Research article

Determining the Relationship Between COVID-19 Anxiety and Awareness and Coronavirus Fear in the Elderly

Yaşlıların COVID-19 Anksiyete ve Farkındalığı ile Koronavirüs Korkusu Arasındaki İlişkinin Belirlenmesi

***Reha KARAKAYA**[1] ORCID: 0000-0003-2982-5674 | rehakrky@gmail.com
Nurse, Konya City Hospital, Emergency. Selcuk University Faculty of Nursing, Postgraduate Student, Konya, Türkiye
ROR ID: https://ror.org/045hgzm75
Tuba OZAYDIN[2] ORCID: 0000-0002-3923-2197 | tuba_demirel_70@hotmail.com
Associate Professor, Selcuk University Faculty of Nursing, Alaaddin Keykubat Campus, Konya, Türkiye
ROR ID: https://ror.org/045hgzm75

Abstract

Aim: This study aims to investigate the effect of coronavirus anxiety and awareness levels of elderly individuals on their fear of coronavirus during the pandemic.
Methods: The study consists of 227 individuals over the age of 65 who visited the emergency department of a hospital in Turkey between April and December 2021. Data were collected through face-to-face questionnaire administration using the COVID-19 Fear, Anxiety and Awareness Scale. Number, percentage, mean and standard deviation values were calculated for statistical analyses. Since the data showed normal distribution, t-tests and One-Way ANOVA were performed in the analysis for independent groups. In addition, multiple linear regression analysis was performed.
Results: A statistically significant difference was found between the level of coronavirus fear and marital status, with whom the elderly live, the number of children, having a chronic disease, and the status of continuous medicine use ($p<0.05$). It was revealed that the determinants of the level of coronavirus fear are continuous medicine use, the number of children, marital status, coronavirus anxiety score, and infection prevention awareness and awareness of hygiene measures scores ($p<0.05$).
Conclusion: The elderly in this study were found to have moderate levels of coronavirus fear. Home visits regarding anxiety and awareness, monitoring the COVID-19 fear level of the elderly and taking precautions against this fear can reduce the effects of the pandemic on the elderly.

Keywords: Anxiety, Awareness, Covid-19, Elderly, Fear.

Özet

Amaç: Bu çalışma, pandemi sırasında yaşlı bireylerin koronavirüs kaygı ve farkındalık düzeylerinin koronavirüs korkularına etkisini araştırmayı amaçlamaktadır.

Yöntem: Araştırma, Nisan-Aralık 2021 tarihleri arasında Türkiye'de bir hastanenin acil servisine başvuran 65 yaş üstü 227 bireyden oluşmaktadır. Veriler COVID-19 Korku, Kaygı ve Farkındalık Ölçeği kullanılarak yüzyüze anket uygulama yolu ile toplanmıştır. İstatistiksel analizler için sayı, yüzde, ortalama ve standart sapma değerleri hesaplanmıştır. Veriler normal dağılım gösterdiğinden analizlerde bağımsız gruplarda t testi ve One Way Anova kullanılmıştır. Ayrıca çoklu doğrusal regresyon analizi yapılmıştır.
Bulgular: Koronavirüs korku düzeyi ile medeni durum, yaşlıların birlikte yaşadığı kişiler, çocuk sayısı, kronik hastalığı olma ve sürekli ilaç kullanma durumu arasında istatistiksel olarak anlamlı fark bulundu ($p<0.05$). Koronavirüs korku düzeyinin belirleyicilerinin sürekli ilaç kullanımı, çocuk sayısı, medeni durum, koronavirüs kaygı puanı, enfeksiyon önlem farkındalığı ve hijyen önlemleri farkındalığı puanları olduğu ortaya çıktı ($p<0.05$).
Sonuç: Bu çalışmadaki yaşlıların orta düzeyde koronavirüs korkusuna sahip oldukları belirlendi. Kaygı ve farkındalık konusunda yapılacak ev ziyaretleri, yaşlıların COVID-19 korku düzeyinin izlenmesi ve bu korkuya karşı önlem alınması, pandeminin yaşlılar üzerindeki etkilerini azaltabilir.
Anahtar Kelimeler: Anksiyete, Farkındalık, Covid-19, Yaşlı, Korku.

