
Socioeconomic status and quality of life in elderly neglected people in rural area of western Iran**Farzad Maleki^{1,2}, Mohammad Esmailpour Aghdam², Marjan Hosseinpour^{1*}***1. Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran**2. ShahinDezh Health Center, Urmia University of Medical Sciences, Urmia, IR Iran**Corresponding Author email: hosseinpourm@yahoo.com***K E Y W O R D S:** quality of life; LEIPAD; widow and divorced older; socioeconomic status; western Iran

ABSTRACT: Introduction: The population prevalence of older people has been growing worldwide; an essential public health goal is to reduce age-related disabilities in the elderly. This study aimed to assess socioeconomic factors influencing QoL among rural Shahindezh widow and divorced older people. Method: This cross-sectional study was conducted among older widow and divorced women (≥ 65 years), in rural area of Shahindezh County in 2014. The cluster sampling was used for sample collection, totally 164 older widows and divorced people participated, and the elderly LEIPAD questionnaire was employed to interview elderly QoL. Economic status was classified by Principle Component Analysis (PCA) categorized into high, moderate and low, t-test and ANOVA analysis was performed to test the effect of factors on all domains of the QoL. Multivariate linear regression was performed to determine the factors influencing QoL among the older people. Result: The mean age of participants was 75.2 ± 5.9 (65-90) years. The results showed significant relation between the participants 'quality of life scores and variables such as Age, educational, Economic status, Income source and Ethnicity ($P < 0.05$). Multivariate analysis revealed that in TS and TCS models, Education, economic status, Ethnicity, source of income and occupation are significantly predictive of QoL ($P < 0.05$). Conclusion: Quality of life of widowed and divorced women must be taken into consideration as one of vulnerable groups of society. According to the results, illiterate, low economic Status, house wife and Turkish ethnicity widow and divorced women had low QoL, and require more attention to improve their QoL.

Introduction

Elderly people proportion almost in all countries is growing more than any other age group and this subject has brought about challenges (Heck and Pamuk 1997). The purpose of current knowledge is not only to increase lifetime, but also to create better physical and mental health which brings up a topic entitled "quality of life (QoL)" (Zaeri, Asgharzadeh et al. 2014). World Health Organization defines the quality of life as: man's perception of his/her life situation, goals, expectations, standards and concerns associate with value and cultural context that lives therein. This concept in a wide range is affected by physical health, spiritual and mental status, independence level, social relations, private beliefs and environment (Collishaw, Boyd et al. 2009). In fact, this topic includes a concept beyond physical health and is one of the important indicators independent measurement of with is necessary in various health researches (King 2003).

With increasing age, loneliness is increased due to increase of disability and reduction of social communication particularly in people that have already married but now live lonely (Jylha 2004). Widowhood is a condition that is created throughout the world due to dissolution of marriage; due to divorce and spouse death as a result of natural events. Researches show that in both cases, women are more affected by long-term social and economic consequences than men (Heck and Pamuk 1997). Widowed and divorced women are neglected people of society and are less involved in society affairs (Sangeeth and Solomon 2014). They are propelled to low socioeconomic class, seclusion, death and are considered as vulnerable part of society (Sheykhi 2006). In recent years, as a result of demographic transition, high speed industrialization and urbanism, the structure of extended families is dissolved and small families are being created. Consequently, elderly people due to lack of familial protection have become vulnerable more than ever (Lakshmi Devi and Roopa 2013). Common problems of widowed women are poverty, high prevalence of mental problems, loneliness and fear thereof, social stigma, social seclusion and negligence, low self-reliance, malnutrition, being discouraged to remarry, lack of dwelling and refuge, domestic violence against them by family members and consequently reduction of satisfaction with life (Sangeeth and Solomon 2014).

According to the statistics in 2011, 0.8% of women over 65 years old in Iran were single, 41.7% were married and 57.4% were divorced. Moreover, statistics indicate that this value has an upward trend within recent years so that widowed women proportion was increased from 55.2 in 1996 to 55.9 in 2006 and 57.4 in 2011 (Friedenreich and Cust 2008). This subject caused concerns in Iran (Sheykhi 2006). In other EMRO countries, statistics show similar status; in Afghanistan (2008), 62% of women over 65 and in Egypt (2006), 73.4% of women over 65 were widowed (Friedenreich and Cust 2008). This study was conducted to analyze QoL of elderly women over 65 residing in village in south of West Azerbaijan Province in Iran. Demographic and socioeconomic details were analyzed. This study provides some suggestions for health policy makers to promote the QoL of elderly women by applying effective interventions.

