

Quality of life among elderly residents in the Gaza Strip: a community-based study

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BACKGROUND: In Palestine, persons older than 60 years of age comprise 4.6% of the population in this decade and will remain relatively stable until the year 2020, when it is expected to begin to rise. The quality of life (QoL), which reflects well-being and health status, is under-reported in this vulnerable group in the Gaza Strip.

OBJECTIVE: Determine QoL and associated factors in persons aged older than 60 years.

DESIGN: A community-based cross-sectional study.

SETTING: Five Gaza Strip governorates.

SUBJECTS AND METHODS: Subjects were selected by convenience sampling. We used the validated Arabic WHOQOL-BREF to assess QoL and used descriptive, univariate and multivariate methods to analyze the data.

MAIN OUTCOME MEASURES: QoL, overall satisfaction with health and factors associated with good QoL.

SAMPLE SIZE: 235 community-dwelling elderly.

RESULTS: The response rate was 85.5% (201/235). Mean age (SD) was 69 (7.95) years old and females accounted for 57.7% (116/201) of the sample. Almost half (44.2%, 90/201) of the elderly scored in the category of good QoL. The mean (SD) for overall QoL and perceived satisfaction with health was 3.3 (1.1) and 3.4 (1.0), respectively, on a 5-point Likert scale. The social relationship domain had the highest QoL score (65.4 [15.3]), whereas physical and environmental domains received equally lower scores (60.5 [15.2] and 60.5 [12.5] respectively). Multivariate analysis showed that factors associated with good QoL were higher education (OR: 3.1, CI 95%: 1.03-9.4) and perceived high satisfaction with health (OR: 3.6, CI 95%: 1.8-7.3).

CONCLUSION: More years of education and higher satisfaction with health were associated with a better perception of QoL. Interventions should be focused more on physical and environmental aspects in the life of elderly persons.

LIMITATIONS: Cross-sectional design, use of convenience sample and some possibly important factors not studied.

CONFLICT OF INTEREST: None.

Aging is a natural process exemplified by changes in physical, mental and social conditions. The increasing size of the population over the age of 60 years is part of a demographic transition throughout the world in both developed and developing countries, including Palestine. According to the World Health Organization (WHO), the 60 and over age group will reach 1.2 billion and 2 billion by 2025 and 2050, respectively.¹ For Palestine, persons older than 60 years of age comprise 4.6% of total population; this percentage will stay relatively low and will not rise during the current decade, but is projected to increase after 2020, reaching 7.7% by 2050.²

Most of the Arabic population share similar cultural backgrounds, founded mainly from religion, but they are not a homogenous group. The elderly in Palestine continue to rely on the family as the primary source for care and have traditionally tended to live with their offspring and grandchildren. Respect for old people is an important value, and is a moral obligation per the holy book "Koran". Palestinian elders keep the heritage alive and are provided opportunities to be actively involved and participate in social activities

Quality of Life (QoL) is a broad term that reflects the health status and well-being of a group, and is used interchangeably with the term health-related quality of life (HRQOL). QoL covers several domains such as physical health and psychosocial status, social and environmental relationships, level of autonomy and individual belief.³ It is a multifaceted, valued and subjective term and is an important indicator in gerontology and geriatrics including nursing care.⁴ QoL in the elderly is influenced by determinants specific to older age, including but not limited to, social roles and support, fluctuation of physical health status and coping with challenges brought on by aging.⁵ Personal characteristics, demographic variables, socioeconomic, and self-value are predictors of QoL.^{6,7} In addition, low economic status, low education level and health-care status as well as poor social interaction result in poor QoL.^{8,9}

Many initiatives have been launched to promote healthy aging. Among these are "Active Living", "In Porto Life is Long" and the "Wellness Project" in Canada, Portugal and Italy, respectively,¹⁰ and the Guidelines for the Pact for Health in Brazil.¹¹ Various validated tools are used to assess QoL. Some are broad measures like the World Health Organization Quality of Life Bref (WHOQOL-BREF), health-related measures such as the SF-36, and/or disease specific measures, such as the European Organization for Research and Treatment of Cancer QOL question-

naire.¹² QoL was previously assessed among different population groups in Palestine, including healthy and unhealthy ones, but none have targeted those in the vulnerable group over the age 60 years. Therefore, this study is unique and was conducted to assess QoL in community-dwelling elders residing in the Gaza Strip and to determine factors associated with good QoL.