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***Correspondence:** Reha Karakaya

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1. Introduction

The new type of coronavirus, COVID-19, is a pandemic caused by the SARS-CoV-2 virus and has been affecting the whole world (Zhu et al., 2020). The World Health Organization (WHO) declared COVID-19 as a pandemic (WHO, 2020). The virus, which was first seen in China, is transmitted rapidly through droplets and contact between individuals (Fehr & Perlman, 2015). So far, 250,715,502 people have been infected with COVID-19 worldwide and 5,062,106 people died (WHO, 2021).

The COVID-19 virus has been affecting the whole world but causes more harm in some groups (Altın, 2020). Elderly individuals, people with chronic lung diseases and asthma, those with weakened immune systems, those with a BMI of 30 and above, and those with diabetes, dialysis, and liver disease are the groups at risk (CDC, 2020). Chronic diseases are defined by the WHO as the most important health problem of the 21st century (WHO, 2014). Since the elderly have at least one chronic disease, the pandemic has caused worse outcomes for them (Altın, 2020). As of 2020, there are 727 million individuals over the age of 65 worldwide (UN, 2020). It is stated that 78.7% of the elderly in developing countries and 86% in developed countries have chronic diseases as the leading cause of death (WHO, 2014).

The frequent incidence of chronic diseases in the elderly, the risk of death due to COVID-19, and factors like uncertainty and social isolation threaten both the physical and mental health of the elderly during the pandemic. In addition, the high COVID-19 morbidity and mortality rates among the elderly and the emphasis of the media on the risks faced by the elderly cause these individuals to experience fear and an increase in their fears (Cesari & Proietti, 2020). The widespread fear and stress that develops with the pandemic greatly damages the resilience of the elderly (Santini at al., 2020). The aging of the immunity of the elderly, whose resistance has decreased as a result of the effects of biological aging, and their increased susceptibility to infections, cause the disease to experience more severe symptoms and even result in death (Lim at al., 2020).

The psychological effects caused by this virus are not only limited to infected people but also affect uninfected individuals (Gelen at al., 2020). The fear of contracting COVID-19 increases the level of harm that this disease has caused or may cause to the individual (Lin & Behavior, 2020). Physical, mental, and psychological disorders that individuals experience as a result of the negativities in their environment are explained by the term fear. Fear, which has an important place for a person to continue his life, is seen as an undesired destructive emotion due to its physical and mental effects (Paksoy, 2020). The fear experienced during the pandemic increases the stress and anxiety levels of all individuals who are healthy or who have mental problems (Shigemura et al., 2020).

Anxiety is a state of uneasiness or irrational fear caused by the effect of fear of any danger (Faruk, 2011). This state triggers the formation of physical and emotional anxiety symptoms in the individual, which emerges with the thought that the person's health is under threat (Özdelikara at al., 2018). As in previous pandemics, COVID-19 has also rapidly increased the anxiety levels of risky groups (Wheaton et al.,

2012; Yip et al., 2010). At the beginning of the pandemic, the physical health consequences of the virus were given more importance, while the psychological consequences did not attract much attention. However, even if the COVID-19 pandemic ends, its psychological effects on individuals are expected to continue (Zeybek at al., 2020).

Raising awareness is significant to prevent the spread of epidemics and pandemics (H. Chen et al., 2020). Awareness means focusing on instant experiences, and the development of awareness in elderly individuals affects their coping strategies during the pandemic. Accordingly, the mental health of the elderly improves positively and they can cope with negativities more easily (Allen & Leary, 2014). While increasing awareness fosters the quality of the moment in which one lives, it also contributes positively to reducing the effects of problems such as loneliness, depression, stress, death anxiety, regret, and hopelessness brought about by life itself (Martins, 2014). It is stated that high awareness levels increase the level of well-being in the elderly (İnel at al., 2021). This study was conducted to determine the effect of COVID-19 anxiety and awareness levels on the coronavirus fear of individuals aged 65 and over.

Research Questions

1.What are the sociodemographic and health characteristics of the elderly?

2.Does the level of fear of COVID-19 change in the individuals aged 65 and over according to sociodemographic and health characteristics?

3.What are the factors associated with fear of COVID-19 in individuals aged 65 and over?