Method and Material

This cross-sectional study was conducted among older widow and divorced women (≥ 65 years), By use of cluster sampling among 3 districts of Shahindezh County, one health center and out of each health center, study samples were selected, 164 widow and divorced women older sampled to fill the questionnaires. Interviewers referred to the house of selected samples and filled the questionnaire. Inclusion criteria were lack of mood and cognitive disorders diagnosed by health centers physician, ability to understand and answer the questions, lack of mental and physical disability and disabling acute diseases.

Instruments administered

The questionnaire included closed ended questions in three parts:

part: Socio-demographic characteristics. Second part: Economic status that consider home properties were measured by Principle Component Analysis (PCA) model and people were classified based on assessed indicator in three groups including low, middle and high economic status.

Third part: included LEIPAD questionnaire to assess quality of life in elderly. LEIPAD questionnaire was developed by Diego et al (De Leo, Diekstra et al. 1998) and its validity and reliability was confirmed in Iran by Heidarali Abedi and Ali Hesamzadeh (Cronbach’s alpha=0.874) (Abedi and Hesam zadeh 1999). LIEPAD questionnaire was comprised of 49 items in two core and moderator parts. 31 items thereof were classified in 7 scales that form the instrument core. Each one of these items was scored based on 4-point Likert scale from 0 (equal to best conditions) to 3 (equal to worst conditions). As a cultural norm, the ethics committee of Tehran University of Medical Sciences didn’t approve two sexual behaviors questions, the domains of core scales were reduced from seven to six items.

Table1. demographic and socioeconomic characteristics of elderly widowed and divorced women in rural area of Shahindezh

		n	%
Age class	65–74 years	74	45
	75–84 years	80	49
	85<years	10	7
Marital status	divorced	44	26.8
	Widow	120	73.2
Education	Illiterate	148	90.2
	Literate	16	9.8
Insurance support	with insurance	139	84.8
	no insurance	25	15.2
	low	77	46.9
Economic Status	moderate	53	32.6
	high	34	20.5
	< 1,000,000	124	75.4
Mount of income	1,000,000-1,800,000	32	19.2
	1,800,000 <	8	4.5
	House wife	122	74.6
Source of Income	Government retired	24	14.7
	pensioner	18	10.7
Ethnicity	Turkish	78	46.4
	Kurdish	86	52.7

Statistical analysis

Statistical analysis was undertaken using independent t-test and ANOVA to test the difference between means of QoL from separate groups of the Socioeconomic and demographic variables. In addition, Pearson correlation was used to test the

relationship between age and domains of QoL. Meanwhile, multivariate linear regression analysis was used to determine factors predictive of QoL among older women people. In all analyses we considered $P < 0.05$ as significant.

Table 2. The relationship between the age and LEIPAD scores using Spearman’s correlation

		PF	SC	DA	CF	SF	LS
Age	r (Spearman’s correlation)	0.27	0.34	0.12	0.20	0.15	0.15
	p value	<0.0001	<0.0001	NS	0.003	0.025	0.029

Table 3. The difference between means of QoL scores of the socioeconomic variables using independent t-test and ANOVA

