate dementia	38	43.7
	Severe dementia	18	20.7
Duration	≤ 1 year	33	37.9
	1 year – 5 years	48	55.2
	>5 years	6	6.9

More than half of the participants in the study had Alzheimer 54.0% (n=47/87). The number of vascular, mixed and others type was 13.8% (n=12/87), 20.7% (n=18/87) and 11.5% (n=10/87) respectively. There was 30 people (34.5%) diagnosed with mild dementia, another 38 participants (43.7%) were moderate dementia and 18 patients (20.7%) with severe dementia. A 55.2% of participants (n=48/87) had dementia in 1 year – 5 years. A 37.9% of patients (n=33/87) had dementia less than 1 year. Finally, only 6.9% of patients (n=6/87) had dementia in over 5 years.

3.2. Quality of life of dementia patients

EQ-5D descriptive system contains the following 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels in classification in regard to functional state (no problems, slightly problems, moderately problems, severely problems and extremely problems). The table below gives summary statistic information on these dimensions:

Table 2. Frequency and proportion of 5 levels by dimension

EQ-5D dimension	Mobility		Self-care		Usual activities		Pain/ Discomfort		Anxiety/ Depression	
	n	%	n	%	n	%	n	%	n	%
Level 1 No problems	20	23.0	25	28.7	5	5.7	17	19.5	18	20.7
Level 2 Slight problems	21	24.1	22	25.3	21	24.1	34	39.1	45	51.7
Level 3 Moderate problems	26	29.9	15	17.2	18	20.7	26	29.9	16	18.4
Level 4	17	19.5	16	18.4	27	31.0	9	10.3	7	8.0

Severe problems										
Level 5										
Extreme problems	3	3.4	9	10.3	16	18.4	1	1.1	1	1.1
VAS score	Mean: 57.70 ± 18.518									

A 54% of the sample reported slight or moderate problems in the dimension of mobility. A 42.5% in the dimension of self-care. A 44.8% in the dimension of usual activities. A 69% in the dimension of pain/discomfort. Last one, the patients in the dimension of anxiety/depression reported slight or moderate problems was 70.1%. Besides, 22.9% of the sample reported severe or extreme problems in the dimension of mobility. A

28.7% in the dimension of self-care. A 49.4% in the dimension of usual activities. A 11.4% in the dimension of pain/discomfort. And, finally, a 9.1% of the sample reported severe or extreme problems in the dimension of anxiety/depression. The mean ± SD VAS score was 57.70 ± 18.518.

3.3. Association between quality of life (EQ-5D) and age

Table 3. Responses to EQ-5D by age (n=87)

EQ-5D DIMENSION		60-69 yrs		≥ 70 yrs		p value
		n	%	n	%	
Mobility	No problems	5	5.7	15	17.2	0.588
	Problems	13	14.9	54	62.1	
Self-care	No problems	3	3.4	22	25.3	0.204
	Problems	15	17.2	47	54.0	
Usual activities	No problems	0	0	5	5.7	0.239
	Problems	18	20.7	64	73.6	
Pain/discomfort	No problems	2	2.3	15	17.2	0.311
	Problems	16	18.4	54	62.1	
Anxiety/Depression	No problems	4	4.6	14	16.1	0.857
	Problems	14	16.1	55	63.2	
VAS Score (mean ± SD)		59.44 ± 19.54		57.25 ± 18.36		0.656

There was no significant difference in the QoL of patients with dementia compared to the age.

3.4. Association between quality of life (EQ-5D) and gender

Table 4. Responses to EQ-5D by gender (n=87)

EQ-5D DIMENSION		Male		Female		p value
		n	%	n	%	
Mobility	No problems	5	5.7	15	17.2	0.368
	Problems	24	27.6	43	49.4	
Self-care	No problems	5	5.7	20	23.0	0.094
	Problems	24	27.6	38	43.7	
Usual activities	No problems	2	2.3	3	3.4	0.745
	Problems	27	31.0	55	63.2	
Pain/Discomfort	No problems	7	8.0	10	11.5	0.444
	Problems	22	25.3	48	55.2	
Anxiety/Depression	No problems	6	6.9	12	13.8	1.00

	Problems	23	26.4	46	52.9	
VAS Score (mean ± SD)		56.03 ± 16.66		58.53 ± 19.47		0.556

There was no significant difference in the QoL of patients with dementia compared to the gender.

