Depression symptoms and anxiety after coronavirus infection in the elderly: a case study

Síntomas de depresión y ansiedad después de la infección por coronavirus en ancianos: un estudio de caso

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Abstract

Introduction & Background: Coronavirus is regarded as a new condition afflicting the globe. It normally results in anxiety-based issues in society, especially in the elderly. Furthermore, people with underlying illnesses are more involved in this condition. Consequently, the current article intends to examine the association between social support and the level of COVID-19 anxiety in the elderly in Fasa, Iran. **Patients and Methods:** The current examination was cross-sectional research performed on 600 elderly covered by urban and rural family physician clinics after receiving permission from the Research Deputy and the university's Ethics Committee through the Press Line program. The data was gathered through a demographic information collection form, a COVID-19 anxiety measurement questionnaire, and a multidimensional scale of perceived social support. Data obtained were examined in SPSS-23 software. **Results:** The average age of the elderly was 65.91±4.84 years. The majority of the respondents (60%) were female. There was a substantial negative association between anxiety and perceived social support and its components ($p<0.05$). The outcomes of statistical regression analysis revealed that the variables of social support, career, and marital status held a statistically significant relationship with anxiety ($P<0.05$), and these variables defined 42% of the variance of COVID-19 anxiety variable in the elderly ($p <0.05$). **Conclusion:** Based on the results, it can be stated that improving social support can greatly decrease COVID-19 anxiety in the old people.

Keywords: Coronavirus, Social Support, Anxiety-Based Issues, Elderly.

Resumen

Introducción y antecedentes: el coronavirus se considera una nueva condición que afecta al mundo. Normalmente resulta en problemas de ansiedad en la sociedad, especialmente en los ancianos. Además, las personas con enfermedades subyacentes están más involucradas en esta condición. En consecuencia, el artículo actual tiene la intención de examinar la asociación entre el apoyo social y el nivel de ansiedad por COVID-19 en los ancianos en Fasa, Irán. **Pacientes y Métodos:** El presente estudio fue una investigación transversal realizada en 600 adultos mayores atendidos en consultorios médicos de familia urbanos y rurales, previa autorización del Adjunto de Investigación y del Comité de Ética de la universidad a través del programa Línea de Prensa. Los datos se recopilaron a través de un formulario de recolección de información demográfica, un cuestionario de medición de ansiedad por COVID-19 y una escala multidimensional de apoyo social percibido. Los datos obtenidos se examinaron en el software SPSS-23. **Resultados:** La edad promedio de los ancianos fue de 65,91±4,84 años. La mayoría de los encuestados (60%) eran mujeres. Hubo una asociación negativa sustancial entre la ansiedad y el apoyo social percibido y sus componentes ($p<0,05$). Los resultados del análisis de regresión estadística revelaron que las variables apoyo social, carrera y estado civil tenían una relación estadísticamente significativa con la ansiedad ($P<0.05$), y estas variables definieron el 42% de la varianza de la variable ansiedad por COVID-19 en los adultos mayores. ($p<0,05$). **Conclusión:** con base en los resultados, se puede afirmar que mejorar el apoyo social puede disminuir en gran medida la ansiedad por COVID-19 en los ancianos.

Palabras clave: Coronavirus, Apoyo social, Problemas basados en la ansiedad, Adulto mayor.

Introduction

Coronaviruses are a large family of viruses that can cause respiratory infections ranging from the common cold to more serious diseases such as measles and mumps. This virus has recently been called COVID-19. The outbreak of the new virus began in December 2020 in Yohan, China[1]. Symptoms of this virus range from mild to severe. Signs and symptoms of infection include fever, cough, and difficulty in breathing[2]. Initial studies have shown that people with underlying diseases are at higher risk for complications and mortality caused by COVID-19 disease. About 51% of hospitalized patients suspected of having a new coronavirus suffer other chronic diseases[3]. Based on the latest meta-analysis study conducted on 51422 patients with COVID-19, the rate of mortality caused by this disease has reached 4.3%[4]. However, most of those who died had previous underlying conditions, such as hypertension, diabetes, or cardiovascular disease, in which their immune systems are weakened. The rate of mortality caused by COVID-19 disease in cardiovascular and diabetic patients with 10.5% and 7.3%, respectively, has been higher than that in patients with other underlying diseases and this mortality rate in the age group of 60 years and above was also higher than other age groups[2].