SUBJECTS AND METHODS

This was an analytical cross-sectional and community-based study conducted in the five governorates of the Gaza Strip in the southwestern part of Palestine. A convenience sample of community-dwelling elders were interviewed from the five Gaza Strip governorates. Elderly who were older than 60 years, cooperative, Arabic speaking and willing to participate were included in the study. Unconscious, bedridden, hospitalized and mentally diseased elders were excluded.

Prior the interview sessions, the study aim and objectives were explained and verbal consent was obtained in presence of the participant's partner or carer. Privacy, voluntary participation, autonomy and confidentiality were also emphasized. The research committee of Israa University approved the study proposal. Data were stored in a closet that belongs to first author, and will be kept for at least 3 years and then discarded.

We used the Arabic WHOQOL-BREF questionnaire, which was translated and validated by El Jedi et al.¹³ It consists of 26 questions, 24 of which are divided into four domains: physical health (perception of the individual regarding one's physical condition, 7 items), social relationships (perception of individual social relationships and social roles adopted in life, 3 items), environment (perception of the individual regarding diverse aspects related to the environment in which one lives, 8 items) and psychological health (perception of individual affective and cognitive condition, 6 items). The remaining two questions measure self-perceived QoL and satisfaction with health. All questions are rated on a 5-point Likert scale (1=very bad/strongly dissatisfied to 5=very good/strongly satisfied). Additional variables were added to assess socio-economic, demographic and health conditions of the elderly.

Data collection was carried out by 15 undergraduate nursing female students from the Faculty of Health Professions, Israa University. Data were collected using a face-to-face interviews from 15 February to 5 April 2018. Data collectors received three hours of training on communication skills, study aim and objectives, questionnaire items, and potential areas for miscon-

ception. The mean time to complete the questionnaire was 17 minutes.

Data were analyzed in IBM SPSS version 22. Descriptive analysis of data included calculation of mean and standard deviation for continuous variables, and frequency, percentage, minimum and maximum values for categorical variables. Each question was rated from 1 to 5, then the score was transformed to a linear scale ranging from 0-100. The higher the score the better QoL as perceived by the elderly. There is no clear cut-off to determine "good" from "bad" QoL or feeling satisfied with health. However, it was decided to classify subjects into those who gave a score of 1, 2 or 3 (poor QoL/unsatisfied feeling with health) and those who gave a score of 4 or 5 (good QoL/satisfactory feeling with health). In statistical modeling, univariate analysis was performed to determine which of a wide number of independent variables to consider in the multivariate model using $P < .250$ because the frequently used $P \leq .05$ usually fails to capture significant variables.¹⁴ In the multivariate analysis, a critical value $P < .05$ was considered statistically significant and values were expressed as odds ratio (OR) and 95% confidence intervals (95% CI).

RESULTS

Two hundred one elderly (85.5%), living in residency area of data collectors, completed the questionnaire. **Table 1** summarizes the socioeconomic, demographic and clinical characteristics of the elderly. The mean age (SD) was 69.1 (8.0) years and 116 (57.7%) were female. Three-quarters were married and the majority (77.1%) suffered from chronic diseases. About one-fifth (22.9%) and one-third (35.3%) were retired and depended on social support. At least 80% (160/201) had an income less than 300 USD monthly.

Quality of life and feeling satisfaction with health

The mean score (SD) for perceived QoL and satisfaction with health was 3.3 (1.1) and 3.4 (1.0), respectively. The mean score for social relationships was comparatively higher than the remaining three domains (65.4 [15.3]). Females reported a higher score than males for both the overall QoL and perceived satisfaction with health. However, statistical significance was only for satisfaction with health ($P = .03$). On the four domains of QoL, males reported higher scores for physical and social relationships, but only the physical health domain ($P = .031$) was statistically significant (**Table 2**).

