

ORIGINAL PAPER

GERIATRICS

Evaluation of COVID-19 phobia and the feeling of loneliness in the geriatric age group

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Abstract

Objective: Social isolation and quarantine are unusual precautions taken all over the world against the COVID-19 pandemic. Some legal sanctions were made in order to protect vulnerable age groups such as the geriatric population, to make them stay at home. These measures, which are vital for pandemic management, have negative psychological effects on elderly individuals. The aim of this study was to reveal how pandemic process affected individuals over 65 years old psychosocially.

Materials and methods: Socio-demographic characteristics questionnaire, the COVID-19 Phobia Scale (C19P-S) and the Loneliness Scale for the Elderly individuals were used. Descriptive analysis, Mann-Whitney *U*-test, Kruskal-Wallis test, Pearson correlation analysis were performed for data analysis.

Results: A total of 130 elderly people (80 women, 50 men) were included in the study. Of the participants, 61.5% were women, 67.7% were married and mean age was 71.53 ± 5.57 (min. 65-max. 87) years old. The C19P-S scores were significantly higher in women, singles, people living alone, those living in an apartment, and those with higher economic and educational level ($P = .001$). There was a strong positive correlation between age and total loneliness score. Loneliness scores were significantly higher in singles, those with higher levels of education and income, those who live alone, who was a relative of a healthcare worker, and whose relatives were infected with COVID-19 ($P < .05$).

Conclusion: Our study revealed that elderly individuals, who have to comply with social isolation rules, have increased fear and loneliness due to coronavirus. Considering this situation, timely psychological treatment and social support measures should be taken.

1 | INTRODUCTION

COVID-19 pandemic has necessitated extraordinary measures all over the world. When pharmacological and immunological interventions are not suitable to stop the spread of the virus, the main control method of the pandemic is to change the lifestyle of the people. These changes should primarily aim to raise awareness in terms of social isolation, use of facemasks and hygiene rules. Individuals' behaviour affects their family, social environment and affiliated organisations. As people learn about the disease, they often affect each other by making

a rapid change in behaviour. People are influenced by each other in terms of their feelings, fears and anxieties as well as their behaviour.¹ Imposing curfews or limiting these bans to age groups at risk to reduce the spread of viruses is one of the necessary measures. Although these interventions are vital, they can have negative psychological consequences and can be socially and economically destructive.²

From public health perspective, quarantine and social isolation are effective strategies to prevent the spread of infectious diseases, including Covid-19.³ The rapid spread of the disease by airborne and direct contact, the fatal consequences and the unpredictable prognosis

of the patient according to the immune status made social isolation inevitable.⁴ It is especially necessary for those over the age of 65 to stay at home, to reduce the spread of the virus and to protect this population, which is sensitive to coronavirus as mortality and morbidity of coronavirus infections are higher in this age group. However, this age group is also more affected by the feeling of loneliness, and needs more social and psychological support.⁵

This study was planned to determine the fear caused by the disease and the loneliness because of social isolation, which are the social and psychological consequences of the COVID-19 pandemic, in the geriatric population.

2 | MATERIAL AND METHODS

2.1 | Study design and sample selection

Approval of local non-invasive research ethics committee and Turkish Ministry of Health was obtained before starting the study, and informed consents of the participants who agreed to participate were obtained after given brief information about the purpose of the study. Individuals over the age of 65 who were registered to a family practice office and who agreed to participate in the study between June 2020 and October 2020 were included in this cross-sectional descriptive study. Those with any psychiatric disease and/or Alzheimer's Disease and those with advanced presbycusis were excluded from the study.

In order to collect the data needed for research, socio-demographic characteristics questionnaire created in accordance with the relevant literature, COVID-19 Phobia Scale (C19P-S) and the Scale of Loneliness for the Elderly individuals are used. The questionnaires were applied to the participants by telephone interview method. Psychological, somatic, social and economic sub-dimension scores and total C19P-S scores were calculated. Social loneliness and emotional loneliness subscale scores and total loneliness scores of the loneliness scale for the elderly individuals were calculated.

