Article

The Relationship between Mental Health and Loneliness in the Elderly during the COVID-19 Pandemic

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Abstract: Background and Aim: The coronavirus pandemic has had a negative impact on the health and well-being of communities and individuals around the world. One of the concerns about the COVID-19 epidemic is the impact of social isolation due to social distancing on the mental health of older adults. This study aimed to investigate the relationship between mental health and loneliness among seniors during the COVID-19 pandemic. Materials and Methods: In this cross-sectional study, 211 retirees of Kermanshah University of Medical Sciences were selected by available sampling method in 2021. Data were collected through the Demographic, Mental Health Questionnaire (GHQ-28) and the Adult Social and Emotional Feeling Questionnaire (SELSA-S). Data were analyzed using paired t-test, one-way analysis of variance, covariance, and chi-squared tests. The significance level was considered 0.05. Results: The mean age of participants was 71.26 years and the results showed a significant relationship between feeling lonely and mental health (r = 0.535, p = 0.001). There were statistically significant relationships between mental health and social functioning (r = −0.204, $p \geq 0.001$) and depression (r = 0.501, p = 0.001) and also between mental health and three subscales of loneliness: romantic loneliness (r = 0.001, p = 0.001), social loneliness (r = 0.493, p = 0.001), and family loneliness (r = 0.289, p = 0.001). Conclusion: Feeling lonely during the coronavirus disease pandemic has a negative effect on the mental health of older adults; therefore, it is necessary for mental health professionals to improve the mental health of the elderly with proper planning and interventions.

Keywords: loneliness; elderly; COVID-19 pandemic; mental health

1. Introduction

At present, older adults comprise a notable portion of the world's population to the extent that their numbers are expected to grow concomitantly with life expectancy in various parts of the world [1,2]. Research has revealed that the world's elderly population (aged > 60 years) will increase nearly two-fold, from 12% to 22%, between 2015 and 2050 [3]. Upon aging (65 years and older), mental capacity tends to decline, with individuals becoming prone to a variety of physical and mental disorders [4]. An unparalleled rise in the elderly population has made them suffer serious impacts of social isolation and loneliness on their mental health as an important public health concern that is heightened by the COVID-19 pandemic. Mental health is viewed as a vital index of the health status among seniors and is of utmost significance in aging successfully. Earlier studies stated that social isolation puts older people at greater risk of depression and anxiety [5]. The influence of severe acute respiratory syndrome (SARS) on public mental health has been previously shown [6], and systematic studies, conducted recently, have begun to pinpoint

the devastating repercussions of the COVID-19 pandemic on mental health among various populations [7,8]. Little is known about the factors that exacerbate this condition; however, they are significant in informing appropriate, targeted interventions and vital preventive measures. According to the World Health Organization (WHO), mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" [6]. Loss of mental health has a large-scale impact on raising the probability of developing and augmenting mental and physical illness in old age [2,8]. Not only is loneliness an essential indicator of mental health in the elderly, but it also strongly predicts depression and diminished sleep quality in the elderly [9]. Loneliness is defined as a distressing feeling that accompanies the perception that one's social needs are not being met by the quantity or especially the quality of one's social relationships. Therefore, loneliness is a mental and inner experience and differs from physical isolation [10]. In a study conducted aiming to examine the relationship between social isolation, and anxiety and depression in the elderly living in London during the COVID-19 pandemic concluded that an improved social and physical setting can decrease feelings of loneliness and thus enhance mental health in the elderly [11,12].

Given that the population of older adults is growing and the effects of the COVID-19 pandemic on this sensitive life stage, such as the lack of social support and the importance of mental health to quality of life, are well documented, loneliness appears to be one of the major problems among older adults. Moreover, the number of studies conducted on loneliness in seniors is not sufficient. Therefore, further studies with a wider scope in this field are necessary. The present study aimed to investigate the relationship between mental health and loneliness among retirees from the Kermanshah University of Medical Sciences during the outbreak of coronavirus in 2021.

1.1. Methodology

The present study was a cross-sectional descriptive study whose statistical population was comprised of retirees from the Kermanshah University of Medical Sciences. The sample was selected using the convenient sampling method out of retirees who met the inclusion criteria. Given a correlation coefficient of 0.20, power of 80%, and estimation error of 0.05%, and also considering the possibility of 10% participant withdrawal, the sample size was 211 [13,14]. Inclusion criteria in this study were: $\geq$60 years, informed consent, ability to communicate verbally, no acute physical problems, and living in Kermanshah. Exclusion criteria were: discontinuing cooperation with the researcher or lack of informed consent, participant-stated history of psychiatric disorders, history of acute problems such as the death of family members and friends, incurable disease, and any other problem disrupting the normal course of one's life and any defects in the questionnaire completion.