2. Method

2.1. Design and Participants

This study is a descriptive cross-sectional study. The target population of the study is the group aged 65 and over. The study was conducted during the COVID-19 Pandemic, a period when isolation measures were implemented for the elderly and the elderly did not apply to the hospital unless there was an emergency. For this reason, the data collection process was carried out not through ASM and home visits, but through patients who applied to the emergency department. The sample of the research consists of male and female individuals aged 65 and over admitted to the emergency department of a hospital in the province of Konya, Turkey between April and December 2021.

The sample size of the study was calculated using the G-power 3.1.9.4 program (Faul et al, 2007). The study of, Ayaz-Alkaya & Dülger (2022), found the mean coronavirus fear score and standard deviation value of 20.39±6.61. The calculation was made considering this means score, and the minimum sample size was found to be 227 with 95% power and 95% confidence interval.

The study was carried out with the 65 years or older, outpatient admission to the hospital, being conscious, applying to the green area in the emergency department, and having no speech and communication problems.

2.2. Data Collection Tools

A survey form was prepared by the researcher based on the literature (Shahid et al., 2020; Yesim, 2020), the Coronavirus (COVID-19) Fear Scale, the Coronavirus Anxiety Scale Short Form, and the Coronavirus (COVID-19) Awareness Scale was used to collect data.

The Survey Form consists of a total of 26 questions, which are targeted to reveal the socio-demographic characteristics (age, gender, educational status, marital status, number of children, perception of the economic situation, etc.), health characteristics (Chronic diseases, constant use of medicines, etc.), and the COVID-19 characteristics of the participants.

The coronavirus (COVID-19) Fear Scale (CFS) was developed to determine the fear levels of individuals who have not yet had the disease in the ongoing pandemic environment. The scale was developed by Ahorsu et al. (2020) and translated into Turkish by Bakioğlu et al. (2021). The Cronbach's alpha of the scale was determined as 0.82. The scale has a one-factor structure with 7 items. There are no reverse items. The score obtained from the scale reflects the COVID-19 fear level of an individual. The total score ranges between 7 and 35 points. High scores indicate high levels of coronavirus fear (Bakioğlu at al., 2021).

The coronavirus Anxiety Scale-Short Form (CAS-SF) was developed by Lee et al. (2020) and its Cronbach's alpha was determined as 0.93 (Lee et al., 2020). The Turkish validity and reliability study was performed by (Evren at al., 2022). The scale includes five items. Participants indicate how often they have experienced the situations specified in these five items in the last two weeks on a five-point Likert-type scale (never (0), rarely (1), a few days (2), more than 7 days (3), almost every day in the last 2 weeks (4). While the minimum score for each item is 0, the maximum score is 4. The Cronbach's of the scale was found to be 0.80. The total score that can be obtained from the scale is between 0 and 20 points. Higher scores indicate higher levels of COVID-19 anxiety (Evren at al., 2022).

The coronavirus (COVID-19) Awareness Scale (CAS) was developed in Turkish by Bilgin (2020) and consists of 17 items on a 5-point Likert-type scale ranging from never (1) to always (5). There is no reverse item on the scale. The scale has a three-factor structure. The maximum score that can be obtained from infection prevention awareness (9 items) is 45, and the highest score that can be obtained from awareness of following current developments (4 items) and awareness of hygiene measures (4 items) is 20. High scores obtained from the factors indicate a high level of awareness. The Cronbach Alpha coefficient of the scale is 0.93 for the first factor, 0.87 for the second factor, and 0.82 for the third factor (Bilgin, 2020).

2.3. Data Collection Procedure

The data were collected by the researcher by reading the survey and scale questions to the participants. The questions were posed to the participants in the green area while they were waiting for the test results or while they were in the observation area. Social distancing, mask, and hygiene rules were followed during data collection. A separate pen was provided for each elderly person who wanted to fill in the questionnaire by themselves. Before submitting the survey form and the scales, the elderly were requested to disinfect their hands with an antiseptic solution.

2.4. Ethical Considerations

All the elderly participated in the study voluntarily. This study followed the Declaration of Helsinki guidelines. Permission for the study was obtained from the Selcuk University Nursing Faculty Non-Interventional Clinical Research Ethics Committee (decision no: 2021/22). Permission was obtained from Konya City Hospital Medical Specialization Education Board for the data collection process (decision no: 04-07).