2.2 | Socio-demographic characteristics questionnaire

Socio-demographic characteristics of the respondents were questioned. The demographic characteristics form included questions regarding: age, gender, marital status, education level, economical situation, whether they live alone or not, whether they have chronic illness, whether they have a healthcare worker relative, whether they have any acquaintances who has COVID-19 infection or died from that illness.

2.3 | COVID-19 phobia scale

COVID-19 phobia scale (C19P-S) is a self-report instrument whose items address the specific phobia diagnosis criteria of the DSM-V

What's known?

- To protect elderly people from COVID-19, maintaining social distance should be the most important and primary method, but all measures to be taken for assuring the distance should be arranged so as not to increase the sense of fear, loneliness and isolation.
- Many authors warned about loneliness, and anxiety in older adults can cause important health consequences.

What's new?

- This is a pioneering study demonstrating striking results about increased fear and loneliness in elderly people during COVID-19 pandemic.
- Family physicians are uniquely positioned to identify lonely and scared older adults and should be aware of the fact that these can be a major health challenge.

and tested its psychometric properties. It is developed to measure the phobia that may develop against coronavirus. It is a 5-point Likert-type self-assessment scale. Scale items; evaluated between 1 "Strongly Disagree" and 5 "Strongly Agree". It measures 4 sub-dimensions: Psychological, Somatic, Social and Economic. Sub-dimension scores are obtained by the total score of the answers given to the items in that sub-dimension; The total C19P-S score is obtained by the sum of the sub-dimension scores. The high scores indicate the severity of the sub-dimensions and general coronaphobia.⁶

2.4 | Loneliness scale for elderly individuals

It was developed by de Jong Gierveld and Kamphuis (1985) and revised by Jong Gierveld and van Tilburg in 2006 and 2011. The Turkish validity and reliability study of the scale was conducted by Akgül and Yeşilyaprak in 2014. Adapted to Turkish culture, the scale consists of 11 items aimed at measuring social and emotional loneliness. The expressions in the scale are determined with a 3-point Likert type grading. Six of the scale items were coded in reverse direction. To calculate the total loneliness score, the emotional loneliness score and the social loneliness score should be added. The higher scores demonstrate the higher the levels of loneliness of the individual.⁷

2.5 | Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences version 24 (IBM) software to evaluate the data. Descriptive statistics were expressed as mean, standard deviation, minimum-maximum values, frequency and percentile. Kolmogorov-Smirnov test was used to determine the normal distribution of the dataset. Mann-Whitney *U*-test, Kruskal-Wallis tests were used. A

$P < .05$ was considered statistically significant with a 95% confidence level. Pearson correlation analysis was used.

3 | RESULTS

A total of 130 elderly people, were included in the study. The mean age of the participants is 71.53 ± 5.57 (min 65- max 87) years old. There was no significant difference between genders in terms of age ($P = .215$). Socio-demographic characteristics are given in Table 1.

Participants were asked what is the most challenging measure taken for the COVID-19 outbreak. Of the participants, 84.6% ($n = 110$) stated that they had difficulty in obeying the curfew, 82.3% ($n = 107$) of them had difficulty in wearing a mask, 66.9% ($n = 87$) of them felt it was hard to stay away from their relatives and friends, 13.8% ($n = 18$) of them had difficulty in running their business from home and 8.5% ($n = 11$) of the participants were sorry for not attending ceremonies such as weddings and funerals.

No relation was found between gender and the coronaphobia and the loneliness scales ($P > .05$) except for the psychological sub-scale, in which women's scores were higher than men ($P = .030$). When marital status and coronaphobia scale scores were compared, a statistically significant difference was found only in the economic sub-dimension ($P = .046$). The economic sub-dimension score was higher in singles than in married ones. Singles also had statistically significantly higher social loneliness sub-dimension ($P = .004$) and total loneliness scores ($P = .040$). The total coronaphobia scale scores ($P = .001$) and loneliness scale scores ($P = .001$) were found to be higher in those with higher income (Table 2).

There was no correlation between age and total coronaphobia scale scores ($r = 0.042$, $P = .634$). A moderate positive correlation was found between age and total loneliness score ($r = 0.304$, $P < .001$).