3.5. Association between quality of life (EQ-5D) and educational level

Table 5. Responses to EQ-5D by educational level (n=87)

EQ-5D DIMENSION		< High school		High school		> High school		p value
		n	%	n	%	n	%	
Mobility	No problems	12	13.8	7	8.0	1	1.1	0.834
	Problems	40	46.0	21	24.1	6	6.9	
Self-care	No problems	16	18.4	7	8.0	2	2.3	0.862
	Problems	36	41.4	21	24.1	5	5.7	
Usual activities	No problems	3	3.4	2	2.3	0	0	0.768
	Problems	49	56.3	26	29.9	7	8.0	
Pain/Discomfort	No problems	10	11.5	5	5.7	2	2.3	0.812
	Problems	42	48.3	23	26.4	5	5.7	
Anxiety/Depression	No problems	9	10.3	7	8.0	2	2.3	0.624
	Problems	43	49.4	21	24.1	5	5.7	
VAS Score (mean ± SD)		55.29 ± 18.98		60.54 ± 17.97		64.29 ± 16.18		0.301

There was no significant difference in the QoL of patients with dementia compared to the educational level.

3.6. Association between quality of life (EQ-5D) and marital status

Table 6. Responses by marital status (n=87)

EQ-5D DIMENSION		Married		Widow		p value
		n	%	n	%	
Mobility	No problems	12	13.8	8	9.2	0.059
	Problems	54	62.1	13	14.9	
Self-care	No problems	14	16.1	11	12.6	0.006
	Problems	52	59.8	10	11.5	
Usual activities	No problems	3	3.4	2	2.3	0.393
	Problems	63	72.4	19	21.8	
Pain/Discomfort	No problems	12	13.8	5	5.7	0.571
	Problems	54	62.1	16	18.4	
Anxiety/Depression	No problems	12	13.8	6	6.9	0.306
	Problems	54	62.1	15	17.2	
VAS Score (mean ± SD)		55.68 ± 17.67		64.05 ± 20.10		0.071

Widow respondents perceived a better QoL compared to married people, especially in the self-care dimension.

3.7. Association between quality of life (EQ-5D) and living status and living area

Table 7. Responses by living status and living area (n=87)

Variable		Quality of life								p value
		poor		average		high		Very high		
		n	%	n	%	n	%	n	%	
Living area	Urban	1	1.1	23	26.4	30	34.5	13	14.9	0.562
	Rural	1	1.1	6	6.9	7	8.0	6	6.9	
Living status	Family	2	2.3	26	29.9	33	37.9	17	19.5	0.665
	Care giver	0	0	2	2.3	0	0	1	1.1	
	Alone	2	2.3	1	1.1	4	4.6	1	1.1	

There was no significant difference in the QoL of patients with dementia compared to the living area and living status.

Table 8. Association between depression and quality of life in dementia patients

Depression		Quality of life				p value
		Poor	Average	High	Very high	
PHQ-9	Mild depression	0 0.0%	11 12.6%	24 27.6%	14 16.1%	0.005
	Moderate depression	2 2.3%	8 9.2%	11 12.6%	3 3.4%	
	Severe depression	0 0.0%	10 11.5%	2 2.3%	2 2.3%	

PHQ-9 scale shown that the number of patients with mild depression, moderate depression and severe depression was 0 (0%), 2 (2.3%) and 0 (0%) respectively in poor quality of life. Besides, in average quality of life patients, had 11 people (12.6%), 8 people (9.2%) and 10 persons (11.5%) were mild depression, moderate depression and severe depression respectively. A 27.6% of participants (n=24/87) with mild depression, a 12.6% of ones (n=11/87) with moderate depression and a 2.3% of ones (n=2) with severe depression, had a high quality of life. Finally, in a very high quality of life, the respondents had mild depression, moderate depression and severe depression were 14 people (16.1%), 3 people (3.4%) and 2 persons (2.3%) respondents. Thus, there was association between depression and quality of life. This association was statistic significant (p=0.005).