1.2. Instruments

The data were collected using three instruments, i.e., a demographic questionnaire, the Adult Social and Emotional Feeling Questionnaire (SELSA-S), and Goldberg's General Health Questionnaire (GHQ), to extract demographic data and information on the participants' loneliness and mental health, respectively. The content of the questionnaires was explained by the researchers to alleviate any ambiguities in realizing the items. The 14-question SELSA-S examined the level of social and emotional loneliness among the participants (romantic loneliness, family loneliness, and social loneliness). SELSA-S was scored based on the Likert five-point scale (i.e., Strongly Disagree, Disagree, Neither Disagree nor Agree, Agree, and Strongly Agree, respectively scored 1, 2, 3, 4, and 5 points). The score for emotional loneliness was calculated as follows: (romantic loneliness + family loneliness = emotional loneliness). The social loneliness score was also determined using the social loneliness subscale score (i.e., a high score indicated social–emotional loneliness and a low score denoted lack of any emotional and social loneliness). The authors of this scale reported a Cronbach's alpha coefficient ranging from 0.87 to 0.90, which showed good

internal consistency of this questionnaire [15]. The results of correlation of this scale with other scales indicated that the convergent validity and divergent validity of this questionnaire was favorable. Also, regarding the reliability of the scale, Cronbach's alpha resulted in scores of 0.92, 0.84, and 0.78, respectively, for each separate dimension of romantic loneliness, social loneliness, and family loneliness [16]. The GHQ-28 requests participants to indicate how their health in general has been over the past few weeks, using behavioral items with a 4-point scale indicating the following frequencies of experience: "not at all", "no more than usual", "rather more than usual" and "much more than usual". The low scores in this questionnaire were 0, the middle scores were 42, and the high scores were 84. The lower a person's score, the better their mental health, and the higher a person's score, the lower their mental health would be. In a study conducted by Malekooti et al. (2006), the reliability of this questionnaire for the Iranian elderly based on Cronbach's alpha, the KMO test, and test–retest were 0.94, 0.89, and 0.6, respectively ($p < 0.001$) [17].

1.3. Data Analysis

The collected information was analyzed utilizing descriptive and inferential statistical methods. Paired *t*-test, one-way analysis of variance, covariance, and chi-squared tests were employed to examine the association between mental health and feelings of loneliness in the elderly and likewise the relationship between each factor with the examined variables. All tests were executed employing SPSS 24 software (IBM, Armonk, NY, USA) at a significance level of 5%.

1.4. Ethical Considerations

The Ethics Committees of Hamadan University of Medical Sciences, Hamadan, Iran, approved the present study (IR.UMSHA.REC.1399.752). All participants were briefed on the study objectives using written and verbal information before their participation. They were assured of their voluntary participation, their right to withdraw from the study at their own discretion, and the confidentiality of their information. All participants were ultimately provided with a copy of the informed consent forms they signed.

1.5. Findings

In this study, the age of participants ranged from 60 to 93 years, with a mean and standard deviation of 71.26 ± 6.7 years. Among the respondents, 60.2% were men and 39.8% were women, 72.9% were married, 13.3% were single, 12.9% were widowed, 1% were divorced, and 49.8% had lower secondary education. Moreover, 81.9% of the participants lived with their families, 44.1% had COVID-19 and 67.1% were under home quarantine (Table 1).

Analysis of variance showed that the factors that affect feelings of loneliness and were statistically significant, were age, marital status, living conditions, history of physical illness, and membership in organizations and groups. However, other factors, i.e., gender, education, income, COVID-19 and home quarantine were also effective, yet not statistically significant. In other words, the elderly examined in this study experienced less loneliness (Table 2).

As presented in Table 3, the factors that influenced the overall score of mental health and were also significantly different included age, marital status, income, history of physical illness, home quarantine, and membership in organizations and groups. However, gender, education, living conditions, COVID-19. were also effective on feelings of loneliness, although they were not statistically significant; i.e., mental health decreases with age. Likewise, as revealed in Table 4, there was a statistically significant relationship between feelings of social loneliness and four mental health subscales, i.e., somatic symptoms, anguish/anxiety, social dysfunction, and depression. Moreover, there was also a statistically significant relationship between mental health and three loneliness subscales, i.e., romantic loneliness, social loneliness, and family loneliness. Regarding scores, the highest mean score (standard deviation) belonged to the subscale of social loneliness and the lowest

(standard deviation) was for family loneliness. Furthermore, regarding the scores of mental health, the highest and the lowest mean scores (SD) belonged to social dysfunction and symptoms of depression. The results of the Spearman correlation coefficient test revealed that there was a statistically significant relationship between the feeling of social and emotional loneliness and mental health ($p = 0.001$). In other words, as feelings of loneliness increase, the mental health of the elderly decreases and vice versa.