Total coronaphobia scores and loneliness scores were found to be statistically significantly higher in those living alone than those living with their spouse or children ($P = .032$, $P = .002$, respectively). A statistically significant relation was found between where they live (detached house, apartment, family apartment) and total coronaphobia scale scores ($P = .001$). However, there was no significant relationship between the place of residence and the total loneliness scale scores for the elderly individuals ($P = .251$) There was statistically significant relationship between the presence of chronic disease and the psychological, somatic, social sub-dimensions and total coronaphobia scores ($P = .044$, $P = .011$, $P = .029$, $P = .007$, respectively). These scores were higher in patients with chronic disease. There was no statistically significant relationship between the presence of chronic illnesses and the loneliness scale scores for the elderly individuals ($P = .577$) (Table 3). There was no statistically significant relationship between the existence of a chronic disease and whether she/he lived alone ($P = .189$).

Correlation analysis was performed between educational status and total coronaphobia scale score and a strong positive correlation

TABLE 1 Socio-demographic characteristics of the participants

	n	%
Gender		
Women	80	61.5
Men	50	38.5
Marital status		
Married	88	67.7
Single	42	32.3
Education		
Illiterate	27	20.8
Primary school	76	58.5
Secondary school	10	7.7
High school	17	13.1
Economic status		
Income less than expenses	27	20.8
Income equal to expenses	72	55.4
Income more than expenses	31	23.8
Residentia		
House	28	21.5
Apartment flat	87	66.9
Apartments within the site	15	11.5
Living		
Alone	12	9.2
With husband/wife	78	60.0
With children	40	30.8
Have chronic disease(s)		
Yes	111	85.4
No	19	14.6
Covid-19 PCR test		
Positive	6	4.6
Negative	124	95.4
Any travel in the last 3 months		
Yes	88	67.7
No	42	32.3
Contact with a traveller		
Yes	93	71.5
No	37	28.5
Contact with a COVID-19 patient		
Yes	111	85.4
No	19	14.6
Know anybody with COVID-19		
Yes	111	85.4
No	19	14.6
Know anybody died because of COVID-19		
Yes	124	95.4
No	6	4.6
Have a healthcare worker relative		
Yes	71	54.6
No	59	45.4

TABLE 2 COVID-19 phobia scale and loneliness scale for elderly individuals scores according to gender, marital status and salary

COVID-19 phobia	Gender		Marital status			Economic status			P	
	Women	Men	P	Married	Single	P	Income less than expenses	Income equal to expenses		Income more than expenses
Psychological	71.09	56.55	.030*	62.08	72.67	.129	58.31	59.94	84.66	.004**
Somatic	66.81	63.41	.613	63.13	70.48	.293	55.72	54.26	100.13	.001*
Social	65.04	66.23	.857	65.64	65.20	.949	52.33	60.97	87.50	.001**
Economic	67.69	61.99	.385	61.09	74.75	.046*	53.15	61.44	85.69	.001**
Total	68.47	60.74	.254	62.27	72.27	.156	52.65	56.90	96.68	.001**
Loneliness										
Emotional loneliness	66.61	63.73	.664	62.86	71.04	.235	58.85	60.04	83.97	.006*
Social loneliness	69.62	58.91	.104	59.19	78.73	.004**	71.67	60.40	71.98	.208
Total	68.07	61.39	.321	60.84	75.26	.040*	63.72	60.27	79.19	.060

*P < .05.

**P < .005.

TABLE 3 COVID-19 phobia scale and loneliness scale for elderly individuals scores according to living conditions and being at risk by chronic disease(s)

COVID-19 phobia	Residential			Living			Chronic disease				
	House	Apartment flat	Apartment within the site	P	Alone	With wife	With children	P	No	Yes	
Psychological	45.41	69.76	78.30	.004**	88.50	61.40	66.60	.062	62.78	81.39	.044*
Somatic	50.84	65.89	90.60	.004**	84.46	62.32	66.01	.159	62.08	85.50	.011*
Social	42.59	70.20	81.03	.001**	74.42	64.32	65.13	.670	62.61	82.39	.029*
Economic	50.79	65.04	95.63	.001**	86.58	62.38	65.25	.101	63.78	75.53	.195
Total	43.63	68.07	91.40	.001**	92.17	61.54	65.21	.032*	61.81	87.08	.007*
Loneliness											
Emotional loneliness	69.07	61.14	84.13	.069	94.08	60.03	67.59	.010*	63.61	76.55	.156
Social loneliness	62.39	65.48	71.43	.742	96.29	57.74	71.40	.001**	66.22	61.32	.590
Total	65.73	62.89	80.23	.251	98.08	58.03	70.29	.002**	64.74	69.92	.577

*P < .05.

