Elderly Health Journal 2018; 4(2): 60-67.
Shahid Sadoughi University of Medical Sciences, Yazd, Iran
Journal Website : http://ehj.ssu.ac.ir

Original Article

Socio-Demographic Determinants of Quality of Life among Older People, a Population-Based Study

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[DOR: 20.1001.1.24236179.2018.4.2.4.0]
[DOI: 10.18502/ehj.v4i2.262]

A B S T R A C T

Article history
Received 12 Oct 2018
Accepted 16 Dec 2018

Citation: Momenabadi V, Kaveh MH, Nazari M, Ghahremani L. Socio-demographic determinants of quality of life among older people, a population-based study. Elderly Health Journal. 2018; 4(2): 60-67.

Introduction: Social participation is considered one dimension and also determinant of quality of life. The level of social participation of the elderly is influenced by various components such as socio-economic and demographic factors. The present study aimed to assess the relationship between social participation, quality of life, and some socio-economic factors in community dwelling elderly in Kerman, Iran.

Methods: This cross-sectional study was conducted on 250 communities dwelling old people in Kerman in 2017 selected through random sampling. The data were collected using researcher-made Social Participation questionnaire and WHOQOL-BREF questionnaires. The data were analyzed using Pearson's correlation coefficient, t-test, one-way ANOVA, and linear regression analysis.

Results: The results revealed the participants' mean score of social participation was above fifty. Social participation was significantly associated with age ($p < 0.001$), marital status ($p = 0.004$), education level ($p < 0.001$), and occupation ($p = 0.021$). A significant direct correlation was also observed between social participation and quality of life ($p < 0.001$), and social participation determined 21 % of variance of life quality score ($p < 0.001$).

Conclusion: With the increase in social participation of the elderly, their quality of life improves. Establishing nongovernmental organizations, charities, and associations for retirement and aging can increase the level of social participation of the elderly.

Keywords: Aged, Social Participation, Quality of Life

Introduction

According to World Health Organization (WHO), individuals aging 60 years and above are considered to be old. It has been predicted that the elderly population in the world will increase from 600 million in 2000 to 2 milliard by 2050. In Iran, 20 % of Iran's population will be old by 2050 (1).

Today, higher life quality is the main concern in this regard. In other words, not only living a long life but also type and quality of life are of particular importance (1). Quality of life is a multi-dimensional concept (2). WHO has defined quality of life as individuals' perception of their living status considering the cultures and value systems they live in, which is affected by their goals, expectations, and standards (2). In the recent decades, quality of life has been considered to be a part of health and, thus, has been used in evaluation of health and treatment programs (2).

Social participation plays a very important role in the mental health, making life satisfaction and consequently, improving the quality of life in the

elderly (3, 4). Thus, according to the theory of activity for successful aging, must be new roles discovered or new things must be created to preserve old roles (5).

Considering the elderly, assessment of quality of life helps investigation of their health status, assessment of effectiveness of medical interventions, evaluation of diseases, estimation of cost-effectiveness of healthcare policies, and designing plans (6). The elderly's quality of life is affected by various factors (1). Additionally, higher ages increase the possibility of incidence of diseases and disabilities in the final years of life, which has a negative impact on independence; increases need for help, and reduces life quality (7). The results of the studies by Calypse et al. in Canada (8) and Khooshemehri et al. in Iran (9) indicated that suffering from chronic diseases, decreased the elderly's quality of life. Similarly, Alizadeh et al. conducted a study on 300 women in Kerman in 2013 and reported that higher age was associated with lower quality of life (10).

Quality of life among the elderly emphasizes social policies and modification of social goals for creation of a productive life, which can be achieved through social support and social participation in this period. Social participation is one of the effective factors in individuals' physical and mental health (11). It also takes individuals' rights into account and improves their daily lives. On the other hand, reduction in social participation causes isolation and feeling like a burden in the elderly (12).

Participation the main concepts in International Classification of Functioning, accordingly, activity is defined as performance of a responsibility by an individual, and participation refers to involvement in life situations and WHO has also recommended participation as an influential strategy in response to concerns regarding aging phenomenon and successful aging (13, 14).

Social participation refers to individuals' informed and voluntary involvement in social activities, such as religious, political, and entertainment activities, depending on their interests (15). Social participation can occur through formal (institutional) and informal (non-institutional) activities. Formal activities include taking part in organizations, forums, and clubs with planned activities in particular times and places. On the other hand, informal activities refer to participation in group activities with irregular intervals (e.g., cooperation with charity organizations formed for helping particular groups) or systematic cooperation with groups that are not formal organizations or institutions but have existed permanently (16, 17). Evidence has indicated that increase in age (15), health problems, and physical-functional disabilities associated with higher ages reduced social participation (12, 16).