Anxiety is a common symptom in patients with chronic respiratory disorders and it may significantly reduce patients' quality of life. In almost all anxiety measurement cases, it also includes physical cases that can overlap with the symptoms of chronic respiratory disease and side effects of medications[5]. Clinical anxiety affects up to two-thirds of chronic respiratory patients and results in reduced quality of life and reduced physical function[6]. Anxiety is common in COVID-19 and seems to be largely owing to the unknown nature of this virus. Fear of the unknowns reduces the perception of immunity in humans and has always been caused anxiety for humans. Lack of scientific information about COVID-19 also exacerbates the anxiety[7]. Stress and anxiety can weaken the immune system and make them vulnerable to diseases such as COVID-19[8]. Owing to reduced self-esteem, movement impairment, and the risk of chronic diseases, elderly are more prone to anxiety[9,10]. Based on the studies, the prevalence of anxiety in the elderly is higher than depression and it has been estimated between 3 and 14%[11]. Based on the studies, people who receive adequate social support are better able to cope with the problems and have good psychological adjustment. Social protection has been considered as a factor involved in reducing risk-taking against the development of mental disorders. Studies have indicated that social support is negatively associated with symptoms of anxiety and depression in normal and clinical individuals[12]. The research conducted by Majercsik Haller et al. also showed that social support and health have a significant impact on anxiety in the elderly[13].

Social support is one of the determinants of health that refers to the importance of human social dimension and has attracted increasing attention in recent years. Social support is related to disease and health and has protective impacts on physical health[14]. Evidence suggests a reduction in mortality in people who perceived greater social support[15]. The sources and methods of social support are multiple and they vary depending on the cultural, social and economic conditions of each society. What is important from the point of view of social scientists is the perception of the elderly about the type and level of support they receive from others.

Wolf et al. argues that social support is an individual's perception or experience of the extent that other love, care for, respect and value for him or her, and consider him or her a part of an active social network[16]. Researchers have indicated that poor social support from friends and others can affect health status[17]. It has also been shown that high levels of social support are associated with improved levels of physical and mental health[18]. Another research revealed that social support plays a major role in reducing the risk of mortality in the diabetic elderly[19]. Since COVID-19 is a new diseases and it increases the anxiety of people in the community and as elderly and people with underlying diseases are more involved in this COVID-19 disease[20-24], the present study aimed to investigate the relationship between social support and level of COVID-19 anxiety in the elderly in Fasa city.

Materials and methods

The present study was an attempt to investigate the relationship between social support and level of COVID-19 anxiety in the elderly. The present study was a cross-sectional research conducted through the Press Line program after obtaining permission from the Research Deputy and Ethics Committee of the university (Ethics Committee Code: IR.FUMS.REC.1399.045). The statistical population of the present study included elderly covered by all urban (47 clinics) and rural (17 clinics) family physician clinics in Fasa. The sample size was estimated at 600 people, who were randomly selected among 20 family physician clinics (15 urban family physicians and 5 rural family physicians) and then included in the study. The desired samples were selected from the list of elderly covered by the selected clinics based on inclusion criteria (people over 60 years, no COVID-19 and no mental illness, the ability to use WhatsApp cyberspace by the person or one of his or her relatives) using a convenience sampling method and with cooperation of family physician and through SIB system.

The studied samples were contacted and after providing necessary explanation on the objectives of the study and obtaining their consent to participate in the study, a WhatsApp group for the elderly or one of their first-degree relatives who were in contact with them was formed. The questionnaires were completed in a self-reporting manner and through the Press

Line Program. The questionnaire was completed virtually, and for the elderly who failed complete the questionnaires online for various reasons, including lack of access to an Android mobile phone and illiteracy, the questionnaires were completed via phone contact. Demographic information collection form, COVID-19 Anxiety Questionnaire and Multidimensional Scale of Perceived Social Support were used as research tools in the present study.