Statistical analysis

The QoL in elderly was categorized into: good QoL (score ≥ 4) and poor QoL (score < 4). More than half of

the participants (55.2%) had poor QoL. The crude univariate analysis indicated nine independent factors for multivariate logistic regression: male gender (OR: 0.7, 95CI%: 0.4-1.2), type of education (OR: 4.2; 95 CI%: 1.5-11.8), no health problem (OR: 2.6; 95 CI%: 1.3-5.2), source of income (OR: 3.8; 95 CI%: 0.8-18.1), income group (OR: 3.1; 95 CI%: 1.4-6.9), place of residence (OR: 3.4; 95 CI%: 0.9-13.4) and feeling of satisfaction with health (OR: 3.9, 95 CI%: 2.1-7.4) (**Table 3**). In the multivariate logistic regression, education and feeling of satisfaction with health were significantly associated with good QoL ($P < .05$) (**Table 4**). More years of education (Wald X2: 4.7, OR: 3.1; CI 95%: 1.030-9.4), and higher satisfaction with health (Wald X2: 13.5, OR: 3.6; CI 95%: 1.8-7.3) were associated with a better perception of QoL.

DISCUSSION

In this study, we investigated the QoL of elderly Palestinians using the Arabic WHOQOL-BREF questionnaire. The questionnaire has been verified to be an appropriate tool for assessing QoL and HRQOL globally,¹⁵ regionally,¹⁶ and locally among Gazans exposed to war.^{17,18} QoL was previously measured in Palestine among different age groups but not the elderly.¹⁹⁻²¹ Therefore, the study targeted a neglected portion of Palestinian community. The elderly are a special group of population with special needs because of the potential for sickness and changes in psychosocial status. The Palestinian community is a youthful society: persons under 15 years old constitute 42% of the population while the elderly are 4.6% of the population. Little attention is given to this vulnerable group in terms of advanced health and psychosocial programs. Usually, the elderly are provided with basic health services and necessary healthcare and are covered by the insurance of their employed sons and/or by social care or from the retirement council. It is noteworthy to mention that this group like others has been exposed to three consecutive wars in the last six years and are living under the siege imposed on the Gaza Strip, which seriously threatens the availability and sustainability of many health services.

In our study, the mean perceived QoL was 3.3 (1.1) and the mean perceived of satisfaction with health was 3.4 (1.0) on a 5-point Likert scale. The reported scores are favorably higher than other studies from India,^{22,23} Iran,^{24,25} Slovakia,²⁶ and Brazil,²⁷ but are lower than the United States²⁸ and Canada.²⁹ Among the WHOQOL-BREF domains, the social relationship had the highest score, which means that elders are socially-adapted to their surrounding environment. A study conducted by Oliveira and colleagues³⁰ showed clear evidence of

Table 1. Baseline characteristics of respondents.

Variables	Total (N=201)	Male (n=85)	Female (n=116)	X ²	P value
Age groups				1.249	.264
60-69 years	121 (60.2)	55 (64.7)	66 (56.9)		
≥70 years	80 (39.8)	30 (35.3)	50 (43.1)		
Education				17.874	<.001
Illiterate	63 (31.3)	16 (18.8)	47 (40.5)		
Up to preparatory	65 (32.3)	28 (32.9)	37 (31.9)		
Up to secondary school	47 (23.5)	22 (25.9)	25 (21.6)		
University	26 (12.9)	19 (22.4)	7 (6.0)		
Marital status				35.863	<.001
Married	130 (64.7)	75 (88.2)	55 (47.4)		
Widowed	71 (35.3)	10 (11.8)	61 (52.6)		
Health problem				0.035	.852
Yes	155 (77.1)	65 (76.5)	90 (77.6)		
No	46 (22.9)	20 (23.5)	26 (22.4)		
Health problems				7.028	.318
Diabetes mellitus	11 (7.1)	3 (4.6)	8 (8.9)		
Hypertension	25 (16.1)	11 (16.9)	14 (15.6)		
Heart disease	3 (1.9)	2 (3.1)	1 (1.1)		
Joint pain	3 (1.9)	0 (0.0)	3 (3.3)		
Cancer	2 (1.3)	2 (3.1)	0 (0.0)		
Compound (at least two health problems)	81 (52.3)	33 (50.8)	48 (53.3)		
Others	30 (19.4)	14 (21.5)	16 (17.8)		
Source of income				13.657	.008
Retired	46 (22.9)	27 (31.8)	19 (16.4)		
Social support	71 (35.3)	25 (29.4)	46 (39.6)		
Depend on sons	54 (26.8)	16 (18.8)	38 (32.8)		
Private work	17 (8.5)	11 (12.9)	6 (5.2)		
No income	13 (6.5)	6 (7.1)	7 (6.0)		
Income groups				6.823	.033
<150 USD	78 (38.8)	25 (29.4)	53 (45.7)		
150-300 USD	82 (40.8)	37 (43.5)	45 (38.8)		
>300 USD	41 (20.4)	23 (27.1)	18 (15.5)		
Place of residence				8.140	.087
North Gaza	37 (18.4)	14 (16.5)	23 (19.8)		
Gaza city	100 (49.8)	50 (58.8)	50 (43.1)		
Middle area	23 (11.4)	9 (10.6)	14 (12.1)		
Khan younis	26 (12.9)	10 (11.7)	16 (13.8)		
Rafah	15 (7.5)	2 (2.4)	13 (11.2)		