Lee et al. reported that 43% of the elderly in Korea had no social participation, while 18.2 % were involved in more than two types of activities (18). Moreover, Handry et al. demonstrated that the elderly with large and medium social networks had better mental and physical health status compared to those without similar social experiences (19). Levasseur et al. also showed that interpersonal relations, responsibilities, and social roles were associated with quality of life (3).

Overall, the aforementioned researches revealed the elderly's various levels of social participation and quality of life in different populations (3, 10, 18). This indicates the necessity to determine the target population's specific conditions for various planning purposes. Differences have also been observed between countries with individualistic culture and those with collectivist culture regarding the score of quality of life. Moreover, limited studies have focused on this issue in an Iranian multiethnic community; therefore, the present study aims to assess the relationship among social participation, quality of life, and some socioeconomic factors in the elderly in Kerman.

Methods

Study design and participants

This cross-sectional, analytical study was conducted on the elderly aging 60 years and above in Kerman in 2017. Considering confidence interval of 95 %, type 1 error of 5%, power of 0.8%, and r = 0.2, a 200-subject sample size was determined for the study. Yet, considering the loss rate of 20%, the sample size was increased to 250 subjects (16). The study population included the elderly covered by all 10 health centers in Kerman. The participants selected through non-proportional quota sampling, in so doing, 25 individuals were randomly selected from the list of elderlies in each center based on their medical records which is kept in the center. Then, the researchers referred to their houses in order to collect the required information. In case the individuals were not at home or did not agree to take part in the research, another individual would be replaced.

The inclusion criteria of the study were aging 60 years and above, ability to understand questions and provide logical answers, being able to communicate verbally, the exclusion criteria were: migration, unwillingness to take part in the research, diseases and cognitive problems, and suffering from special disorders that hindered their cooperation.

Instruments

The instruments used to collect data were a form addressing socio-demographic variables as well as two validated questionnaires as follows:

The study data were collected using a Researcher-made social participation questionnaire. This questionnaire was designed by Moradi et al. to examine the social participation of the elderly in Tehran (16). Face and content validity of the questionnaire were confirmed by 6 health professionals in the panel of experts including social

[DOR: 20.1001.1.24236179.2018.4.2.4.0]
[DOI: 10.18502/ehj.v4i2.262]

sciences professors, social workers, and other related professors and experts. In addition, its internal consistency was assessed in 30 individuals through test-retest with a 10-day interval, revealing r = 0.98 and Cronbach's alpha of 88%. This questionnaire evaluated institutional and non-institutional dimensions of social participation using 17 questions responded through a 5-option Likert scale. The maximum score of the questionnaire was 85 and its minimum score was 17 representing highest and lowest levels of social participation, respectively. Based on the study by Alizadeh (10), and the cut of point of twenty, the scores of social participation were categorized as follows: 0-20 (weak participation), 21-40 (Inappropriate participation), 41-60 (average participation), and 61-85 (desirable participation).

In order to assess quality of life, WHOQOL-BREF questionnaires was used (20). This questionnaire evaluated physical health, mental health, social relations, and environmental health dimensions using 24 questions. The score of each dimension could range from 4 to 20 representing the worst and best conditions, respectively. Nejati et al. carried out a research in Tehran and reported Cronbach's alpha coefficients of 0.70, 0.73, 0.55, and 0.84 for physical health, mental health, social relations, and environmental health dimensions, respectively (21). Based on the study by Alizadeh (10), and the cut of point of twenty five, the scores of quality of life were categorized as follows: 0-25 (weak quality of life), 26-50 (Inappropriate quality of life), 51-75 (average quality of life), and 76-100 (desirable quality of life).

Ethical Considerations

The study was approved by Ethics Committee of Shiraz University of Medical Sciences, Shiraz, Iran (Code of Ethics: IR.SUMS.REC.1394.S1110). The participation in the study was informed and voluntary, and all participants orally expressed their consent to participate in the study. In addition, participants were convinced of the confidentiality of their information.

Data Analysis

The data were entered into the SPSS statistical software, version 20. For descriptive statistics, frequency, mean, and standard deviation were used. To determine the compared quality of life between male and female, independent t-test was used and to investigate the relationship between social participation and its dimensions and quality of life among the elderly Pearson's correlation coefficient was used. The relationship between the mean score of quality of life and occupation and education level one-way ANOVA was used. Linear regression was used to determine regression coefficients of the independent variable (social participation) based on the dependent variable (quality of life).

