



Health-Related Quality of Life of Older Adults Living in Community and Nursing Homes In Cairo- Egypt

KEYWORDS

Health related quality of life, Nursing home in Egypt, Egyptian community dwelling elderly.

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ABSTRACT *Aim:* to quantify health-related QoL (HRQoL) of elderly Egyptian.

Methods: The short form of Health Survey (SF36) was measured in 100 elderly from 6 nursing homes in Cairo, and 100 age matched community dwelling participants. Regression analysis identified quality of life determinants.

Results: In community dwelling group, the mean age was 71.21 ± 8.05 , 44% were men and 23% were illiterate. While the mean age of the nursing homes residents was 71.11 ± 7.8 , 32 % were men, and 49% were illiterate.

The mean SF36 score was 38.43 ± 26.41 in cases and 47.83 ± 32.41 in controls. Depressed mood and dependence in IADL performance were significantly associated with low HRQoL.

Conclusion:

Egyptian elderly experience a poor HRQoL; those living in nursing homes were more affected. Age itself was not a predictor of poor HRQoL. Depressed mood and dependency in ADL, IADL were independent predictors for poor HRQoL in nursing home residents.

Background:

Ageing is an emerging global phenomenon. The life expectancy for the elderly has increased worldwide due to medical advances with subsequent increase in the numbers of elderly people.¹

In Egypt, like in many other countries, the elderly population is expanding. There were 4,400,000 persons aged 60 and over representing 6.9% of the total population in 2006, while the expected percentage of older population may reach 8.9% in 2016 and 10.9% in 2026.²

As a consequence of this graying of population, the care of older persons demands more attention. Concerns about health, mental, social and financial resources are rising.³

The community care of the older adults responds better to their psychological needs,⁴ and most elderly people prefer to remain in their homes to keep the integrity of their social network and maintain their quality of life.⁵

However, the recent demographic transition has been paralleled by major socioeconomic changes. Urbanization, modernization, globalization, and individualism are emerging social scenarios resulting in changing family organization and society norms and values which in turn keep most of the elderly needs unmet.⁶

There is little information, if any; regarding the situation in Egypt; however, In the eighties Fadel- Girgis drew attention to the changes in the Egyptian society that created a problem for the older adults to find their required care, results from this earlier study indicated that increasing ur-

banization caused a decline in the capacity of the Egyptian families to adequately care the elderly.⁷

In the recent years, institutional care became indispensable because due to unavailability of carers, the financial, emotional and physical burden of caring⁶

However, the rejection attitude towards institutionalization in Egypt is a problem reported by different researchers.^{8,9} It was explained by the traditional value of family integrity.⁹ Moreover, the cost of living in nursing facilities is another barrier to this level of care among poor Egyptian elderly.⁹

So far, charitable institutions are considered the main available resource for poor with limited social network. For wealthier older persons, nursing homes may be the suitable living environment.¹⁰

The quality of life (QoL) has emerged as an important outcome measure for optimal care of elderly.¹¹ Moreover, the term health related quality of life (HRQoL) refers to aspects of QoL affecting health care intervention.¹²

HRQoL has a wide range of determinants, such as, socio-demographic factors, health, cultural, educational, and economic status.¹³

The efficiency of health care is usually assessed by its impact on a patient's QoL. So the importance of measuring HRQoL and its determinants was acknowledged by clinicians and policy-makers in planning patient management, policy making and proper resource allocation.¹⁴

The present study was conducted to compare HRQoL of community dwelling and institutionalized elderly in Egypt and to study the different determinants of HRQoL in elderly population to provide data that can be added to the body of knowledge about elderly in Egypt and in other countries with similar socio-cultural and economical status.

Methods:

A case-control study was conducted subjects aged 60 years and older living in Cairo, Egypt. The cases comprised 100 elderly recruited from 6 nursing homes in Cairo. Three of the homes received governmental funds, one received nongovernmental funds, and the remaining two were private. The control group comprised 100 community dwelling elderly. The subjects who were unwilling to participate in the study were excluded.

