



## The Correlation between Spiritual Health and Loneliness in the Elderly

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### Abstract

**Background:** Loneliness is a serious issue among the elderly that considerably affects their health. Spiritual health might affect the level of loneliness in these individuals. Therefore, the present study was conducted to determine the relationship between spiritual health and loneliness.

**Methods:** This cross-sectional study was performed on 330 older adults who live in the western areas of the Golestan Province, Iran in 2019. The subjects were selected using stratified random sampling method with proportional to size. Data were collected by the short form of the Social and Emotional Loneliness Scale for Adults (SELSA-S) and the Spiritual Health Questionnaire (SHQ). Data analysis was performed in SPSS software (version 18) using Mann-Whitney U test and Spearman's rank correlation coefficient. Statistical significance level was set to 0.05.

**Results:** The mean of spiritual health and loneliness were  $96.57 \pm 4.10$  and  $21.25 \pm 9.05$ , respectively. There was no significant correlation between spiritual health and loneliness ( $P=0.72$ ), but there was a significant difference between urban and rural residents in this regard ( $P=0.037$  and  $P=0.003$ ). In addition, there was a significant relationship between spiritual health and loneliness in general ( $r=-0.139$  and  $P=0.02$ ). There was an inverse correlation between spiritual health and loneliness among urban residents ( $r=-0.27$  and  $P=0.001$ ) but not among rural residents ( $r=-0.06$  and  $P=0.41$ ).

**Conclusion:** Based on the findings, there is an inverse correlation between spiritual health and loneliness among the elderly. This could be a useful finding for planners and activists in the field of geriatric mental health in development of educational counseling and support programs.

### ARTICLE HISTORY

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### Highlights:

#### What is current knowledge?

Loneliness is a problem and an indicator of mental health and quality of life in the elderly.

#### What is new here?

There is an inverse correlation between spiritual health and loneliness among the elderly. Spiritual health and loneliness differ between residents in rural and urban areas.

### Introduction

The elderly are a vulnerable group who may experience several problems, such as loneliness (1). The incidence of loneliness varies qualitatively and quantitatively depending on the culture and social structure (2). Loneliness is one of the most important traumatic problems of old age (3). It is in fact an important indicator of mental health and quality of life in the elderly, which has a significant impact on the incidence of mental and physical illnesses in old age (4). Loneliness is an unpleasant, negative, and painful experience that causes boredom, uselessness, despair, depression, anxiety, and gloom in the world (5). This feeling occurs when important and meaningful social interactions are lacking in quantity or quality. Most seniors describe old age as period of loneliness and refer to it as an unpleasant and frightening experience (6). The prevalence of loneliness among the elderly has been reported to be 2-10%. This widespread phenomenon is experienced by 25-50% of people over 65 years of age (7). According to research, loneliness related to dementia and suicidal thoughts and predicts symptoms of depression (8). Studies also show that loneliness is associated with spiritual health (6), which is defined as a relationship with God, self, society, and the environment. In this situation, proportional to the capacity and ability of each individual, the insight, inclination and abilities necessary for the transcendence of the soul, which is closeness to God Almighty, are provided (9, 10). As a divine blessing, spiritual health is closely related to religion and religious beliefs and has positive effects on the elderly (11). Spiritual health will enable us to adapt to

the daily life problems, such as physical changes, as well as to cope with illness (12). Spirituality reduces stress, anxiety, depression, and suicidal thoughts (6). When spiritual health is at stake, one may experience feelings of loneliness, depression, and meaninglessness in life (6, 13).

Given that Iran has started to experience population aging, it is important to consider and address issues related to the health of the elderly. Indeed, identifying people's health status is the first step to promote their health. However, very little research has been done on the correlation of spiritual health and loneliness. Therefore, the aim of this study was to investigate the correlation between spiritual health and loneliness among the elderly in the west of Golestan Province, Iran.