Table 1. Demographic Information of Participants.

Variable		N	%
Gender	Male	127	60.2
	Female	84	39.8
Marital Status	Married	153	72.9
	Single	28	13.3
	Widowed	27	12.9
	Divorced	2	1
Education	Lower Secondary	105	49.8
	Diploma-Associate	76	36
	B.Sc.	23	10.9
	M.Sc. and Higher	7	3.3
Living Condition	Alone	38	18.1
	With family	172	81.9
History of Physical Disorder	Affirmative	144	68.6
	Negative	66	31.4
COVID-19	Affirmative	93	44.1
	Negative	118	55.9
Under Lockdown	Affirmative	141	67.1
	Negative	69	32.9
Participation in Groups	Affirmative	79	37.4
	Negative	132	62.6

Table 2. Comparison of Total Scores of loneliness in Demographics variables.

Variable		M $\pm$ SD	N	F	*p*-Value
Age	60–70	22.7 $\pm$ 42.4	118	12.89	0.001
	71–80	26.9 $\pm$ 0.07	66		
	$\geq$81	31.1 $\pm$ 68.6	25		
Gender	Male	24.9 $\pm$ 17.6	127	−0.9	0.369
	Female	25.8 $\pm$ 32.3	84		
Marital Status	Married	21.7 $\pm$ 93	153	22.63	0.001
	Single	3.8 $\pm$ 93.9	28		
	Widowed	35 $\pm$ 0.01	27		
	Divorced	17 $\pm$ 0.01	2		
Living Condition	Alone	29.1 $\pm$ 16.7	37	2.75	0.009
	With family	23.8 $\pm$ 60.1	172		
History of Physical Disorder	Affirmative	29.6 $\pm$ 49.3	144	4.44	0.001
	Negative	20.07 $\pm$ 71.3	66		
COVID-19	Affirmative	25.8 $\pm$ 11.6	93	0.68	0.497
	Negative	24.9 $\pm$ 25.5	118		
Under Lockdown	Affirmative	24.9 $\pm$ 94.04	141	0.63	0.528
	Negative	24.9 $\pm$ 09.4	69		
Participation in Groups	Affirmative	21.8 $\pm$ 89.2	79	−3.46	0.001
	Negative	26.9 $\pm$ 27.3	132		

Table 3. Comparison of Total Scores for Mental Health in Demographics Variables.

Variable		Mean $\pm$ SD	Frequency	F	*p*-Value
Age	60–70	19.7 ± 31.1	118	4.032	0.019
	71–80	21.7 ± 94.9	66		
	>81	23.8 ± 04.8	25		
Gender	Male	20.8 ± 23.04	127	-1.07	0.286
	Female	21.7 ± 40.5	84		
Marital Status	Married	19.7 ± 79.72	160	6.32	0.001
	Single	6 ± 21.29	28		
	Widowed	26.7 ± 43.85	29		
	Divorced	17 ± 0.01	2		
Living Condition	Alone	20.8 ± 50.2	38	-0.16	0.876
	With family	20.7 ± 72.8	172		
History of Physical Disorder	Affirmative	22.7 ± 95.5	144	7.08	0.001
	Negative	15.6 ± 92.3	66		
COVID-19	Affirmative	20.7 ± 73.8	93	0.057	0.925
	Negative	20.7 ± 67.8	118		
Under Lockdown	Affirmative	21.7 ± 64.7	141	2.45	0.015
	Negative	18.7 ± 86.7	69		
Participation in Groups	Affirmative	18.7 ± 11.5	79	-3.83	0.001
	Negative	22.7 ± 24.6	132		

Table 4. Comparison of Scores for Social and Emotional Loneliness and Scores for Mental health.

	Subscale	Mean	SD	Max	Min.	R	*p*
Social Loneliness-Emotional Loneliness	Romantic L *	7.72	5.4	20	1	0.535	0.001
	Social L	9.70	5.4	25	2		
	Family L	7.24	2.9	22	4		
	Total Social-Emotional L	24.6	9.1	60	12		
Mental Health	Somatic Symptoms	5.54	2.9	14	0	0.535	0.001
	Anguish/Anxiety	5.14	3.6	18	0		
	Social Dysfunction	7.27	3.3	17	0		
	Depression	2.75	3.6	18	0		
	Total Mental Health	20.7	7.8	51	0		

* "L" refers to "Loneliness".

2. Discussion

The coronavirus pandemic has created stress and psychological injury, particularly among seniors, and its impacts will influence their mental health in the long run. Accordingly, this study examined the association between mental health and loneliness in retirees of Kermanshah University of Medical Sciences during this pandemic.