Data are number (percentage). USD: United States currency.

Table 2. Quality of life among elderly in WHOQOL-BREF domains.

Domain	Total N=201		Male (n=85)		Female (n=116)		t	P value
	Mean	SD	Mean	SD	Mean	SD		
General QoL	3.3	1.1	3.2	1.1	3.3	1.0	-1.162	.247
Satisfaction on health	3.4	1.0	3.3	1.2	3.6	0.9	-2.181	.030
Physical health	60.5	15.2	63.2	16.6	58.5	13.9	0.056	.031
Psychological health	63.8	12.4	56.6	12.9	62.6	12.0	0.246	.101
Social relationship	65.4	15.3	67.3	15.5	63.8	15.2	0.867	.137
Environmental	60.5	12.5	60.3	14.0	60.6	11.4	0.032	.903

Table 3. Factors associated with good quality of life.

Variables		Total (N=201)	Poor (n=111)	Good (n=90)	OR with 95% CI	P value
Gender	Male	85 (42.3)	52 (46.8)	33 (36.7)	0.7 (0.4-1.2)	.146
	Female	116 (57.7)	59 (53.2)	57 (63.3)	Ref.	
Age groups	60-69	121 (60.2)	69 (62.2)	52 (57.8)	0.8 (0.5-1.5)	.528
	70 or more	80 (39.8)	42 (37.8)	38 (42.2)	Ref.	
Education	University	26 (12.9)	6 (5.4)	20 (22.2)	4.2 (1.5-11.8)	.007
	Up to secondary school	47 (23.4)	33 (29.7)	14 (15.6)	0.5 (0.2-1.2)	.120
	Up to preparatory	65 (32.3)	37 (33.3)	28 (31.1)	0.9 (0.5-1.9)	.876
	Illiterate	63 (31.3)	35 (31.5)	28 (31.1)	Ref.	
Marital status	Married	130 (64.7)	69 (62.2)	61 (67.8)	0.8 (0.4-1.4)	.408
	Widowed	71 (35.3)	42 (37.8)	29 (32.2)	Ref.	
Health problem	No	46 (22.9)	17 (15.3)	29 (32.2)	2.6 (1.3-5.2)	
	Yes	155 (77.1)	94 (84.7)	61 (67.8)	Ref.	.005
Satisfaction on health	Satisfied	128 (63.7)	56 (50.5)	72 (80.0)	3.9 (2.1-7.4)	.002
	Not satisfied	73 (36.3)	55 (49.5)	18 (20.0)	Ref.	
Source of income	No income at all	13 (6.5)	7 (6.3)	6 (6.7)	Ref.	
	Retired	46 (22.9)	14 (12.6)	32 (35.6)	2.7 (0.8-9.4)	.127
	Social support	71 (35.3)	54 (48.6)	17 (18.9)	0.4 (0.1-1.2)	.107
	Depend on sons	54 (26.9)	32 (28.8)	22 (24.4)	0.8 (0.2-2.7)	.723
	Private work	17 (8.5)	4 (3.6)	13 (14.4)	3.8 (0.8-18.1)	.095
	Income groups	> 300 USD	41 (20.4)	13 (11.7)	28 (31.1)	3.1 (1.4-6.9)
	150-300 USD	82 (40.8)	52 (46.8)	30 (33.3)	0.8 (0.4-1.6)	.565
	< 150 USD	78 (38.8)	46 (41.4)	32 (35.6)	Ref.	
Place of residence	North	37 (18.4)	17 (15.3)	20 (22.2)	0.6 (0.1-2.1)	.389
	Gaza	100 (49.8)	59 (53.2)	41 (45.6)	3.4 (0.9-13.4)	.076
	Middle area	23 (11.4)	7 (6.3)	16 (17.8)	1 (0.3-3.2)	.941
	Khan younis	26 (12.9)	19 (17.1)	7 (7.8)	1.8 (0.5-6)	.361
	Rafah	15 (7.5)	9 (8.1)	6 (6.7)	Ref.	