All participants were subjected to comprehensive geriatric assessment. The cognitive assessment was performed using mini mental state examination MMSE,¹⁵ Assessment of depression using geriatric depression scale-15 (GDS),¹⁶ functional assessment was performed using Activities of daily living (ADL),¹⁷ and Instrumental activities of daily living (IADL).¹⁸

HRQoL assessment was carried out using a validated Arabic version of the Short Form 36 health survey (SF-36).¹⁹ It consist of 36 items divided into eight domains: Physical Functioning (PF), Bodily Pain (BP), Role Physical (RP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE) and Mental Health (MH).The scores for the eight components ranged from 0 to 100, with higher scores suggesting a better HRQoL. Two summary scores were calculated, the Physical Component Summary (PCS) and the Mental Component Summary (MCS).²⁰ The total SF36 score was the mean for the scale components.²¹

Statistical methods:

The collected data was statistically analyzed using SPSS 16. The comparison between quantitative variables was done using t test. Comparison between qualitative variables was done using ² test. Linear regression analysis was performed to identify which variables were independently associated with poor HRQoL in case and in controls.

Results:

Socio-demographic data of the two groups was reported in Table 1. The mean SF36 score was 38.43 ± 26.41 in cases and 47.83 ± 32.41 in controls (p= 0.02). Among cases, the mean scores for the SF-36 subscales ranged from 42.29 ± 23.47 for general health to 99.09 ± 5.48 for role limitation due to emotional problems. While among controls, the mean scores for the SF-36 subscales ranged from 54.00± 29.73 for physical functioning to 96.36 ± 12.29 for role limitation due to emotional problems. There was a significant difference between cases and controls in vitality, mental health, and the social functioning domains. While, there was no significant difference between cases and controls in physical functioning, role limitation due to physical health, role limitation due to emotional problems, and bodily pain domains.

Moreover, the total SF-36 score in both groups was less than 50, indicating a less desirable level of HRQoL in Egyptian elderly people both in nursing homes and community.

Table 1. The socio- demographic data, QoL domains in the two studied groups:

		Elderly home residents	Community dwelling elderly	P-value
Age (mean± SD)		71.11 ± 7.8	71.21 ± 8.05	0.93
gender (n)	Male	32	44	0.080
	Female	68	56	
Marital status (n)	Married	19	57	0.000*
	Single	1	3	
	Widow	74	38	
	Divorced	6	2	
Education(n)	illiterate	49	23	0.000*
	can read and write	13	10	
	below high school	5	14	
	high school	7	5	
	university or high education	26	48	
Occupation (n)	Intellectual work	29	46	0.045*
	manual worker	34	27	
	House wife	37	27	
Smoking (n)	yes	23	22	0.866
	no	77	78	
Physical Functioning (PF)(Mean ± SD)		46.11 ± 27.28	54.00± 29.73	0.074
Role limitation due to physical health (RP) (Mean ± SD)		67.76 ± 20.88	75.48 ± 22.95	0.105
Role limitation due to emotional problems (RE) (Mean ± SD)		99.09 ± 5.48	96.36 ± 12.29	0.208
Vitality (VT) (Mean ± SD)		40.33 ± 23.66	56.51 ± 25.53	0.000*
Mental Health (MH) (Mean ± SD)		47.03 ± 31.31	62.40 ± 32.39	0.001*
Social Functioning (SF) (Mean ± SD)		44.67 ± 22.05	55.59 ± 21.92	0.002*
Bodily Pain (BP) (Mean ± SD)		58.88 ± 24.22	64.71 ± 27.51	0.135
General health (GH) (Mean ± SD)		42.29 ± 23.47	56.06 ± 23.13	0.000*
The Physical Component Summary (PCS) (Mean ± SD)		37.63 ± 26.08	45.87 ± 31.58	0.04*
The Mental Component Summary (MCS) (Mean ± SD)		23.86 ± 19.16	30.65 ± 21.83	0.02*
Total score(Mean ± SD)		38.43 ± 26.41	47.83 ± 32.41	0.026*

The patients' clinical characteristics affected HRQoL in both groups reported in table 2. All assessed variables

affected HRQoL of nursing home residents except education, marital status, and income. While only marital status did not affect HRQoL in community dwelling elderly. Table 2 showed that HRQoL among nursing home residents was

affected by the type of institute, the reason for admission, the length of stay, satisfaction with food, privacy, visits frequency, and the nature of relationship with staff and with other residents.