### Methods

This cross-sectional study was performed on people over 60 years of age in the western areas of the Golestan Province (Iran) in 2019. Subjects were selected from rural and urban health centers in the study area via stratified random sampling, with proportional to size. The sample size was calculated using the formula used for correlation studies. According to the purpose of the research and considering 95% confidence level, test power of 0.80 and correlation coefficient of  $r=0.3$ , the sample size of 280 was obtained, which was increased to 330 when considering expected dropout-rate of 15% (6).

$$n = \left( \frac{Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}}{C} \right)^2 + 3 = 70$$
$$C = \frac{1}{2} \ln \left[ \frac{1+r_1}{1-r_1} \right] = \frac{1}{2} \ln \left[ \frac{1+0.33}{1-0.33} \right] = 0.342$$

Inclusion criteria were age of  $\geq 60$  years, no history of mental illness, cognitive impairment and no hearing problems. Exclusion criteria were failure to complete the questionnaire. Data collection tools included a questionnaire on demographic characteristics, the short form of the Social and Emotional Loneliness Scale for Adults (SELSA-S) designed by Brannen-Ditomaso and Best, and the Spiritual

Health Questionnaire. The psychometric properties of the SELSA-S have been analyzed by Jowkar and Salimi (14). This scale has 15 items and three subscales; social loneliness (5 items), familiar loneliness (5 items) and romantic loneliness (5 items). However, in the Persian version of the scale, there are 14 items that are scored based on a five-point Likert scale ranging from strongly disagree (5) to strongly agree (1). Except for question 14, all questions are scored in reverse. A higher score indicates a greater sense of emotional-social loneliness. The Cronbach's alpha coefficients of 0.92, 0.84 and 0.78 have been reported for the romantic, social and family dimensions of the questionnaire, respectively. In a study by Sari (2019), Cronbach's alpha coefficients of 0.94, 0.92 and 0.86 were reported for the romantic, social and family dimensions, respectively (1). The Spiritual Health Questionnaire was designed and psychometrically analyzed by Amiri et al. (2014) (9) and includes 48 questions that constitutes three dimensions of insight (12 items), tendency (16 items), and behaviors (20 items). In each construct, three sub-concepts of relationship with God, relationship with self, and relationship with the environment are explained. The answers are scored based on five-point Likert scale ranging from strongly agree (1) to strongly disagree (5). The five-point scale was then converted to 100 grading system where 1 equaled 100 and 5 equaled zero. A higher score indicated better spiritual health. The reliability of both questionnaires was assessed in a pilot study and Cronbach's alpha scores of 0.85 and 0.90 were obtained for the Spiritual Health Questionnaire and the SELSA-S, respectively.

The study was approved by the ethics committee of Golestan University of Medical Sciences (ethical code: IR.GOUMS.REC.1398.375). After explaining the research objectives and obtaining informed consent from the participants, the questionnaires were completed individually by face-to-face interview. If a subject was unable to visit the center in person (due to disability or immobility), the researcher went to the subject's home in order to complete the questionnaires. The time required to complete the questionnaires for each subject was about 20 minutes.

Data analysis was performed in SPSS (version 18). Normality of data distribution was assessed using the Shapiro-Wilk test. The Spearman's rank correlation coefficient was used to examine the correlation between variables. The Mann-Whitney U test was used to compare the mean score of spiritual health and the mean score of loneliness between the two groups, and the Kruskal-Wallis test was used for this purpose in case of more than two groups. The statistical significance level was set to 0.05.

**Results**

The mean age of the subjects was 70.42±8.2 years. Most of the subjects were urban residents (52.7%), married (77%), homemaker (47.9%), and illiterate (60%). In addition, 88.2% of the elderly lived with families and 58.8% had low income (Table 1).

