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Epidemiology of loneliness in elderly women

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Abstract

With the rising population of the elderly worldwide, especially in developing countries, old age and its accompanied conditions make mental and physical healthcare provision a critical issue of the 21st century.This cross-sectional study was carried out to determine the epidemiological pattern of loneliness and its related factors in elderly women (age ≥ 60 years) who were covered by the health centers of Gonabad, Iran. After estimating the sample size, 500 eligible subjects were selected through proportional stratified sampling. Data were collected by a questionnaire containing demographic characteristics and the University of California, Los Angeles, Loneliness Scale. The collected data were analyzed using descriptive statistical tests, one-way analysis of variance (ANOVA), and chi-square tests in SPSS 20.0. The prevalence of moderate and intense loneliness was 50.4% and 39.4%, respectively. There were significant relationships between the levels of loneliness and marital status ,education , and family status.The results of this study highlight the necessity of attending to the feeling of loneliness experienced by the elderly people, identifying the situations and events that intensify this feeling, and establishing interventional programs to resolve the problem.

Keywords: Epidemiology, Loneliness, Elderly, Women

Introduction

Aging is an inevitable process and a critical period of human life which is accompanied by a wide range of physiological and psychological changes that lead to loss of independence and deteriorated mental health [1]. On the other hand, with recent advances in health sciences, the global elderly population is increasing each year [2]. Such an increasing trend started in the twentieth century [3] and is among the most challenging economic, social, and health issues in the twenty-first century. Individuals over 65 years of age, i.e. one out of every 10 persons in the world, are considered old. While the elderly population has tripled in the past 50 years, it will triple in the next 50 years [4].

In Iran, old age begins at 60-79 years old [5]. According to the Census 2011 results, the elderly (65+ years) comprise 5.7% of Iranians and the rate is predicted to reach 19% by 2031 [6,7]. In other words, the country has an aging population and will soon be home to an old population [8] with rising problems. Therefore, the special conditions of the elderly and enhancing their mental and physical health will require utmost attention [9]. The tendency toward intimate relationships exists in all humans from birth to death and no one

is immune to this feeling. Humans are born with the need for intimacy, i.e. establishing and maintaining at least few positive, stable, and important relationships. Hence, those who fail in this regard cannot satisfy the need for belonging and will probably experience a sense of deprivation which is manifested as the feeling of loneliness [10]. Evidence suggests that loneliness is a widespread phenomenon faced by 25%-50% of the population aged over 60 years depending on age and sex [11]. Loneliness is not actually the result of living alone, but it is felt when social interactions with adequate quantity and quality are absent [4]. Most elderly described the old age as a time of loneliness and are afraid of it as an unpleasant experience [7]. Research has indicated that women are more likely to feel lonely than men [12]. This feeling can affect an old person's susceptibility to mental and physical illnesses and is an important factor in the incidence and deterioration of such diseases. It also causes various psychosocial disorders such as depression, suicide, extreme despair, social isolation, hopelessness, impatience, anxiety, impaired self-care behaviors and lifestyle in the elderly. Moreover, physical health issues including diminished immune function, eating disturbances, and sleeping problems can result from the constant feeling of loneliness [10]. The feeling has also been found to associate with increased risk of hypertension in the elderly [4]. Experts believe that any attempt to resolve the feeling of loneliness may help prevent the risk of complex mental problems and serious complications such as depression among the elderly. Few studies inside and outside of Iran have evaluated loneliness and its associated factors among the elderly [3,13,14]. Therefore, the current study sought to determine the epidemiological pattern of loneliness and its related factors among the elderly female residents of Gonabad, a city with one the oldest populations in the country [15], during 2013.