Table 2: The relationship between patient and institution characteristics and QoL score:

variable		Elderly home residents			Community dwelling elderly		
		N	SF 36 total mean ±SD	P value	N	SF 36 total mean ± SD	P value
education	illiterate	49	31.09 ± 24.51	0.08	23	28.16 ± 27.22	0.02*
	can read and write	13	48.31 ± 24.01		10	53.91 ± 33.64	
	Primary education	5	43.97 ± 34.14		14	36.00 ± 31.82	
	High school	7	50.73 ± 32.58		5	63.81 ± 30.63	
	University	26	42.96 ± 25.79		48	57.77 ± 30.38	
Marital status	married	19	43.00 ± 24.78	0.4	57	54.27 ± 31.11	0.1
	single	1	26.81 ± 0.0		3	38.67 ± 35.58	
	widow	74	36.44 ± 27.27		38	39.73 ± 33.53	
	divorced	6	50.47 ± 20.18		2	31.81 ± 4.9	
income	< 1000 L.E.	75	37.11 ± 26.38	0.3	31	28.11 ± 26.64	0.000*
	> 1000 L.E.	25	42.41 ± 26.66		69	56.68 ± 30.98	
ADL	Independent	59	54.79 ± 20.73	0.00*	70	63.58 ± 24.34	0.000*
	Assisted	31	15.19 ± 11.57		20	12.95 ± 13.52	
	Dependent	10	14.00 ± 16.72		10	7.31 ± 13.27	
IADL	Independent	25	61.90 ± 18.89	0.00*	47	71.51 ± 20.35	0.000*
	Assisted	48	39.82 ± 23.03		23	47.03 ± 24.74	
	Dependent	27	14.24 ± 15.07		30	11.33 ± 13.36	
Morbidities	≥3	71	31.17 ± 23.55	0.00*	53	31.65 ± 28.27	0.000*
	<3	29	56.21 ± 24.89		47	66.07 ± 26.77	
Nutritional risk	no risk	24	61.78 ± 18.34	0.00*	31	76.02 ± 15.70	0.000*
	at risk	57	37.30 ± 24.05		48	43.91 ± 27.48	
	malnourished	19	12.34 ± 12.59		21	15.16 ± 25.84	
medications	≥5	68	30.43 ± 23.44	0.00*	52	30.81 ± 28.70	0.000*
	<5	32	55.44 ± 24.52		48	66.26 ± 25.53	
cognitive impairment	yes	25	16.30 ± 14.15	0.00*	12	10.09 ± 18.25	0.000*
	No	75	45.81 ± 25.48		88	52.97 ± 30.50	
Depressed mood	Yes	61	21.79 ± 15.89	0.00*	45	16.70 ± 16.78	0.000*
	No	39	64.18 ± 17.43		55	73.30 ± 15.13	
Urinary incontinence	Yes	30	21.44 ± 22.82	0.00*	22	21.39 ± 27.25	0.000*
	No	70	45.71 ± 24.55		78	55.28 ± 29.87	
Stool incontinence	Yes	9	13.83 ± 17.47	0.00*	7	3.70 ± 3.30	0.000*
	No	91	40.87 ± 25.96		93	51.13 ± 31.9	
Visual impairment	Yes	76	34.59 ± 25.15	0.00*	67	42.37 ± 32.81	0.01*
	No	24	50.62 ± 27.15		33	58.91 ± 29.45	
Hearing impairment	Yes	22	16.94 ± 16.94	0.00*	15	28.83 ± 27.72	0.008*
	No	70	46.49 ± 24.51		81	52.61 ± 31.93	
	Use hearing aid	8	27.05 ± 27.52		4	22.18 ± 24.52	
Type of institute	Public	65	32.84 ± 21.75	0.04*			
	Private	14	43.40 ± 27.50				
	NGO	21	39.16 ± 24.70				
Reason for admission	Need assistance in personal care	35	18.70 ± 17.70	0.000*			
	social factors	65	50.69 ± 18.78				
Length of stay	< 1 year	28	49.26 ± 22.47	0.000*			