**Table 1: Demographic characteristics of the subjects according to the place of residence (n=330)**

Variable	N (%)	
Age (years)	60-70	190 (57.6)
	71-80	94(28.5)
	>80	46(13.9)
Gender	Female	177(53.6)
	Male	153(46.4)
Employment status	Unemployed	24(7.3)
	Homemaker	158(47.9)
	Employee	4(1.2)
	Farmer	43(13)
	Retired	66(20)
	Self-employed	23(7)
Education level	Other	12(3.6)
	Illiterate	198(60)
	Primary school	56(17)
	Secondary school	28(8.5)
	High school diploma	34(10.3)
Marital status	University degree	14(4.2)
	Single	2(0.6)
	Married	254(77)
Living status	Widowed	74(22.4)
	Alone	39(11.8)
	With family	291(88.2)

The mean scores of spiritual health and loneliness were 96.57±4.1 and 21.25±9.05, respectively. Moreover, there was a significant inverse relationship between spiritual health and loneliness (r=-0.139 and P=0.02). The mean score of loneliness was 21.41±8.64 in elderly women and 21.06±9.51 in men (P=0.72). The mean score of spiritual health was 96.41±3.61 in women and 96.74±4.60 in men (P=0.47). The mean score of spiritual health differed significantly between residents in urban and rural areas (P=0.037). Similarly, the mean score of loneliness differed significantly between residents in urban and rural areas (P=0.003) (Table 2).

There was no significant relationship between spiritual health and loneliness among rural residents (P=0.41). However, there was a significant inverse relationship between spiritual health and loneliness among urban residents (P<0.001). Regardless of age, spiritual health had significant associations with some demographic characteristics including place of residence (P=0.01), employment status (P=0.02), education level (P=0.001), marital status (P=0.001), and income level (P=0.005). On the other hand, the mean score of spiritual health

was 96.76±3.37 in women and 97.1±4.28 in men who lived in urban areas (P=0.14).

The mean scores of spiritual health in women (96.07±3.82) and in men (96.28±4.98) did not differ significantly (P=0.15).

**Table 2: Comparison of the mean scores of loneliness and spiritual health among the elderly according to the place of residence**

Variable	Place of residence	Mean ± SD	P-value	Test
Spiritual health	Urban area	96.93±3.83	0.037	
	Rural area	96.16±4.35		
Loneliness	Urban area	9.74±22.44	0.003	
	Rural area	8.03±19.92		

Based on the results, loneliness in the elderly was significantly associated with education level (P=0.01), marital status (P=0.02), and living status (P=0.02). In rural residents, the mean score of loneliness was significantly associated with marital status (P=0.001) and living style (P=0.01).

**Discussion**

According to the results of this study, there was a significant difference between the mean score of spiritual health and loneliness among the elderly living in urban and rural areas. The results also indicated a significant relationship between the mean score of spiritual health and loneliness in all individuals. These findings are consistent with the results of the study by Kavosian et al. in Karaj, Iran (6).

In the present study, there was a significant difference in the mean score of spiritual health between elderly in urban and rural areas. A limited number of studies has been directly conducted on spiritual health in urban and rural areas. In a previous study, Karamivand (2016) indicated that older adults in rural areas had more spiritual needs than those in urban areas (15). It can be said that the similarities between the individual characteristics and social context of the study population in the urban and rural areas have been so great that most urban residents are in fact people who have migrated to the city from the surrounding villages. In the present study, there was a significant difference between the mean score of loneliness in urban and rural residents, which is consistent with the results of Narusawa et al. (2017) (16) but inconsistent with the results of Sari (2019) (1).

There was a significant inverse association between spiritual health and loneliness among older individuals in urban areas. This is in line with findings of Kavosian et al. (2016) (6) and possibly influenced by cultural and religious context of the society. Evidence indicates that spirituality can reduce loneliness. Older people use communication with God and worship to deal with loneliness (6).

In the present study, spiritual health had no significant relationship with gender in urban and rural areas, but men had higher spiritual health scores than women, which is consistent with results of Khalili et al. (2015) (17) in terms of urban areas but inconsistent with results of Zareipour et al. in terms of rural areas (18). The difference between spirituality of men and women can be attributed to cultural and social factors as well as the view of spirituality. Men have more opportunities to attend mosques and religious ceremonies than women due to their more prominent presence in the society. Consequently, they are expected to have a higher level of spiritual health and satisfaction compared to their female counterparts (19).