		PF	SC	DA	CF	SF	LS
Marital status	divorced	6.8(4.1)	8.6(7.2)	4.6(3.1)	7.1(4.0)	3.6(1.9)	8.2(4.4)
	Widow	7.6(2.8)	5.9(4.4)	4.6(2.2)	6.8(2.9)	3.7(1.1)	8.7(3.6)
	p value	NS	0.031	NS	NS	NS	NS
literacy	Illiterate	7.2(3.2)	5.8(4.7)	4.3(2.4)	6.5(3.1)	3.6(1.3)	8.1(3.7)
	Literate	9.4(1.9)	14.4(5.1)	7.2(1.0)	10.7(1.4)	4.9(3.3)	12.6(1.7)
	p value	0.047	<0.0001	0.001	<0.0001	NS	0.001
Insurance support	with insurance	7.7(3.1)	6.8(5.3)	4.6(2.4)	7.0(3.2)	3.7(1.4)	8.8(3.7)
	no insurance	6.0(3.6)	5.4(5.6)	4.2(2.8)	5.9(3.1)	3.9(1.2)	6.9(4.0)
	p value	NS	NS	NS	NS	NS	NS
Economic Status	Low	9.1(2.7)	10.1(5.6)	5.9(2.4)	8.9(3.2)	4.1(1.2)	10.9(3.8)
	moderate	7.8(3.1)	6.7(4.8)	4.4(2.4)	6.7(3.3)	3.6(1.3)	8.6(3.7)
	High	6.4(3.2)	4.9(4.9)	4.1(2.3)	6.1(2.8)	3.6(1.4)	7.4(3.5)
mount of income	p value	0.003	0.001	0.018	0.004	NS	0.002
	1,800,000 <	7.1(3.5)	5.9(4.8)	4.5(2.5)	6.5(3.3)	3.7(1.4)	8.1(3.9)
	1,000,000-1,800,000	7.9(1.5)	7.4(5.0)	4.5(2.2)	7.5(1.8)	3.8(1.1)	9.8(2.9)
Source of Income	< 1,000,000	11.0(1)	18(1)	8(1)	12(1)	5.0(1)	12(0.1)
	p value	0.047	<0.0001	0.018	0.002	NS	0.043
	House wife	7.8(3.0)	7.4(5.5)	4.7(2.6)	7.5(3.1)	4.0(1.6)	9.2(3.8)
ethnicity	Government retired	6.3(2.8)	4.6(2.7)	4.2(2.3)	4.6(2.2)	2.6(1.3)	6.1(2.9)
	pensioner	6.2(4.7)	3.4(5.5)	4.3(2.6)	6.0(3.7)	3.4(1.8)	7.7(3.4)
	p value	NS	0.019	NS	0.003	0.001	NS
ethnicity	Turkish	8.1(3.3)	9.0(5.6)	5.0(2.8)	8.1(3.2)	4.0(1.1)	9.5(4.0)
	Kurdish	6.8(3.1)	4.6(4.3)	4.2(2.1)	5.9(3.0)	3.4(1.4)	7.8(3.5)
	p value	NS	<0.0001	NS	0.001	0.023	0.029

F Physical Function, SC Self-Care, DA Depression and Anxiety, CF Cognitive Functioning, SF Social Functioning, SX Sexual Functioning, LS Life Satisfaction. NS, no significant

For Socioeconomic characteristics, mean (SD) are presented, Significant differences are presented in ($p < 0.05$) Reference groups were “Literate, low Economic Status, House wife and Turkish ethnicity” TCS Total of Core Scale

Table 4. Factors predictive of Quality of Life among elderly using multivariate linear regression analysis

scope	remaining variables in final regression model	B	Beta	P<0.05
TCS	Education	20.69	0.358	<0.0001
	Economic Status	-5.94	-0.278	0.001
	Ethnicity	-8.34	-0.248	0.005
	Income Source	-7.8	-0.206	0.015

Results

The general characteristics of the study participants showed that age average \pm SD of study participant was 75.2 ± 5.9 (65-90) years. Most of participants were widowed 73.2%, illiterate (90.2%), under Insurance support (84.8%), low Economic status (46.9%), with income of lower than one million Tumans (75.4%) and 52.7% Kurdish ethnicity. (Table 1)

Age had negative effect on HRQOL scores, that increased with life span, were positively correlated with age and the higher correlation was seen in SC ($r=0.34$) ($p < 0.0001$). (Table 2)

From the univariate analysis, mean LEIPAD scores were examined across subgroups, widowed and divorced women were almost equal, but widowed women had better SC ($p = 0.031$). Literate elderly women significantly had high QoL in all

domains, except for SF and SX. People with high economic status significantly obtained lower score in all domains, people with 1.800,000 tumans; retired and Kurdish people had better QoL. (Table 3)

Results from multivariate linear regression analysis revealed four factors predictive of TCS among older widow and divorced women: Education, Economic Status, Ethnicity and Income Source, However, the four factors: age, Insurance support, amount of income and marital status were not associated with QoL among widow and divorced women. (Table 4)

Discussion

Our study indicated that age had inverse correlation with quality of life of widowed and divorced elderly women. Literacy level, Income and economic status have direct relationship with quality of life. Quality of life status in Kurd widowed elderly women was higher than Turk women. Moreover, health insurance coverage has no association with quality of life.