Demographic information collection form:
Demographic information collection form includes age, gender, level of education, marital status, physical dependence on others, and job

COVID-19 Anxiety Questionnaire
This questionnaire was developed by Alipour et al.[23] and includes 12 questions scored on a 4-point Likert scale with options of never, sometimes, most often and always. It is used to measure the level of COVID-19 anxiety. To evaluate the content validity of the questions, a questionnaire was presented to 5 experienced psychologists. They examined the transparency of the items and level of relevance of the questionnaire to all aspects of the subject. They also examined the face validity of the questionnaire and confirmed it. They also confirmed its reliability by calculating the Cronbach's alpha coefficient obtained at 0.91.

Multidimensional Scale of Perceived Social Support (MSPSS)
This scale was developed to assess the social support perceived by friends, family and a significant other in the individual's life[20,23]. This scale included 12 items that measure components of perceived support from family (4 questions), perceived support from a significant other (4 questions), and perceived support from friends (4 questions). All questions on this scale are scored on a five-point Likert scale (strongly agree, agree, disagree, disagree, and strongly disagree). The range of scores on this scale is from 12 to 60. The validity and reliability of this scale were reported at desirable level by Zimet et al. and Salimi et al. reported the reliability of this scale using Cronbach's alpha coefficient for the three dimensions of social support received from family, friends and a significant other in life at 0.86, 0.86 and 0.82, respectively[20,22]. Also, in the research conducted by Alipour et al. the reliability of this questionnaire for the overall scale and its three dimensions of social support received from friends, family and a significant other was calculated at 0.94, 0.89, 0.90, and 0.90, respectively[23]. The collected data were analyzed in SPSS-23 Software. The data were analyzed at two levels of descriptive and inferential statistics. At the level of descriptive statistics, statistical indices such as mean, frequency, standard deviation, and in inferential statistics, Pearson correlation coefficient and linear regression tests were used. The value of P <0.05 was considered significant.

Results and Discussion

The participants of this study included 600 elderly with a mean age of 65.91± 4.84 years. (Table 1) presents other demographic characteristics of the studied elderly.

Table 1. Demographic characteristics of the studied elderly

Variable		Test group	
		f	%
Gender	Male	240	40
	Female	360	60
Marital status	Single	66	11
	Married	534	89
Physical dependence on others	Yes	35	5.84
	No	565	94.16
Level of education	Illiterate	135	22.5
	Below diploma	259	43.16
	Diploma	177	29.5
	Above diploma	29	4.84
Job	Self-employed	180	30
	Retired	382	63.67
	Unemployed	38	6.33

As shown in (Table 2), there is a negative and significant relationship between the variable of anxiety and perceived social support and its components (p <0.05).

Table 2. Pearson correlation coefficient between anxiety variable and perceived social support and its components in the studied elderly

Variable	Anxiety	Support of family	Support of a significant other	Support of friends
Anxiety	1			1
Perceived social support	**-0.54	0.52	*0.43	*0.61
Support of family	**-0.58	1	*0.76	**0.45
Support of a significant other	**-0.47	**0.72	1	0.59
Support of friends	**-0.56	*0.51	*0.39	

The results of regression statistical analysis revealed that the variables of social support, job and marital status were statistically significantly associated with level of anxiety (P <0.05) and these variables explain 42% of the variance of COVID-19 disease anxiety variable in the elderly (Table 3).