The mean total score of loneliness among the participants was at a good level compared to other studies, i.e., they encountered less loneliness. Ekhtiari Sadegh et al. [18] reported that the degree of loneliness was greater than that reported in this study. The researchers pointed out that feelings of loneliness depend on individual differences, the impression of socio-cultural conditions, and even people's perceptions of different situations. The results of a study by Mirdrikund et al. [19] revealed that the level of loneliness was higher than that encountered by the elderly of Kermanshah in the current study. The results of the current study showed that communication skills, social support, and social dysfunction were effective in predicting the role of loneliness. The factors that affected the feeling of loneliness were age, marital status, living conditions, history of physical illness, and membership in organizations and groups.

The results of this study showed that mental health differs at varying age levels; i.e., mental health degenerates with age, which is confirmed by other studies [20–24]. Given their disabilities and physical problems, as the elderly get older, they tend to gradually distance themselves from society and have less engagement in activities. As a result, they lose any contact with their friends and relatives and are less likely to utilize others' perspectives and experiences in solving their dilemmas. Such conditions lead to unpleasant feelings, lessened abilities, and ultimately decreased mental health, whereas the World Health Organization has placed great emphasis on active participation, the realization of dynamic aging, and the role of the elderly in the development of communities during their aging life span [25,26]. In addition, the obligation to maintain social distance due to the prevalence of the pandemic has diminished social and family support. According to the Disengagement theory in sociology, aging is an inevitable, mutual withdrawal or disengagement, resulting in decreased interaction between the aging person and others in the social system s/he belongs to. Consequently, older people decrease their activity and lead a disengaged life. Furthermore, according to this theory, when the elderly feel alienated from the values and norms of society, they tend to withdraw from society and reduce their involvement in social activities [27]. Another finding obtained in this study was that married elders enjoy higher mental health than widows/widowers, which is consistent with findings of other studies [28,29]. The reason for this difference could be the loss of the support system in the family and the emergence of isolation and loneliness in the elderly, which is a serious threat to their mental and physical health. In this study, it was found that mental health was not affected by developing COVID-19; however, the resulting home quarantine influenced mental health.

Membership in organizations and groups was also found to increase mental health. Other findings of the present study indicated that a history of physical illness decreases mental health, which is consistent with other studies [19,22,30,31]. The reason for this finding is that at an old age, a person's ability to adhere to principles and maintain their health is considerably diminished following chronic illnesses and disabilities, thereby reducing one's mental health. The likelihood of developing chronic diseases also increases with age [31]. In a study by Wong et al. (2020), the results showed that the mental health of elderly patients significantly declined and the number of unattended medical appointments after the outbreak of COVID-19 rose significantly [32]. Additionally, according to the findings of this study, income affected mental health, i.e., having a safe and secure income status denoted better mental health in the elderly, which could be explained by the fact that adequate income and a stable economic condition can bring about higher physical health, independence, and security in covering household expenses, which can well predict the mental health of the elderly [33]. This finding was consistent with other studies, e.g., [24,34]. In line with the results of previous studies [23] was another finding of the present study, suggesting that education correlated with the mental health of the studied elderly; in other words, participants with lower levels of education had decreased mental health; however, this association was not statistically significant. As regards this finding and the importance of education, we can point to the role of health literacy, such that people with higher education are likely to have higher health literacy [35].

The results of the Spearman correlation coefficient revealed a statistically significant association between emotional and social loneliness and mental health. In other words, mental health declines as the feeling of loneliness increases, and vice versa. Additionally, it was found that feelings of social loneliness and four subscales of mental health, i.e., somatic symptoms, anguish/anxiety, social dysfunction, and depression, were correlated. There was also a relationship between mental health and three subscales of loneliness, i.e., romantic loneliness, social loneliness, and family loneliness. The results of other studies are consistent with the present findings [9,23]. Aging results in decreased mental health and social function due to chronic diseases. In this regard, loneliness is one of the main problems this group encounters that has a direct impact on their mental health.

Limitations of the research included: (1) lack of cooperation or low willingness of some participants to participate in the study for various reasons; as much as possible, we attempted to provide explanations to gain their trust and maximum cooperation; (2) One of the limitations of the study was the small sample size. A larger sample size could have generated more accurate results; (3) insufficient accuracy in answering the questions; by explaining the importance of reading to the participants, we tried to create a desire to participate in the study and increase the accuracy of their answers.

3. Conclusions

Given the importance of improving the mental health of the elderly and considering the results of the present study, it is recommended that steps be taken with regard to counseling and training in the needs of the elderly, decreasing treatment costs and efforts to maintain their physical and mental health. It is also suggested that seniors be encouraged to have greater participation in daily activities and membership in organizations and groups to increase their mental health. Further studies are required to examine a wide range of psychological interventions on the mental health of older adults and its ongoing monitoring.

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