The age had negative effect on QOL, with aging, quality of life is reduced significantly (Saxena, O'Connell et al. 2002, Gott and Hinchliff 2003, Borglin, Jakobsson et al. 2006, Knesebeck, Wahrendorf et al. 2007, Netuveli and Blane 2008, Zaninotto, Falaschetti et al. 2009, Bazrafshan, Kashfi et al. 2014). elderly people have lower quality of life than others (Borglin, Jakobsson et al. 2006). Some studies showed that depression as one of quality of life domains is not associated with age (Fassino, Leombruni et al. 2002), and elder participants had worse status in cognitive and physical domain (Jalenques, Auclair et al. 2013). Age has direct and indirect effect on QoL; change from employment to pension, responsibility to releasing and leisure time, change in the family and friends, sensory and physical changes like long hospitalization, sleep disorders or pain toleration and intellectual concerns such as death and fear of dying may be effective (Netuveli, Wiggins et al. 2006, Molzahn, Skevington et al. 2010, Halvorsrud, Kalfoss et al. 2012). quality of life of elders potentially may be high, if these people live in suitable conditions such as lack of disease and depression, appropriate economic status, enough protection of family and friends and having good social networks (Zaninotto, Falaschetti et al. 2009).

In the present study, literate elderly women had lower mean and higher quality of life significantly. Previous studies showed quality of life of women had positive association with literacy level (Penson, Stoddard et al. 2001, Bazrafshan, Kashfi et al. 2014). People with higher literacy have less health problems in general (Jalenques, Auclair et al. 2013). Literacy help to improve QoL by changing knowledge and attitude to health and disease (Zeighami Mohammadi and Shahparian 2011). Education effects on follow of prescribed treatment and life style and treatment choice (Penson, Stoddard et al. 2001).

People of high economic status significantly had better QoL. Based on previous studies economic status is effective on quality of life and patients with lower economic status, lack of receiving salary or unemployment have lower quality (Penson, Stoddard et al. 2001, Zaninotto, Falaschetti et al. 2009). Being included in poor quintile of society will reduce quality of life of elders (Zaninotto, Falaschetti et al. 2009). Financial status of poor people has negative relationship with quality of life of elders and reduces quality of life (Netuveli, Wiggins et al. 2006). Elders with better socioeconomic feel less depression and have better physical and social performance (Barbareschi, Sanderman et al. 2009). Families with low socioeconomic have unhealthy life style include: consume unhealthy diet, less fresh fruit and vegetable and less exercise, also have less access to health care facilities (Penson, Stoddard et al. 2001, Lima-Costa, Barreto et al. 2003).

Our study indicated older people who were pensioner and retired, had better QoL. Income source effects on physical performance in elder, who are unemployed or supported by funding agencies, have more limited physical function than other occupational groups (Alizadeh, Rahimi et al. 2013) also lower income elderly have greater disability (Parahyba, Veras et al. 2005). In Iran, life insurance for 60 years and higher is too expensive and hardly accessible. On the other hand, according to the national culture and religious beliefs, families prefer to care elders themselves, because of high cost of health and medical care of the elderly, families require financial support despite the absence of suitable supportive program for them. Eventually older people, who have no income source, are more dependent on their family and QoL reduce.

Mean score of Turk participants in all domains was higher than Kurd participants. Only a few studies have been applied on the effect of ethnicity and race on quality of life. In the studies performed in this field, it is indicated that difference in quality of life of ethnicities is majorly due to having the sense of goal of people and useful role in the life. Moreover, it may be due to social protection by spouse, family, friends and religion as well as difference in their economic status and income, whilst in the present study no significant difference economically was observed between two ethnicities ($P_{x2}=0.778$).

Insurance coverage in none of domains showed significant effect. As concluded, health insurance system and relative payments in Iran has problems such as postponed and delayed financing, unclear financial process, expensive and unhealthy cost payment system and unknown insurance rate that require long-term studies to identify and solve these problems (Ibrahimipour, Maleki et al. 2011).

One of considerable strengths in this study is sampling that caused to gain a demonstrative sample and generalizable results to overall rural population of Shahindezh. Limitation of this study was low number of people over 85 that participated in the study, because these people in this age range have more health problems. In addition, study was performed based on cross-sectional method, thus studies with other designs are needed to be performed to prove the causal relationships.

Further studies are needed in this field to identify widowed elderly women's quality of life promoting factors as well as reducing factor in order to identify people with low and inappropriate quality of life and consider them as target group of prevention and promotion intervention.

Conclusion

Quality of life of widowed and divorced women must be taken into consideration as one of vulnerable groups of society to upgrade standards of their life. According to the results, cognitive and physical function had the worst status, thus it is required to take more effort for promotion of these domains' status and design and implement plans for this purpose. The present paper was the first study that was applied in this region with the objective of analyzing quality of life status of widowed and divorced women. Hence, it is required to apply more longitudinal studies in this relation.

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