Method

The present cross-sectional study was conducted in 2013. The statistical population of the study comprised women aged 60 years and older who were covered by the health centers of Gonabad. After estimating the sample size, 500 elderly women were selected through proportional to size stratified sampling. Health centers were first considered as independent strata and the list of the elderly women covered by each center was extracted from its registration system. The eligible participants, based on the inclusion criteria, were then recruited. The inclusion criteria were being capable of making eye contact and verbal communication in Persian language along with the absence of chronic mental and physical illnesses which would limit the individual's cooperation. Data were collected using a two-part questionnaire. The first part assessed demographic characteristics of the elderly women. The second part was the 20-item University of California, Los Angeles, Loneliness Scale (UCLA LS) developed by Russel et al. in 1980. The UCLA LS items are responded through descriptive phrases or multiple choices including never, rarely, sometimes, and often. Meanwhile, some items are reversely scored. After summing the scores for all questions, the minimum and maximum scores can be 20 and 80, respectively. While scores 20-34 show a ` mild feeling of loneliness (or actually the absence of the feeling), scores 35-48 and >48 correspond moderate and intense loneliness [16]. Russell reported the test-retest reliability of the scale as 0.89. Moreover, in 1998, Russell et al calculated the test-retest reliability of the scale as 0.78 [17]. Sodani et al confirmed UCLA LS's reliability by obtaining Cronbach's alpha equal to 0.81 [18]. Since data were collected by health volunteers, they attended a briefing session where the researcher explained how to fill out the questionnaire. Afterward, they visited the selected elderly women at their residences, obtained their informed consent, and read and completed the questionnaires for the subjects. The completed questionnaires were reviewed by the researchers and returned to the respondents to resolve any detected problems. The collected data were entered into SPSS

for Windows 20.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics (e.g. frequency, percentage, mean, and standard deviation) was used to describe the research strata. On the other hand, analysis of variance (ANOVA) and chi-square test were applied to analyze quantitative (age and number of children) and qualitative (marital status, education, employment, family status, income, and history and type of illnesses) variables, respectively.

Evaluating the demographic characteristics of the subjects revealed their mean age to be 69.6 ± 7.9 years. In addition, most of the participants were married (55.4%), illiterate (52.2%), and housewives (96%). More than half (65.7%) of the subjects had four-seven children and 39.4% were living at their own house with their husbands. Overall, 64.2% of the participants had moderate income. History of diseases, mainly chronic illnesses (98.8%), was reported by 80.2% of the subjects (Table 1).

Table 1 *Sociodemographic characteristics of the elderly women (n=500)*

Socio-demographic characteristics	n	%
Age		
60-74	360	72
75-84	117	23.4
85 and over	23	4.6
Marital Status		
Single	5	1
Married	277	55.4
Widowed	198	39.6
Divorced	20	4
Educational level		
Illiterate	261	52.2
Primary school	211	42.2
Over Primary school	28	5.6
Occupation		
Retired	20	4
House keeper	480	96
The number of children		
0	43	8.7
1–3 child	73	14.7
4–7 child	325	65.7
8 and over	54	10.9
Who lived		
Alone	152	30.4
With wife	197	39.4
With wife and children	82	16.4
With children	62	12.4
Other	7	1.4
The level of income		
Very good	15	3
Good	116	23.2
Middle	321	64.2
Bad	48	9.6
Disease state		
Yes	401	80.2
No	99	19.8
Disease		
Acute	5	1.2
Chronic	396	98.8