**P < .005.

TABLE 4 COVID-19 phobia scale and loneliness scale for elderly individuals scores according to contact

COVID-19 Phobia	Contact with a COVID-19 patient			Know anybody with COVID-19			Have a healthcare worker relative		
	Yes	No	P	Yes	No	P	Yes	No	P
Psychological	91.68	61.02	.001**	89.65	60.31	.001**	74.58	57.95	.011*
Somatic	93.61	60.69	.001**	92.04	59.79	.001**	77.49	55.54	.001**
Social	86.32	61.94	.007*	82.15	61.92	.016*	70.46	61.38	.158
Economic	98.97	59.77	.001**	86.89	60.90	.002**	79.39	53.96	.001**
Total	98.45	59.86	.001**	93.48	59.49	.001**	78.31	54.85	.001**
Loneliness									
Emotional loneliness	87.21	61.78	.005*	85.83	61.13	.003**	74.93	57.66	.008*
Social loneliness	74.29	64.00	.257	75.20	63.42	.161	64.81	66.08	.843
Total	62.66	82.11	.036*	82.26	61.90	.018*	70.64	61.23	.152

* $P < .05$.** $P < .005$.

was found ($r: 0.398, P = .001$). There was a positive correlation between educational status and total loneliness score ($r: 0.171, P = .05$).

No significant relation was found between coronaphobia scale scores in patients with positive COVID-19 test ($P = .428$). Emotional loneliness, social loneliness and total loneliness scores were found to be statistically significantly higher in COVID positive patients ($P = .016, P = .050, P = .013$, respectively).

Travelling after the pandemic deceleration significantly affected the somatic, economic sub-dimensions and the total score of the coronaphobia scale ($P = .007, P = .001, P = .008$, respectively). There was no significant relationship between loneliness scale scores and travel status ($P = .900$).

All sub-dimension scores and total scores were significantly higher in those who had a contact with Covid19 test positive person ($P < .05$). The emotional subscale of the loneliness scale for the elderly people and the total loneliness score were also found to be statistically significantly higher in those who had contact with covid-19 positive people ($P = .005, P = .036$, respectively). The coronaphobia test scores ($P = .001$), emotional ($P = .003$) and total loneliness scores ($P = .018$) were found to be statistically significantly higher in those who had positive COVID-19 test result in one of their acquaintances. Psychological, somatic, economic and total coronaphobia scale scores were found to be significantly higher in those who were relatives of healthcare workers ($P = .011, P = .001, P = .001, P = .001$, respectively). Emotional loneliness scores were also higher in those ($P = .008$) (Table 4). Somatic, economic sub-dimensions and total coronaphobia scale scores were found to be significantly higher in those whose relatives or friends died due to COVID-19 ($P = .009, P = .019, P = .016$, respectively). There was no relation between the loneliness total score and whether they have a relative who died due to COVID-19 ($P = .308$).

The coronaphobia total scores of those who had difficulty in wearing masks ($P = .000$) and stated that curfews affected them negatively, were found to be higher ($P = .000$). There was no significant difference between loneliness scale total scores ($P > .05$). The

psychological ($P < .001$), social ($P < .001$) and total coronaphobia scores ($P = .001$) of those who did not like keeping away from friends and relatives were significantly higher. The somatic ($P = .019$), social ($P = .022$), economic ($P = .012$) and total coronaphobia scores ($P = .023$) of those who were sad for not being able to attend weddings and funerals were significantly higher. The somatic ($P = .006$), social ($P = .003$), and total coronaphobia scores ($P = .021$) of those having difficulty in working from home, were significantly higher.