Table 3. Linear regression analysis of variables related to anxiety in the studied elderly

Variables	Beta	S.E	B	P	R^2
Gender	0.11	0.55	0.14	0.69	0.42
marital status	0.17	0.85	0.69	0.03	
Job	0.124	0.062	0.14	0.017	
Level of education	0.037	0.35	0.31	0.36	
social support	-0.73	0.41	-0.39	0.012	

The present study aimed to investigate the relationship between social support and COVID-19 disease anxiety in the elderly in Fasa. The results of the present study revealed a significant negative relationship between social support and COVID-19 anxiety. This research result is in line with the results of studies conducted by Majercsik and Haller[25]. In another research the prevalence of anxiety in the elderly was reported at 40%[26]. The research conducted by Riahi et al. showed that social support and its dimensions have a significant relationship with mental health in the elderly[27].

The research conducted by Seyfzadeh showed that the social health of the elderly who enjoy high level of social support is more than other elderly[28]. Thus, social support has a strong association with the dimensions of mental and social health. Social support also reduces the effect of stress by increasing a correct understanding of stressful events and minimizes the effects of an unpleasant experience. It also creates reciprocal commitments in which the person feels loved and cared for, self-esteem and value and these cases are directly associated with health outcomes.

In the current critical situation caused by the outbreak of COVID-19 disease, anxiety is the most fundamental factor that will negatively affect the mental health of the community, especially the elderly. It can be reduced by increasing social support. Based on the research results, the most social support that the elderly have received is family support. The findings of the research conducted by Mohammadi et al. confirm the results of this research[29]. In explaining the results of the present study, it can be stated that the family is the most important source of support and interpersonal relationships that provide adequate support to control and reduce stress and anxiety in the elderly. Also, the presence of others can create a sense of life satisfaction by creating intimacy and security[30]. Social support helps people feel safe, secure and belonging in stressful situations. People who consider their social relationships to be inadequate are at greater risk of developing symptoms of mental disorders[31].

Also, the family is the most important source of support and interpersonal relationships providing adequate support to control and reduce anxiety in the elderly. Also, the presence of others can create a feeling of satisfaction and increase the quality of life by creating intimacy and security. Social support not only has a significant impact on the elderly, but also protects them from the harmful effects of anxiety. Elderly who receive adequate support from friends and family are more willing to talk about solving their problems and issues, which plays a role in reducing anxiety. In this regard, Shin and Lee stated that verbal communication and conversation can reduce anxiety and stress[32]. Also, the results of regression analysis showed that the variables of social support, job and marital status explain 42% of the variance of COVID-19 anxiety variable in the elderly. Elderly who need more social support may lose this support due to restrictions imposed by outbreak of COVID-19 virus owing to reduced contact with relatives and friends. According to Sood, restrictions on social relationships might cause anxiety and depression in people[33].

Also, based on the results of a research carried out in China on more than 7000 students during the outbreak of COVID-19, about 24.9% of people reported symptoms of severe anxiety and the rest reported mild anxiety. One of the most important reasons for students' anxiety was a reduction in social communications and job loss. Accordingly, having a job and income and living with the family was one of the most important factors in reducing anxiety[34, 35]. Zhang et al. argue that many quarantined people experience more difficult mental conditions due to other problems, such as losing their jobs and the economic problems associated with it[36]. A research conducted by Zarabadipour et al in Qazvin investigated the psychological impacts of COVID-19 disease[37]. Their research results revealed that most of the participants in the study experienced mild stress and anxiety. They also did not observe a statistically significant relationship between marital status and level of stress, which is inconsistent with the results of the present study. However, the research conducted by Bijani, et al. reported that married and divorced people experience higher stress than single people[38]. Anxiety is a common phenomenon during COVID-19 epidemic. Interventions and teaching self-care and anxiety reduction skills for the elderly and families and the social environment can be useful in preventing COVID-19 and the anxiety caused by it. Thus, due to the importance of the elderly status in the society, it is recommended to provide interventions to promote social support for the elderly[39-41].

Conclusion

In general, the results of present research revealed that fear and anxiety caused by COVID-19 are destructive and can result in mental disorders and anxiety in the elderly. This anxiety can be eliminated, but it can be reduced scientifically and logically. People around the elderly, especially their families, should have a right understanding of the elderly and strengthening social support can significantly reduce the COVID-19 anxiety in the elderly.

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Conflict of interest
The authors declare no conflict of interest.

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