Loneliness had no significant association with gender in urban and rural areas, but the mean score of loneliness in female elderly was higher than in male elderly, which is consistent with previous studies in rural areas (1, 20) and inconsistent with findings of Haney et al. (21). Luo et al. believe that the high level of loneliness in women might be due to the fact that they see their children, family members and friends as a source of support, and following old age and psychological changes, their mental and emotional dimensions are more affected and they complain of feeling lonely (22).

Findings of the present study showed that spiritual health was significantly associated with employment status only in urban elderly, which is in line with findings of previous studies (6, 17). There was no significant relationship between loneliness and the employment status in urban and rural areas, which is in line with previous studies (1, 6). Employed elderly seem to have higher spiritual health and a sense of usefulness. Older adults who engage in daily life activities also have a higher life expectancy (21).

In this study, there a significant association between spiritual health and education in urban areas, which is consistent with the study of Saydshohadai et al. (22) but inconsistent with studies of Zareipour et al. (18) and Jadidi et al. (23). Moreover, there was a significant association between loneliness and education level in urban areas but not in rural areas, which is consistent with the study of Saydshohadai et al. (22) but inconsistent with the study of Chen et al. (24). On the other hand, our results on the rural areas are in line with the results of Zhang et al. (25). Education might affect the perception of loneliness considering its effects on awareness, thoughts, ideas, values, and thinking (1). Research has shown that education level is related to the quality of life of the elderly, so that people with a high school education or higher have a higher quality of life than others (17).

In the present study, there was a significant association between spiritual health and marital status in both urban and rural areas, which is similar to results of a

study in Greece (26). Zarghami and Mahmoudian believe that loneliness and isolation cause disinterest and affect spiritual health (20). In line with findings of the present study, we found a significant association between loneliness and marital status in urban and rural areas. The way life is managed affects the level of spiritual health. People who act independently in the affairs of life have more spiritual health. Spiritual health helps people to find meaning in life and hope for the future by providing a framework for expressing and explaining life experiences and thereby providing a sense of existential integration and connection (17).

In this study, there was a significant positive association between spiritual health and household income in rural areas but not in urban areas, which is in line with results of Zareipour et al. (18). On the other hand, there was no significant association between loneliness and household income, which is in line with findings of Zhang et al. (25) but inconsistent with findings of Zarghami and Mahmoudian (20). Evidence indicates that older people who are more financially capable can increase their level of interaction by bringing together children, even friends. In other words, financial capability increases the independence of individuals and substantially increases the possibility of providing a functional social network (20).

The impatience or carelessness of the subjects in answering the questionnaires due to old age can be considered as a limitation of the present study. We tried to minimize this limitation by providing a suitable environment for the subjects. Most of the participants were illiterate or of low level of literacy; therefore, it was probably difficult for them to understand some of the concepts and questions of the questionnaire. In this regard, the questions were asked in simple and understandable language, and if there was any ambiguity in the answers, the researcher asked for more explanations to clarify the matter, which was time consuming. Furthermore, the data were collected through questionnaires and self-reports and might not reflect the true feelings and perceptions of the subjects.

## Conclusion

Based on the findings, there is an inverse relationship between spiritual health and loneliness among the elderly. This could be a useful finding for planners and activists in the field of geriatric mental health in development of educational counseling and support programs. Moreover, spiritual health and loneliness differed significantly between residents in rural and urban areas, which could be related to life style differences.

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## Ethical statement

Written consent was obtained from all individuals prior to participation in the study. The study was approved by the ethics committee of Golestan University of Medical Sciences (ethical code: IR.GOUMS.REC.1398.375).

## Conflict of interest

The authors declare that there is no conflict of interest regarding publication of this article.

## Author contributions

Daie S. cooperated in conceptualization, data collection and writing; Mahmoodi-Shan G.R cooperated in conceptualization, data analysing, writing, editing and supervising study; Mehrbakhsh Z cooperate in methodology, data analyzing and editing.

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