4 | DISCUSSION

Due to the lack of effective treatment yet and limited access to newly produced vaccines, public health measures such as social isolation, masks and quarantine are recommended worldwide in the fight against Coronavirus. It should be ensured that the sick or risky contact individuals stay home during the treatment and contagious period. In addition, limiting social mobility of individuals over 65 years of age with high mortality and morbidity risk is important in controlling the disease, even if they do not have a disease. In this context, various legal sanctions are applied. These sanctions aim to protect the geriatric population from the COVID-19 pandemic by keeping them at home, but they also lead to some undesirable situations. These include immobilisation, coronaphobia-induced anxiety disorder and related fears and depression. Social isolation measures cause the elderly person to be withdrawn. Considering the increased emotional sensitivity of the geriatric population, it is difficult to cope with this situation for them because of the limited communication even with their close environment and the prolongation of the pandemic process.^{8,9}

One of the negative emotions that occur in elderly individuals due to social isolation rules during the pandemic process is loneliness. Loneliness is closely related to decreased sense of happiness and satisfaction, depressive mood and pronounced physical complaints. Pandemic has also increased the frequency of pathological

conditions associated with loneliness.^{9,10} In our study, the average loneliness score was found to be high, and it was also found that the total loneliness score increased significantly with increasing age. It was found that the majority of the participants in the study had difficulty in complying with measures such as curfew and wearing mask, and the coronaphobia scale scores of those were also significantly higher.

Social isolation and loneliness are different conditions. However, each of them causes premature death, depression, cardiovascular disease and cognitive decline. In a study conducted by Voitsidis et al, it was shown that anxiety and fear levels increased in elderly individuals who are left alone because of the change of routine life order due to social isolation. Increased health concerns caused by coronaphobia, financial uncertainties, and increased frequency and intensity of insomnia cause depressive mood.¹¹ In our study, higher coronaphobia scale scores were found in the living alone ones. In addition, due to social isolation, physical activity and sun exposure decrease and screen time increases. This situation increases the stress and anxiety levels and also disrupts the sleep homeostasis. Physical inactivity remains a major health challenge for the older age group even in the frailest and the most vulnerable one.^{11,12} In our study, coronaphobia scale scores were found to be lower in those living in detached houses with gardens than those living in apartments. This may be due to the fact that they can do physical activity in their own garden and exposed to more sunlight without violating the social isolation measures.

Various interventions have been tried to combat the negative consequences of social isolation and loneliness. Various online chat programs, individual and group therapies, joint activity programs, social prescriptions by healthcare providers, and various strategies using information and communication technologies may be some options. Such research-practice partnerships and interdisciplinary collaborations are necessary to tackle public health challenges such as loneliness and social isolation. Some of these problems are pre-existing social problems that may continue beyond the COVID-19 outbreak.¹³

In a study by Dsouza et al 69 suicide cases caused by COVID-19 were presented. Causes of suicide were listed as fear of COVID-19 infection ($n = 21$) followed by financial crisis ($n = 19$), loneliness, social boycott and quarantine pressure, work-related stress caused by COVID-19. Psychological effects related to COVID-19 can reach a level that causes suicide, which is an undesirable result. In order to prevent these consequences, there is an urgent need for a timely psychological healthcare service.¹⁴

Shirira et al conducted a study by using the UCLA loneliness scale. In their study, it was found that the feeling of loneliness due to the Covid-19 pandemic was less in the geriatric population who felt younger than their real age (subjective age). Accordingly, developing psychological symptoms was seen more in older people.¹⁵

In our study, psychological symptoms sub-dimension scores of the coronaphobia scale were found to be high in women and those with chronic diseases. However, there was no significant difference between the presence or absence of chronic disease and loneliness scale scores. However, the high incidence of chronic diseases in old age leads to an increase in addiction, getting sick more frequently and

must cope with a lot of chronic problems. These diseases or health problems naturally affect the life satisfaction and quality of life of the elderly people and cause to isolate themselves and tend to loneliness.