2.5. Data Analysis

Data analysis was conducted using the SPSS 25. Number, percentage, mean, and standard deviation values were calculated. Since the data showed normal distribution, t-tests and One-Way ANOVA were performed in the analysis for independent groups. In addition, multiple linear regression analysis was performed using the stepwise method. For multiple regression analysis, categorical data were converted into dummy variables. Statistical significance was set at $p<0.05$.

3. Results

51.5% of the participants are female, 62.5% are married, 48% are primary school graduates, 59.9% live with their families, 85.9% have three or more children, 77.5% live in the city for the longest period, and 79.7% of the elderly perceive their economic situation as a medium. As for health characteristics, 85.5% have a chronic disease, 83.7% use medicines continuously, and 81.9% have two doses of COVID-19 vaccine. All the elderly stated that COVID-19 adversely affected their health and they complied with COVID-19 precautions and restrictions (Table 1).

Table 1. Distribution of socio-demographic and health characteristics of the elderly (n:227).

Variables		Mean/n	SD/%
Age		74.90	7.57
Sex	Male	110	48.5
	Female	117	51.5
Marital status	Single/widowed	85	37.5
	Married	142	62.5
Educational status	Illiterate	74	32.6
	Literate	25	11.0
	Primary School	109	48.0
	Secondary school and Above	19	8.4
With whom they lived	Alone	30	13.2
	With his/her family	136	59.9
	With their children	61	26.9
Longest place of residence	City	176	77.5
	District	34	15.0
	Village	17	7.5
Perception of the economic situation	Good	26	11.5
	Moderate	181	79.7
	Poor	20	8.8
Having chronic disease	Yes	194	85.5
	No	33	14.5
Continuous drug use status	Yes	190	83.7
	No	37	16.3
COVID-19 vaccination status	Yes	186	81.9
	No	41	18.1

n: sample size, SD: standart deviation

The mean scores obtained from the scales used in the study are as follows: 20.10±5.14 in the Coronavirus Fear Scale, 7.40±1.93 in the Coronavirus Anxiety Scale-Short Form, 41.18±2.65 in the infection prevention awareness dimension, 12.39±2.87 in the awareness of following current developments dimension, and 11.55±2.46 in the awareness of hygiene measures dimension of the Coronavirus Awareness Scale.

A statistically significant difference was revealed between the level of coronavirus fear and marital status, with whom the elderly live, the number of children, having a chronic disease, and the status of continuous medicine use ($p<0.05$). It was found that those who are single/widowed, who live with their children, who have three or more living children, who have a chronic disease, and who are constantly taking medication have a higher level of coronavirus fear than the other participants ($p<0.05$). No statistically significant difference was found between the level of coronavirus fear and age, gender, educational status, place of residence, economic situation, and having been vaccinated against COVID-19 ($p>0.05$) (Table 2).

Table 2. The difference between the average score of the coronavirus fear level and the socio-demographic and health characteristics of the elderly (n:227).

Socio-demographic variables		Coronavirus Fear Level			
		Mean	SD	Test (t/F)	p
Age	65 – 79 years	20.07	5.01	-0.136	0.892
	80 years and older	20.17	5.50		
Sex	Male	19.47	4.91	-1.795	0.074
	Female	20.69	5.29		
Marital Status	Single/widowed	21.12	5.41	2.355	0.019*
	Married	19.48	4.88		
Educational Status	Illiterate	20.54	5.51	1.918	0.128
	Literate	21.92	4.41		
	Primary School	19.40	5.05		
	Middle School and Above	20.00	4.55		
With whom they lived	Alone	19.96	5.10	3.168	0.044* b>a
	[a]With his/her family	19.50	5.00		
	[b]With their children	21.46	5.28		
Longest place of residence	City	20.13	5.22	0.021	0.979
	District	19.94	4.36		
	Village	20.05	5.88		
Perception of the economic situation	Good	19.26	5.53	0.383	0.682
	Moderate	20.20	4.89		
	Poor	20.25	6.76		
Having chronic disease	Yes	20.63	5.00	3.943	0.000**
	No	16.93	4.82		
Continuous drug use status	Yes	20.72	4.90	4.270	0.000**
	No	16.91	5.23		
COVID-19 vaccination status	Yes	20.24	4.84	0.739	0.463
	No	19.46	6.35		