Results

The mean age was slightly more than sixty-eight years old. Besides, 54 % of the participants were female and most of them were married (72.4 %). The frequency of the participants with diplomas (35.6 %) was higher compared to those with other education levels. Most female participants were homemaker and most male ones were retired (79.1 %). The elderly's mean score of quality of life was 73.64 + 7.00 and the participants' mean score of social participation was 50.39 + 6.51.

The results revealed a significant reverse relationship between age and scores of quality of life ($r = 0.163$, $p = 0.01$) and social participation ($r = 0.257$, $p < 0.001$). Additionally, the results of t-test showed that male participants had higher quality of life (75.14 + 6.31) compared to females (72.36 + 7.31) ($t = 3.181$, $p = 0.002$). Moreover, the results of one-way ANOVA revealed a significant relationship between the mean score of quality of life and occupation and education level. The mean score of social participation was also significantly correlated to occupation, education level, and marital status. (Table 1)

The mean and standard deviation of quality of life were 73.64 ± 7.00 and median 74.00, respectively. Among the dimensions of quality of life, the highest mean score was related to social relations (20.47 + 2.65) (Table 2).Considering categorization of life quality scores, quality of life was weak and inappropriate, average and desirable in 4%, 58.4%, and 41.2% of the participants, respectively.

The participants' mean and standard deviation of social participation were 50.39 ± 6.51 and median 51.00, respectively. In addition, the mean score of non-institutional participation was higher compared to institutional participation (Table 3). Considering categorization of social participation scores, 5.2%, 58.4%, and 41.2% of the participants had weak and inappropriate, average and desirable social participation, respectively. The results indicated a significant direct relationship between social participation and its dimensions and quality of life ($p < 0.001$). (Table 4)

The results of regression analysis through backward method showed that social participation determined 21% of variance of life quality. (Table 5)

Discussion

In this study, we aimed to assess the association among social participation, quality of life, and some socioeconomic determinants in the Iranian elderly people. Since no standard criterion has been considered for quality of life in Iran, mean quality of life of 50 was used for the elderly (22). Like Abbasimoghadam et al. study, the elderly's total mean score was higher than the mean quality of life of 50 (23). Nejati et al. also conducted a study in Kashan(24), Ahmadi et al. in Zahedan(25) Alboukordi et al. in Shahinshahr(26) and Rostami et

[DOR: 20.1001.1.24236179.2018.4.2.4.0]
[DOI: 10.18502/ehj.v4i2.262]

al. in Masjed Solaiman (27) reported average quality of life among the elderly . However, Counsell performed a research in India (28) and Tsai in Taiwan (29) showed that the elderly had low quality of life. On the other hand, Rantakokko (30) and Sartor-Glittenberg (31) carried out researches in the U.S. and reported higher mean scores of quality of life among the elderly.

Table 1. The relationship between demographic features, and social participation and quality of life

Variable	Social participation		Quality of life	
	Mean ± SD	P-value	Mean ± SD	P-value
Education level				
Illiterate	45.75 ± 5.34		49.8 ± 8.02	
Primary school, middle school	48.58 ± 5.41		49.76 ± 7.40	
Diploma	50.56 ± 6.15	< 0.001	52.54 ± 7.04	0.01
Associate degree	54.23 ± 5.67		52.55 ± 5.86	
Bachelor's degree and above	54.34±7.54		54.81 ± 7.50	
Sex				
Male	51.21 ± 5.90	0.01	75.14 ± 6.31	0.01
Female	49.69 ± 6.31		72.36 ± 7.31	
Marital status				
Single	55.57 ± 6.39		52.03 ± 5.98	
Divorced	45.50 ± 6.36	0.004	46.88 ± 5.77	0.53
Widowed	48.27 ± 6.73		50.82 ± 6.86	
Married	50.94 ± 6.26		52.52 ± 7.50	
Occupation				
Public sector employee	50.00 ± 8.66		50.00 ± 5.99	
Private sector employee	50.44 ± 6.26		53.82 ± 4.45	
Retired	51.23 ± 5.65		52.40 ± 6.58	
Homemaker	48.05 ± 6.99	0.021	49.38 ± 8.27	0.01
Self-employed	51.90 ± 8.23		53.54 ± 8.36	