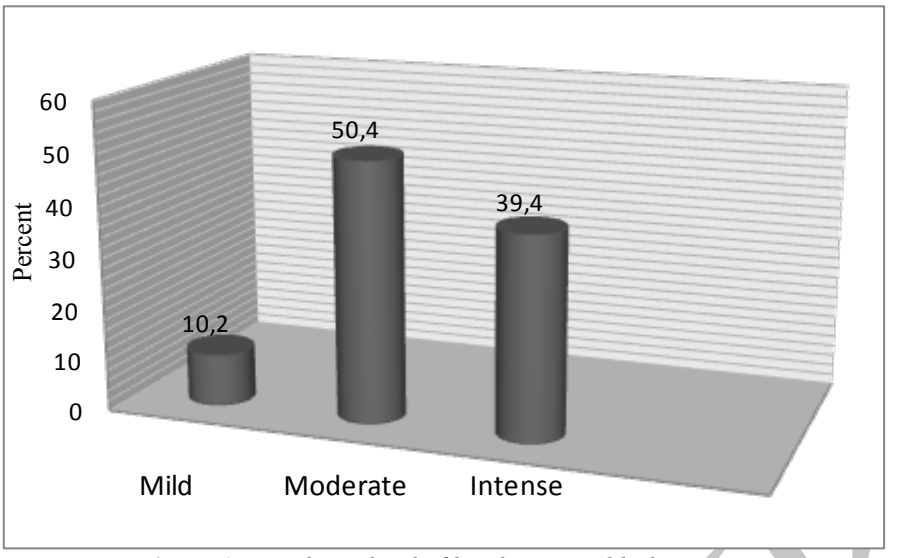

Figure 1 *Prevalence level of loneliness in elderly women*

Table 2 *Relationships distribution of Sociodemographic characteristics with level of loneliness*

Characteristics	loneliness			P- value
	mild	moderate	intense	
Age Mean (SD)	68.2(7.6)	68.6(7.3)	69.6(7.9)	* P=0.193 Df=32
Marital Status(n) Single Married Widowed Divorced	0 30(58.8%) 16(31.4%) 5(9.8%)	2(2.8%) 151(59.9%) 90(35.7%) 9(3.6%)	3(1.5%) 96(48.7%) 92(46.7%) 6(3%)	** P=0.043 Df=6
Educational level Illiterate Primary school Over Primary school	24(47.1%) 21(41.2%) 6(11.8%)	118(46.8%) 122(48.4%) 12(4.8%)	119(60.4%) 68(34.5%) 10(5.1%)	Chi square P=0.011 Df=4
Occupation Retired House keeper	3(5.9%) 48(94.1%)	8(3.2%) 244(96.8%)	9(4.6%) 188(95.4%)	Chi square P=0.582 Df=2
The number of children(n) Mean (SD)	4.7(2.7)	5.1(2.4)	4.6(2.1)	ANOVA P=0.120 Df=12
Who lived(n) Alone With wife With wife and children With children Other	17(13.3%) 19(37.3%) 12(23.5%) 1(2%) 2(3.9%)	73(29%) 105(41.7%) 45(17.9%) 27(10.7%) 2(0.8%)	62(31.5%) 73(37.1%) 25(12.7%) 34(17.3%) 3(1.5%)	Chi square P=0.037 Df=8
The level of income(n) Very good Good Middle Bad	2(3.9%) 17(33.3%) 25(49%) 7(13.7%)	6(2.4%) 59(23.4%) 168(66.7%) 19(7.5%)	7(3.6%) 40(20.3%) 128(65%) 22(11.2%)	Chi square P=0.220 Df=6
Disease state(n) Yes No	41(80.4%) 10(19.6%)	205(81.3%) 47(18.7%)	155(78.7%) 42(21.3%)	Chi square P=0.780 Df=2
Disease(n) Acute Chronic	2(4.9%) 39(95.1%)	1(0.5%) 204(99.5%)	2(1.3%) 153(98.7%)	Chi square P=0.069 Df=2

* ANOVA

** Chi squar

The participants' mean score of loneliness was 46.4 ± 9.1. The prevalence of moderate/intense loneliness was calculated as 89.8% (Figure 1). Table 2 shows the relationships between different levels of loneliness and demographic characteristics of the studied elderly women. As seen, there were significant relationships between levels of loneliness and marital status, education, and family status (Table 2).