In our study, there was no statistically significant relationship between the presence of a chronic disease and whether they lived alone or not. The coronaphobia and loneliness scale scores were higher in geriatric patients living alone than in those living with their spouse or child. Harris et. al. found that the effect of time spent alone and frequency of meeting with other people is more important than living alone, on loneliness score.¹⁶

Holmen et al found that regular visits to elderly people have a positive effect on their feelings of loneliness.¹⁷ Restriction of meeting with other people in the pandemic environment, postponement of home visits, friend and relative meetings for an indefinite period caused an increase in loneliness.

Fear of contracting a potentially fatal virus causes psychological symptoms such as loneliness, boredom, loss of energy, or irritability in elderly individuals in social isolation or in home quarantine due to contact. In addition, somatic complaints such as tachycardia, insomnia, flushing, nausea and fasciculation are frequently seen. Medications such as corticosteroids used for treatment also have side effects such as worsening anxiety and mental distress.¹⁸

In our study, the somatic and social subscale scores of the coronaphobia scale were found to be significantly higher in patients with chronic disease than those without. In addition, a correlation was found between educational status and all coronaphobia scale scores. The scores obtained from the scales were found to be significantly higher for those whose education and economic status is good and whose income is more than their expenses. These people are likely to have higher awareness of the pandemic. Education plays an important role in the positive development of societies both economically and socially. The awareness of successful ageing and good adapting to social life is more common in educated individuals.¹⁹ Despite the low educational level of our elderly people, their loneliness and coronaphobia scale scores were relatively low due to their good social adaptation. In the study of Khorshid et al, it was found that the level of loneliness decreases as the education level increases.²⁰

In a study conducted on 1060 cases in China, moderate and high levels of psychological symptoms were observed in 70% of the participants. Obsessive-compulsive disorder, phobic anxiety and psychotic symptoms were observed in particular. While there is no difference between men and women, for those over 50 years of age, those with high education levels and singles, psychiatric symptoms were found to be statistically significantly higher. According to the study, it has been observed that COVID-19 has many negative socio-psychological effects on ordinary citizens.²¹

In a study conducted by Tull et al in the United States, the psychological effects of COVID-19 on people's daily life were examined in the region where people have to stay at home. As a result, it has been shown that there is an increase in the frequency of undesirable psychological effects such as depression, health anxiety, financial concerns, increased need for social support and loneliness. It is clear that social support is very important to relieve the negative

psychological consequences of the COVID-19 pandemic. It should be kept in mind that social support is an important element in coping with loneliness in maintaining and improving the psychosocial well-being of the elderly people.²²

Social isolation, loneliness and social vulnerability are frequent problems in elderly people and can lead to important health consequences. In addition to physical factors such as reduced immune response due to old age and accompanying chronic diseases, loneliness and fear may increase the susceptibility of elderly individuals to COVID-19. Primary care physicians are uniquely positioned to identify lonely and anxious elderly individuals and to initiate services. Multidisciplinary mental health teams should be established at the regional and national level by health authorities.

Our study has some limitations. The data collection was administered by telephone conversation with elder people who were obliged to stay at home, not face to face. This may have created an obstacle in communication. However, a phone call made in the comfort of a home environment may have enabled the elderly person to express their fears and loneliness more easily. Another limitation was that the sample size was relatively small, since those with Alzheimer's disease and a psychological disorder were not included in the study. Those with advanced presbycusis could not be included in the study too because of the data were collected by phone call. Nevertheless, our study is important in terms of showing the psycho-sociological negative effects that may develop in the elderly people due to the precautions to be taken against the pandemic.

In conclusion, this study revealed that elderly individuals in the society have fears due to coronavirus and their level of loneliness increased. Psychological, social, economic and somatic coronaphobia scale scores and emotional and social loneliness scale scores had increased in elderly individuals. Within the scope of combating the pandemic, priority should be given to preventive and therapeutic approaches, considering these psychological conditions of elderly individuals.

ACKNOWLEDGEMENTS

The authors received no financial support for the research.

DISCLOSURES

The authors declare that there is no conflict of interest.

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How to cite this article: Cihan FG, Gökgöz Durmaz F. Evaluation of COVID-19 phobia and the feeling of loneliness in the geriatric age group. *Int J Clin Pract.* 2021;75:e14089. <https://doi.org/10.1111/ijcp.14089>