*p<0.05, **p< 0.001

Multiple linear regression analysis was performed with the stepwise method to determine the joint effect of the independent variables that were significant in the difference analysis. According to this analysis, it was determined that continuous drug use, number of children, marital status, coronavirus anxiety score, coronavirus awareness scale-infection protection awareness and hygiene measures awareness score, which are the last variables in the model, are determinant factors at the level of coronavirus fear ($p<0.05$). Not using medicines continuously ($\beta=-0.193$) and being married ($\beta= -0.159$) negatively affect the coronavirus fear score. Fear of coronavirus decreases by -2,676 points in those who do not use medicines continuously and by -1,690 points in those who are married. However, the number of living children being three or more ($\beta=0.137$) increases the fear of coronavirus by 2.020 points. The increase in the coronavirus anxiety score ($\beta=0.380$), the Coronavirus Awareness Scale-infection prevention awareness score $\beta=0.173$, and the Coronavirus Awareness Scale- awareness of hygiene measures score ($\beta=0.128$) significantly and positively increases coronavirus fear. A one-unit increase in the coronavirus anxiety score causes a 1.008-point increase in the coronavirus fear level, a one-unit increase in the Coronavirus Awareness Scale-infection prevention awareness score causes a 0.336-point increase in the coronavirus fear level, and a one-unit increase in the Coronavirus Awareness Scale- awareness of

hygiene measures score causes a 0.268-point increase in the coronavirus fear. These independent variables account for 32% of coronavirus fear (R^2= 0.327, F= 19, 264, p= 0.000). It was determined that the variables of with whom the elderly live at home and the presence of chronic diseases are not the determining factors on fear of coronavirus (p> 0.05, Table 3).

Table 3. Predictors of the fear of COVID-19.

	B	SE	β	t	p
(Constant)	-2.180	4.833		-.451	0.652
Continuous drug use status (do not use)	-2.676	0.777	-0.193	-3.446	0.001
Marital Status (Married)	-1.690	0.593	-0.159	-2.850	0.005
Coronavirus anxiety score	1.008	0.148	0.380	6.790	0.000
Coronavirus awareness scale - Transmission measure awareness score	0.336	0.114	0.173	2.952	0.003
Coronavirus awareness scale - Hygiene measure awareness score	0.268	0.127	0.128	2.116	0.036
R= 0.587	R^2 =0.327	F= 19.264	p <0.001**		

**p< 0.001

4. Discussion

This study investigated the COVID-19 fear level of the elderly, one of the groups most affected by the pandemic, and the factors affecting the fear level. It revealed a significant difference between the level of COVID-19 fear and marital status, with whom the elderly live, the number of children, having a chronic disease, and the continuous use of medicines. Coronavirus fear was found to increase in those who use medicines continuously, who are single/widowed, who have three or more living children, who have a high coronavirus anxiety score, and who have a high infection prevention awareness score and awareness of hygiene measures score in the Coronavirus Awareness Scale.

In this study, the mean Coronavirus Fear Scale score of the elderly was found to be 20.10±5.14, which shows that the elderly in the study have a moderate level of coronavirus fear. Another study also revealed that the participants had a moderate fear of COVID-19 (Gencer, 2020). In a study comparing the COVID-19 fear of the elderly and adults, the mean coronavirus fear score of the individuals aged 59 years and younger was found to be 19.16±5.98, while the mean score of the individuals aged 60 and over was found as 23.04±6.49 (Arısoy & Çay, 2021). A study conducted to determine the effect of fear of COVID-19 on older adults in Bangladesh revealed that the fear level was 19.4 on average (Mistry et al., 2021). In a study conducted in Eastern Nepal, the mean COVID-19 fear score of older adults was found to be 18.1±5.2, which is close to a moderate level of fear (Yadav et al., 2021). It is stated that COVID-19 fear levels of the elderly around the world differ due to the uncertainty and the continuation of deaths from COVID-19 (Arora et al., 2020; Qc, 2020). The COVID-19 fear level of the elderly varies in the literature (Gencer, 2020; Arısoy & Çay, 2021; Mistry et al., 2021; Yadav et al., 2021) It is seen that the level of COVID-19 fear is lower in countries with low socioeconomic status.