Discussion

The results of this study showed the prevalence of mild, moderate, and intense levels of loneliness among elderly women (age ≥ 60 years) to be 10.2%, 50.4%, and 39.4%, respectively. In a similar study on individuals aged 65 years and older, Christina et al. calculated the corresponding values as 61%, 32%, and 7%, respectively [19]. Steed et al. found mild, moderate, and intense feelings of loneliness in 35.8%, 37.9%, and 26.3% of 60+ year-old subjects, respectively [20]. The difference between these two studies and the present research might have been caused by the effects of regional, cultural, economic, and social factors [13]. Apparently, our participants were mostly suffering from moderate levels of loneliness. Rukuye et al. reported comparable results in their study on elderly people [16]. These results can be justified by the rapid increase in the elderly population and the shift from traditional to nuclear families.

We also detected significant relationships between the feeling of loneliness and marital and family status and education. On the other hand, while subjects over 85 years old had the greatest level of loneliness, the relationship between age and loneliness was not significant. The findings of Koochaki et al. were consistent with ours [21]. In contrast, in a study on 348 individuals, Hazer and Boylu observed a significant relationship between age and feeling of loneliness [14]. This inconsistency might have been caused by different sample sizes and age distributions of the participants.

According to our findings, married people felt significantly less lonely compared to widowed subjects. In other words, (recent) loss of the spouse significantly increased the intensity of loneliness. Likewise, in a study on urban and rural elderly, Jones and Victor suggested the feeling of loneliness to be related with death, especially recent death, of the spouse [22].

As stated by our participants, loneliness had a significant relationship with the level of education. Hazer and Boylu had also detected a similar relationship [14]. In fact, the greater intellectual and sociocultural levels of the elderly with higher education provide them with more opportunities to attend cultural and social activities. In line with our findings, Sheikholeslami et al. reported the absence of a significant relationship between occupation status and the feeling of loneliness [4].

We, as well as Koochaki et al. [21], failed to find a significant relationship between loneliness and the number of children. In other words, the feeling of loneliness among the elderly does not depend on the number of their children and the frequency of their contacts, but is instead affected by the elderly's expectations from and satisfaction with these relationships, i.e. the elderly whose expectations are not satisfied in their relationships with their children and friends feel more lonely [9].

Consistent with the results of the current study, Rabia et al [13] and Jones and Victor [22] highlighted a significant relationship between the level of loneliness and family status. On the other hand, the feeling of loneliness and income were not significantly correlated in the present research. This finding was comparable to the findings of Sheikholeslami et al. [4], but in contrast with those of Rabia et al. [13]. Sociocultural characteristics of the studied populations might have been responsible for such an inconsistency [10]. In fact, since Iranian women spend most of their times at home, high levels of income may not exert a great impact on their level of loneliness.

Rukuye et al. observed a significant relationship between levels of loneliness and health status [16]. We, however, failed to reveal any significant relationships between the feeling of loneliness and history and types

of diseases, probably due to the fact that most of our participants were suffering from chronic diseases. Nevertheless, this inconsistency has to be resolved through deeper, more extensive studies.

It is noteworthy that most of the elderly women in the present study lived in the rural areas of Gonabad, which can be considered as a limitation of the study. Hence, further studies on different communities are recommended to clarify the determinants of loneliness among the elderly.

Conclusion

While the elderly women in the current study experienced various levels of loneliness, moderate levels of the feeling were present in more than half of the participants. Thus, health authorities and healthcare providers are required to be in constant contact with the elderly and to identify their unique conditions (e.g. decreased social interactions), thoughts, and beliefs. Enhancing the awareness of the elderly's healthcare providers, families, and friends about the necessity of relationships and interactions with the elderly and designing educational, treatment, and rehabilitation programs are warranted to prevent the feeling of loneliness and promote the health status of this vulnerable group of the society. The findings of the current research can lay the ground for future studies in this field.

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Contributions

Study design: ShKh, MA, A A, J T
Data collection and analysis: MA, AA
Manuscript preparation: ShKh, MA, AA

Conflict of interest

"The authors declare that they have no competing interests."

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