Data are number (percentage).

Table 4. Multivariate analysis for overall quality of life.

	B	S.E.	Wald	P value	OR	95% CI OR	
						Lower	Upper
Education			12.9	.005			
University	1.1	0.6	4.1	.044	3.1	1.03	9.4
Up to secondary school	-1.0	0.4	4.7	.030	0.4	0.2	0.9
Up to preparatory	-0.3	0.4	0.6	.430	0.7	0.3	1.6
No health problem	0.6	0.4	2.4	.121	1.8	0.9	3.9
High satisfaction with health	1.3	0.4	13.5	<.001	3.6	1.8	7.3
Constant	0.269	0.3	9.4	.002	0.4		

association between “social relationship” and “better QOL”. The same study revealed that the stronger the social relationship the lower risk for depression and better mental health in elderly. Moreover, strong social relationships reflect the socio-cultural position that elderly Palestinians possess. As a Muslim community, respect and holiness are given to older people while culturally it is unacceptable to keep them in nursing homes. It is unusual to send them to long-stay care facilities and thus they remain under family care.

The “physical health” domain received the lowest score. Many studies confirmed this result, which could be attributed to the presence of chronic diseases and appearance of persistent pain that inhibits daily activity, performance, and independency.^{31,32} In our study, 77% of the examined elderly had at least one health problem. The “environment” domain received a low score, which indicates few opportunities for new information, gaining skills, leisure activities and fewer financial resources. Males reported higher scores than females. However, statistical significance was only seen with physical domain, which is compatible with previous findings,^{33,34} but not with Gholami et al.³⁵ Similar findings were also reported for social domain.^{23,36} A difference in scores between males and females is expected and could be attributed to the psychological nature of the sexes and socioeconomic status and sociodemographic characteristics. This variation is documented by Robert and colleagues³⁷ and Tesfay and colleagues.³⁸

The elderly who reported satisfaction with their health had better QoL. Many studies documented similar results.^{39,40} Therefore, public health, including health prevention and promotion programs, are necessary and can improve functional ability and social interactions to offer a better QoL. Higher education was a predictor for good QoL. The same finding has been reported from Iran, Turkey, Brazil and Taiwan.⁴¹⁻⁴⁴ The educated elderly

may have a potential to learn more and gain skills and knowledge that promote adaptation and prevent further complications from diseases that influence physical ability and other functions.

This study has many limitations: 1) the nature of the cross-sectional design, which limits the causal interpretation of results; 2) the convenience sample (not randomized), which makes it difficult to generalize the result. The sample size was not large enough to represent the population; 3) some possibly important independent factors may have been excluded such as depression and anxiety, memory problems, cognitive level, and ADL function.

In conclusion, this study provides a useful information with regard to factors associated with good QoL among elderly Palestinians. Knowing The QoL and its predictors is becoming crucial in order to elucidate the problems of the aging generation, and being familiar with these determinants could be helpful to initiate QoL improvement programs. Overall, the QoL and satisfaction with health were in average. Higher education and higher satisfaction with health are predictors for good QoL. There is a need to take actions to ensure enhancements in health promotion and disease prevention and particular attention should be given to issues of elderly's environment and physical aspect of life.

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Author contributions

AE, MR and EA were responsible for the design of the study and doing a literature AM was responsible for data analysis and interpretation of results. AE wrote

original article

the manuscript. MR, EA and AM revised and edited the draft. All authors did again critically revised and approved the final manuscript.

Declaration

Supporting data are available with the first author.

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