Table 2. The elderly's mean (SD) scores of quality of life based on sex

Variable		Mean	SD
Physical health	Female	17.08	2.51
	Male	18.18	2.44
	Total	17.59	2.53
Mental health	Female	17.63	2.80
	Male	17.77	2.69
	Total	17.55	2.75
Social relations	Female	20.35	2.80
	Male	20.62	2.47
	Total	20.47	2.65
Environmental health	Female	8.21	1.45
	Male	8.54	1.04
	Total	8.37	1.29

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Table 3. The elderly's mean (SD) scores of social participation based on sex

Variable		Mean	SD
Institutional social participation	Female	20.31	3.65
	Male	21.81	3.48
	Total	21.00	3.65
Non-institutional social participation	Female	22.94	2.83
	Male	22.97	3.17
	Total	22.96	3.01

Table 4. The correlation between social participation and its dimensions and quality of life among the elderly

Quality of life Social participation	Physical	Mental	Social	Environmental	Total
Institutional social participation	0.323*	0.057	0.362*	0.229*	0.318*
Non-institutional social participation	0.296*	0.114	0.221*	0.191**	0.239*
Total social participation	0.399*	0.089	0.334**	0.229*	0.312*

*p < 0.01 **p < 0.05

Table 5. Regression coefficients* of the independent variable (social participation) based on the dependent variable (quality of life)

Variable	Coefficient of determination	Adjusted coefficient of determination	Beta coefficient	Standard error	T	P-value	Confidence interval 95%	
							High	Low
Social participation	0.47	0.21	0.218	0.054	4.06	< 0.001	0.32	0.11
Constant			28.60	3.86	7.39	< 0.001	36.22	20.98

*Backward method

Differences across developing and developed countries as well as between various regions of a country might be attributed to cultural, social, and economic variations, communities' preparedness for challenges associated with higher ages, and appropriate structural performance. Some developing countries do not have predetermined plans for this issue (32, 33).

Among dimensions of life quality, mean scores of mental health and environmental health were below the aforementioned index. Similarly, Zahmatkeshan et al. performed a study in Kashan and reported a low mean score of mental health among the elderly. The low average of the psychological and social scores of quality of life may be due to mental problems caused by retirement of elderly people or their physical problems. Mental health involves negative emotions, positive emotions, self-confidence, memory, and mental status. Therefore, more emphasis should be put on this dimension. Holding sports programs, bibliotherapy, and reminiscence can be effective in improvement of quality of life (32).

In line with the current study, Keshvari et al. reported a low mean score of environmental health (34). Environmental health deals with financial resources, physical security, healthcare, social care, living place, physical environment, and transportation. Thus, the elderly's low mean score in this dimension could result from negligence of responsible institutions for the elderly.

The findings of the present study demonstrated that the mean score of quality of life significantly decreased with increase in age. Similar results were also obtained by Borhaninejad et al. (1) and Tajvar et al. (35). In the same line, Kirchengast et al. disclosed that the elderly below 70 years old had more desirable quality of life compared to those aging above 70 years (36). This can be justified by the fact that the elderly in lower age groups have lesser physical, mental, and social restrictions, leading to considerable differences in their life quality. Also as age increases, the incidence of functional disorders and chronic illnesses increases too. Hence, age is an important factor for categorization of the elderly based on their needs.

In our study, the mean score of quality of life was lower in females than in males. This is in agreement with the results obtained by Borhaninejad, Keshvari(1, 34) and Lima et al.(37). However, Zahmatkeshan et al. indicated no significant correlations between quality of

[DOR: 20.1001.1.24236179.2018.4.2.4.0]
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life and sex (32). Difference between the results might be due to differences in research settings, cultural differences, and sexual inequity in benefitting from welfare facilities and low access to information, training and employment. Therefore, future studies are required to be conducted on the issue.

The findings of the current study indicated that as education level increased, quality of life increased significantly, as well. The results of the studies by Alizadeh et al. (10), Zahmatkeshan et al. (32), Lima et al. (37). and Williams et al. (38) also revealed a significant relationship between quality of life and education level. This can result from increase in individuals' awareness about the issues related to old ages. Indeed, higher education levels can enhance quality of life through improvement of individuals' social class, economic power, and self-esteem (39).

Our study results revealed a significant relationship between occupation and quality of life, which is consistent with the results of the study by Zahmatkeshan et al. (32). Employment, generates regular income and maintains social relationships with others, which both have a positive impact on the quality of life. A large number of the elderly under our investigation were retired or homemaker. It should be noted that retirement is related to occupation not activity. Therefore, the elderly have to play active social roles even after retirement in order to maintain their independence and not to get isolated. Of course, this requires investment and policymaking in this context.