	1-5 years	49	40.47 ± 26.27	
	>5 years	23	20.91 ± 23.13	
Number of residents	< 100	28	43.95 ± 25.22	0.19
	> 100	72	36.29 ± 26.73	
Number of staff	< 10	34	42.15 ± 27.33	0.31
	> 10	66	36.52 ± 25.93	
Satisfaction with room cleanliness	yes	87	39.09 ± 26.46	0.52
	no	13	34.02 ± 26.69	
Satisfaction with food	yes	48	44.37 ± 27.43	0.03*
	no	52	32.95 ± 24.44	
Maintained privacy	yes	40	50.68 ± 23.07	0.000*
	no	60	30.27 ± 25.48	
Visits	Relatives	70	39.58 ± 27.33	0.181
	Friends	7	50.88 ± 29.26	
	No visits	23	31.15 ± 21.30	
Visits frequency	Less than weekly	43	31.94 ± 25.22	0.001*
	Weekly or more	34	51.57 ± 26.67	
Relationship with staff	caring	79	44.36 ± 25.74	0.001*
	neglecting	21	16.14 ± 14.48	
Relationship with other residents	harmonious	90	40.49 ± 26.06	0.01*
	hostile	10	19.95 ± 23.22	

The linear regression analysis showed depressed mood and dependence in IADL performance to be significantly associated with low HRQoL in both groups. While, dependence in ADL performance in elderly home residents and visual impairment in community dwelling elderly were significantly associated with low HRQoL.

Table 3 Variables associated with quality of life (linear regression, enter) in cases and controls:

	cases				controls			
	Beta	Sig.	95% Confidence Interval		Beta	Sig.	95% Confidence Interval	
			Lower Bound	Upper Bound			Lower Bound	Upper Bound
(Constant)		0.000	48.43	151.27		0.000	78.595	154.066
Age	0.041	0.56	-0.33	0.61	-0.109	0.035	-0.822	-0.031
Male gender	-0.048	0.36	-0.80	0.30	0.033	0.393	-2.834	7.145
Marriage	0.089	0.09	-1.29	15.34	0.004	0.927	-5.139	5.634
Education	0.019	0.78	-1.52	2.15	-0.046	0.171	-8.123	0.563
Number of Morbidities	-0.167	0.10	-22.05	2.07	0.049	0.524	-6.708	13.062
Hearing impairment	-0.093	0.08	-12.994	0.79	0.005	0.897	-6.285	7.159
Number of medications	-0.032	0.77	-14.35	10.68	0.068	0.360	-5.081	13.851
Depressed mood	-0.583	0.000*	-38.83	-25.61	-0.605	0.000*	-44.874	-33.575
ADL	0.209	0.02*	-15.85	-1.06	0.049	0.482	-4.347	9.129
IADL	0.303	0.001*	-17.35	-5.10	-0.432	0.000*	-20.968	-11.427
Visual impairment	-0.008	0.946	-6.25	5.84	0.073	0.048*	0.055	9.953
Malnutrition	-0.033	0.62	-6.94	4.23	-0.080	0.078	-7.620	0.414
Urinary incontinence	-0.032	0.60	-9.00	5.27	-0.053	0.263	-11.342	3.135
stool incontinence	-0.008	0.96	-12.75	12.33	0.008	0.861	-10.745	12.821
Low income	-0.049	0.47	-11.53	5.41	0.074	0.118	-1.335	11.685
Cognitive impairment	0.074	0.24	-3.64	13.88	-0.047	0.327	-14.221	4.801

*statistically significant

Discussion:

With senility, there is an increased prevalence of functional decline and need for care. Family members can usually meet this need; however, the reduced family size, poor familial bonds and the increasing number of the employed women decreased the number of people caring for elderly people and increased the need for social care through institutionalization to provide housing and care to the elderly.²²

However, nursing homes rarely meet all the psychological needs of their residents leading to adverse effects on the physical and psychological well-being of the residents.²³

Based on the findings of this study the HRQoL in participants, particularly nursing home residents in was poor. This is consistent with Heydari et al.⁶ who reported poor HRQoL

in Iranian elderly people (SF-36 <50) both in community dwelling elderly and in nursing home residents. They attributed their finding to the low socioeconomic status of the participants.

Even with using different instrument measuring QoL the nursing home residents were more affected. Ghassemzadeh et al using WHOQoL questionnaire reported that the mean of overall QoL was higher in home residents group (12.43) compared to nursing home residents (10.95).²⁴

Even in developed countries like Australia, the community dwelling elderly had significantly lower levels of psychological distress and higher QOL scores than the residential group. 83.8% of the community group addressed their QOL as good, very good or excellent compared to 59.5% of the residential group.²⁵

In the current study, the physical component summary was higher than mental component summary in both groups. This finding disagreed with Tajvar et al.²⁶ who reported that elderly people in nursing home had a better mental health condition compared to their own physical health. This disagreement may be attributed to the presence of 61 cases and 45 controls screened positive for depression in our study.

Moreover, depression was an independent predictor of poor quality of life in the present study in both groups. This agreed with previous results reported by Borowiak and Kostka²⁷ confirming that depression was the most powerful predictor of QoL in elderly.

A strong association was observed between physical performance and HRQoL. Dependency in IADL was independent predictor of poor HRQoL in both groups, while, dependency in ADL predicted poor HRQoL in cases only, this can be explained by the unmet care needs in nursing homes compared to community dwelling elderly receiving care by a family member. This is supported by previous data reported that residents with a high care dependency had a significantly lower HRQoL compared to those with a low care dependency.²⁸

Visual impairment was an independent predictor of poor HRQoL in the controls but not in cases. However, even in cases mean SF-36 score was lower in those with visual impairment. Similarly, Dev et al reported that HRQoL was reduced among nursing home residents and the reduction in the HRQoL was associated with visual impairment.²⁹

Age and gender in the current study did not have a significant association with HRQoL. Similarly, Burack et al.³⁰ reported that Age and gender did not have a significant association with QoL in nursing home residents.

Cognitive impairment was significantly more prevalent among nursing home residents 25% compared to control (12%). Moreover, the cases and controls with cognitive impairment had lower SF-36 score. Yet there was no significant association between cognitive impairment and poor HRQoL in linear regression model. This non significant association may be attributed to small number of cognitively impaired participants in this study along with studying multiple

In order to improve the QoL in Egyptian elderly homes, the present study evaluated the effect of nursing homes characteristics on the HRQoL among residents. The HRQoL

was better in private elderly homes due to higher socio-economic status. People with longer length of stay, and those admitted because of dependency in personal care had lower HRQoL.

Those who reported adequate sense of privacy among cases had higher SF-36 scores. According to Behr et al, privacy was perceived as a significant aspect of the respondents' QoL.³¹

Regarding social network those received more visits, had harmonious relationship with staff or with other residents reported higher SF-36 scores. Social support has been demonstrated to be important predictor of both QoL and depression. In community dwelling elderly the higher levels of social interaction were significantly associated with

higher levels of QoL and reduced prevalence of depression.³²

The study findings indicated that community dwelling elderly people and nursing home residents living in Cairo, Egypt had poor HRQoL. Those with depression, functional dependency, and visual impairment were the most affected participants. Programs targeting these risk factors can improve QoL in older persons living in both residential and community settings. Although, the facility related characteristics were not independently correlated with HRQoL, they should be addressed in any program aiming to improve QoL in elderly homes. Social activities and good personal relationships with staff and other residents should be promoted in residential care in Egypt.

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