In this study, the single/widowed elderly were found to experience coronavirus fear more compared to

the married elderly. Conversely, a study conducted in India revealed that married people experience a higher level of COVID-19 fear (Doshi et al., 2021). In a study conducted in Turkey, the single participants were found to have a higher level of coronavirus fear than the married participants (Gencer, 2020). Thus, studies show that marital status affects fear of COVID-19 in different ways. The support spouses give to each other enables families to cope with the adversities they encounter more easily (Yang et al., 2021). In the culture in which the research was conducted, spouses support and take care of each other in case of illness. The reason why the fear level of married people is lower than that of single/widowed people may be attributed to cultural differences.

The majority of the elderly in the study are individuals with chronic diseases. Further analyses revealed that chronic diseases are not a determining factor in fear of coronavirus. However, it has been determined that the mean COVID-19 fear score of the elderly who use medicines continuously is significantly higher than those who do not use medicines. One study revealed that individuals with chronic diseases have a higher level of COVID-19 fear than those without chronic diseases (Bakioğlu et al., 2021). In another study, it was found that individuals with a history of chronic disease experience the psychology, stress, anxiety, and depression of the pandemic at higher levels (Cao et al., 2020). Individuals with chronic diseases need regular treatment and medicine use (Kendzerska et al., 2021). For this reason, the fear of coronavirus is thought to be higher in the elderly who use medicines and have chronic diseases. The difference in the literature is thought to be due to cultural differences and sample differences.

This study further revealed that there is a positive relationship between COVID-19 fear level and COVID-19 anxiety level. As the COVID-19 anxiety levels of the elderly increase, the COVID-19 fear levels also increase. A study on the mental health of the general population during the COVID-19 pandemic revealed a positive relationship between stress, anxiety, and depression (Wang et al., 2020). In a similar study conducted in Italy, a significant relationship was found between COVID-19 anxiety and the fear of individuals, and it was reported that as the level of anxiety increases, the level of fear also increases (Orrù et al., 2021). Our finding coincides with the literature.

A positive and significant relationship was found between the two factors of the Coronavirus Awareness Scale, namely of infection prevention awareness and awareness of hygiene measures, and fear of coronavirus. As the scores of the factors of the Coronavirus Awareness Scale increase, coronavirus fear level also increases. A study on coronavirus awareness and mental health involving participants from Honduras, Chile, Costa Rica, Mexico, and Spain revealed that COVID-19 awareness is positively associated with the level of COVID-19 fear (Landa-Blanco et al., 2021). Similar results were obtained in a study conducted with the Chinese population during the COVID-19 pandemic. It was reported that initiatives and awareness measures to control the spread of the virus pose a serious threat to the fear of COVID-19 (Qiu et al., 2020). This research finding coincides with the results in the literature. It is seen that the elderly with a high level of coronavirus awareness have more fear of COVID-19.

The level of COVID-19 fear in the elderly differs according to marital status, with whom the elderly live, having a chronic disease, and the status of using medicines continuously. Fear of COVID-19 increases in those who use medication continuously, who are single/widowed, who have three or more living children, and who have high coronavirus anxiety scores and high coronavirus awareness levels.

4.1. Limitations

The limitations of this study were conducted with elderly individuals who applied to the emergency service. So, it can be generalized only to own sample. Different results could have been obtained in the elderly living in the community.

5. Conclusion and Recommendations

The COVID-19 pandemic has affected the whole world in terms of public health. In this process, the fear and psychological problems experienced by the elderly in society is an issue that cannot be ignored. It is important to implement various preventive intervention programs to reduce the fear of COVID-19 in the elderly. In public health services, priority should be given to the elderly who are in the risk group, who are constantly taking medicines, who are single/widowed, and who have high coronavirus anxiety and awareness. Elderly people with these characteristics should be monitored for fear of COVID-19. The extent to which the elderly is affected by the pandemic should be closely monitored through home visits. In preventing the fear of COVID-19 in the elderly; It is important to carry out intervention studies aimed at reducing anxiety and improving the level of awareness.

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Conflict of Interest

The authors report no actual or potential conflicts of interest.

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Ethical Statement

It is declared that scientific and ethical principles have been followed while carrying out and writing this study and that all the sources used have been properly cited. Ethics Committee Approval decision no: 04-07.

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