The mean score of social participation was higher in the present study compared to that performed by Moradi et al. (16). The difference can be attributed to cultural and social differences as well as different facilities for the elderly in various cities. Additionally, our results indicated a higher mean score of non-institutional participation, which implies the elderly's greater interest in informal activities, such as cooperating with charity organization and groups that are not formal organizations or institutions. This might be due to weakness in providing the ground for the elderly's participation in formal activities as well as lack of particular organizations, forums, and clubs for the elderly. Yet, further studies are necessary to be performed in this regard.

In the current study, social participation decreased with age, which is corresponding to the results of the studies performed by Darvishpour (12) Lee et al. (18) and Levasseur et al. (13) also reported a considerable decrease in social participation with increase in age (13, 18). It seems that increase in age followed by reduction of psychosomatic function and prevalence of chronic diseases result in reduction of the elderly's social participation.

The present study findings revealed higher social participation among married individuals. Similarly, Darvishpour (12) conducted studies in Tehran and stated that married participants had higher social participation. In contrast, Lee et al. (18) and Sirven et al. (17) reported lower social participation among married subjects. The difference might be due to variations in research settings. Moreover, after losing their spouses, the elderly benefit from other supportive networks including their children, relatives, and friends, which enhance their sense of belonging and emotional support. On the other hand, they might be totally forgotten and get isolated. Overall, it seems that spouse's support is effective in social participation in higher ages.

Our results revealed a significant relationship between education level and social participation, such a way that higher education levels were accompanied with higher rates of social participation. Lee (18) and Alizadeh (10) also mentioned education level as one of the effective factors in the elderly's social participation. Higher education levels can increase individuals' self-esteem and empower them for taking part in social activities through improvement of their social class and economic power.

The results of the current study indicated a significant relationship between occupation and social participation, which is in line with the study conducted by Lee et al. (18). Occupation provides the opportunity to build effective relationships with other society members, which provides the ground for higher social participation.

The most important finding of the current study was the significant relationship between social participation and quality of life. Based on the results, social participation could predict 21% of changes in variance of quality of life score. In the study by Moradi et al. also, social participation could predict changes in variance of quality of life by 62.5% (16). Similar results were also obtained by Levasseur (3). The higher prediction power in Moradi's study might result from the difference in research settings as well as target populations. That study was carried out in Tehran (capital of Iran), which has far more welfare and entertainment facilities compared to smaller cities. Overall, the relationship between social participation and quality of life might result from individual, economic, social, and political factors. Quality of life is a relative, abstract, and multi-dimensional concept that is affected by time and place. Indeed, in addition to having objective dimensions and depending on external conditions, it is an internal concept depending on individuals' perception of their life status. This can justify the positive role of social participation in improvement of life quality. Thus, the elderly's participation in meaningful activities can improve the subjective and objective dimensions of their life quality (41).

Conclusion

There is a positive relationship between social participation and quality of life. Therefore, more attention should be paid to lonely, jobless, and lowly educated elderly so as to improve their life quality through elimination of barriers against their social participation. In this context, responsible organizations are recommended to provide the ground for the elderly's higher social participation by institutionalizing non-governmental organizations, charity organizations, and peer forums. Moreover,

[DOR: 20.1001.1.24236179.2018.4.2.4.0]
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further studies are suggested to take the elderly's chronic diseases into consideration.

Study limitations

This study had some limitations. Firstly, the data were collected through self-report, which might not reflect the participants' actual performance. Secondly, interviewing the participants was quite a time-consuming task that was encountered with difficulties due to the interviewees' tiredness. Therefore, it is suggested that qualitative studies should be carried out to involve the elderly and their families, because in qualitative studies, the elderly can be better understood.

Conflicts of interest

The authors' declare that they have no competing interests.

Acknowledgement

This article was extracted from the research proposal No. 10531 which was approved by the Health Sciences Research Center affiliated to Shiraz University of Medical Sciences, Shiraz, Iran. Hereby, the authors would like to thank Ms. A. Keivanshekouh at the Research Improvement Center of Shiraz University of Medical Sciences for improving the use of English in the manuscript. They are also grateful for all the elderly for contribution of their time and effort to this study.

Authors' contribution

MHK and VM participated in the design and implementation of the study. VM performed data analysis. MHK, VM, MN and LGH assisted with the writing and revision of the manuscript.

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[DOR: 20.1001.1.24236179.2018.4.2.4.0]
[DOI: 10.18502/ehj.v4i2.262]