4. DISCUSSION

The study was conducted at the National Geriatric Hospital in patients 60

years old and above. People aged between 60 and 69 accounted for 20.7% of participants. The greatest proportion of participants, 41.4% was people in the 70-79 age group, and there was 37.9% of the total number of the sample in the oldest age group, 80 years old and above. The mean age of respondents was 76.84 years old. This result was lower to mean age in the study of Juanita Hoe et al: 85.8 years [5]. It also lower than others: study of S. Miguel et al (83.2 years old) [6] and study in US (83.7 years old) [7]. The reason may be explained by sample size. 65.5% of participants were females, males represented 34.5% of total number of subjects. The female/male ratio was 1.90. This distribution was similar to a previous study conducted in Spain: 70% of the patients were woman [6]. The study of Barca M.L et al also showed 34% of respondents was male and 66% was female [8]. Another study in UK reported the majority were female (79.2%) [5].

The percentage of patients completed secondary school and below was 59.8%, and highly education patients made up 40.2%. It shows that people with higher education tend to have lower rate of dementia. It is similar to the statement in the study of T. Ngandu et al [9].

We showed that the dementia patients used the “extreme problems” option, with response rates ranging from 1.1% to 18.4%, with highest rate for usual activities, self-care (10.3%), mobility (3.4%) and lowest rate for pain and anxiety. At “severe problems” selection, the participants reported with highest rate for usual activities (31.0%), lowest rate for anxiety/depression (8.0%); mobility, self-care and pain/discomfort were respectively 19.5%, 18.4% and 10.3%. At “moderate problems” selection, the patients reported with mobility, self-care, usual activities, pain/discomfort and anxiety/depression were 29.9%, 17.2%, 20.7%, 29.9% and 18.4% respectively. A 24.1% all participants had slight problems with mobility, 25.3% had ones with self-care, 24.1% with usual activities, 39.1% with pain/discomfort, and 51.7% of patients had anxiety/depression. The mean score of HRQoL was 17.03 ± 4.00 . It showed that health-related quality of life in dementia patients in our study was high.

According to the research of P. Hancock et al, the mean of PHQ-9 in demented patients was 4.1 (SD=5.4) (n=49) [10]. In our study, that number was 9.64 (SD=4.79), much higher than P. Hancock’s study. The reason is the sample in this study is different from P. Hancock’s research (87>49). In other study, depression had a significant effect on the HRQoL in dementia patients [11]. Our study also showed that level of depression was associated with HRQoL ($p<0.05$). To be more specific, dementia patients with mild depression had better

quality of life than those with moderate depression and severe depression. This finding were also defined in Maria Crespo’s research [12].

The study has some strength and limitation. The strengthen was that the questionnaires used were high internal consistency and a reliability coefficient. We used this questionnaire by interviewing the participants face-to-face instead of telephone interview. All of the clinical disorders were obtained and verified from medical records rather than from self-reported simple questions. Moreover, the data collected was reliable and well controlled. Besides, the sample size was rather small (n=87) due to the impact of the Covid 19 pandemic, it was difficult to access and collect data. Therefore, the results can be generalized only to the study area due to the power of the sample size calculation. Second, HRQoL was measured by self-reporting only and no objective measures, such as a polysomnography test, were included. Thirdly, the cross-sectional study design limits the degree to which conclusions can be drawn regarding the causal relationship between the factors analyzed in this study and HRQOL among the dementia patients.

5. CONCLUSION

After studying on 87 dementia patients, we noticed that the health-related quality of life among older people was quite high. Routine health check-ups should be recommended for elderly with dementia to improve their health-related quality of life

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