

Anxiety level and COVID-19 awareness of patients in a non-COVID-19 outpatient clinic of a pandemic hospital

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ABSTRACT

Background and Aims: The aim of this study is to investigate the COVID-19 awareness and anxiety levels of patients who visited the outpatient department in a hospital.

Methods: A questionnaire for socio-demographic data and COVID-19 awareness, Beck Anxiety Scale (BAS), and Hospital Anxiety and Depression Scale (HADS) data were collected from patients who volunteered to participate in the study. Counts, percentages, independent groups t-test, and correlation analysis were used during statistical data analysis. Those patients who were over 18 years of age, literate, having no psychiatric disorder and from whom informed consent was obtained were included in the study. Patients younger than 18 years of age, patients who had psychiatric disorders, and illiterate patients were excluded.

Results: The questionnaire form and scales were distributed to 254 patients, while 210 patients were included in the study. Therefore, the response rate from the patients was 82.7%. The mean age of the patients participating in this study was 44.41 years \pm 16.9 SD. The BAS scores of patients over 65 years of age were significantly higher than the patients at younger ages ($p < 0.001$). The percentage of female patients was 42.6% ($n=89$) and that of males was 57.4% ($n=120$). Both the BAS scores ($p < 0.001$) and HADS scores ($p < 0.01$) of the female patients were significantly higher than those of the male patients.

Conclusion: The BAS and HADS scores of females were found to be significantly higher than those of the males. Although the mean of the BAS scores of the patients was low, the BAS scores of those women who were at an age of 65 years or above, and those who had secondary school education or below, were significantly higher. Therefore, related research focusing on these groups should be conducted in the future.

Keywords: COVID-19, Awareness, Beck anxiety scale, Hospital anxiety and depression scale

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INTRODUCTION

Coronavirus disease 2019 (COVID-19) is a rapidly spreading and deadly infectious disease affecting the respiratory tract caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Respiratory failure, acute respiratory distress syndrome, and thromboembolism are among the main complications leading to death. The spread of the infection is higher in crowded and poorly ventilated areas. These environments are the areas where the virus spreads more rapidly with respiratory droplets or aerosols (World Health Organization (WHO), 2021a).

The environment that affects the host, agent, and their interactions plays an important role in the spread of infectious diseases. Poverty, education, pollution, sanitation, crowds, availability of health services, and biological factors are among the environmental factors associated with the infection (Koley & Dhole, 2020). According to the WHO, it has been reported that, as of April 13, 2022, there were 499,119,316 confirmed cases for COVID-19 in the world and 6,185,242 people had died from this infection (WHO, 2022). The best way to prevent COVID-19 infection is to avoid exposure to the virus. Washing hands frequently, avoiding sick people and crowds, wearing masks in communal areas, and covering the mouth and nose while coughing and sneezing are among the measures that individuals can apply (Centers for Disease Control and Prevention, 2021).

Individual responsibilities are critical for the prevention of COVID-19 infection. This is related to the health literacy level of society. According to the WHO, health literacy is defined as *"the knowledge, motivation and competencies to understand, evaluate and apply health care knowledge to prevent diseases and improve health."* Health literacy includes the ability of individuals to access accurate information and services and to use this information and service to improve both their own and public health (Kickbusch, Pelikan, Apfel, & Tsouros, 2013). Therefore, high health literacy is associated with the implementation of individual practices to prevent COVID-19 infection.

The COVID-19 pandemic is having a major impact on the capacity of health systems to deliver primary health care. While health systems around the world are struggling with increasing demand for care of COVID-19 patients, sustaining preventive and curative services is critical, especially for the most vulnerable groups, such as children, the elderly, those with chronic diseases, minorities, and the disabled. Since the emergence of the COVID-19 outbreak, people are more vulnerable to none communicable diseases and become severely ill or die from COVID-19 (WHO, 2020a).

Comprehensive measures are needed to prevent and control COVID-19 transmission in the community. Particular measures should be put into practice, especially for the elderly, healthcare professionals, and individuals who are susceptible to infection (European Centre for Disease Prevention and Control, 2020).

The current study aims to examine the anxiety level and COVID-19 awareness of patients who have visited the non-Covid-19 outpatient clinic of a pandemic hospital.

MATERIAL AND METHODS

This cross-sectional study was performed on patients who visited the orthopedics and traumatology outpatient clinic of a training and research hospital and who were examined by the same orthopedics and traumatology physician. The hospital is located in the Eastern Black Sea Region of Türkiye and the study was conducted between June 15, 2020 and October 15, 2020. During this period, the hospital served as a pandemic hospital for COVID-19.

Those patients over the age of 18, who were literate, who did not have any known psychiatric disorder, and who had voluntarily agreed to participate in this study were included in the scope of the study. Patients younger than 18 years of age, patients who had psychiatric disorders, and illiterate patients were excluded. The sample size was calculated with the sample calculation formula that is used in cases when the sample universe is uncertain ($t:1.96$, $p:0.50$, $q:0.50$, $d:0.05$). The resulting sample size was determined to be 210. This cross-sectional study complies with the principles of the Helsinki Declaration, and the study was also approved by the local ethics committee of Giresun University (Ethics Committee Number: 22.05.2020/15).

The data regarding the socio-demographic characteristics were obtained with a questionnaire form also including questions about COVID-19, which was created through a literature search (Wolf et al., 2020). The questionnaire included questions about the age, gender, and residency of the patients, in addition to questions asking the opinions of patients regarding COVID-19 infection, how it is transmitted, from which sources the patient obtains information about the infection, and protection measures for the infection.

The Beck Anxiety Scale (BAS) (Beck, Epstein, Brown, & Steer, 1988; Ulusoy, Şahin, & Erkmen, 1998) and Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983; Aydemir, Güvenir, Küey, & Kültür, 1997) were also used for data collection. BAS was developed by Beck et al. (1988). Ulusoy et al. (1998) reported the validity and reliability of the scale for Turkish. BAS provides information about the anxiety and concerns that the individual has experienced during the previous week. The minimum and maximum scores that can be obtained from this scale (consisting of 21 questions) are 0 and 63, respectively (Beck et al., 1988; Ulusoy et al., 1998). Zigmond and Snaith (1983) developed HADS in 1983. It is a self-assessment scale regarding the anxiety and depression symptoms of patients undergoing hospital admission. The scale consists of 14 questions. Seven of the questions in the scale are about anxiety and the remaining seven are about depression. Aydemir et al. (1997) reported the validity and reliability of the scale for Turkish.

SPSS Software Package version 18 from IBM, which is based in the USA, was used for data analysis. Counts, percentages, independent groups t- test, and correlation analysis were used for statistical data analysis.

RESULTS

The data was collected from 210 patients who satisfied the requirements for the study and agreed to fill out the forms.

Patients younger than 18 years of age, patients who had psychiatric disorders, and illiterate patients were not included in the study. The questionnaire and scales were provided to 254 patients and responses from 210 of them were obtained. Therefore, the response rate was calculated as 82.7%. The socio-demographic characteristics of the patients are presented in Table 1. The mean age of the participants in this study was 44.41 ± 16.9 . 42.6% (n=89) of the participants were females and 53.6% (n=89) of them were living in the city. In this study, 41.0% (n=86) of the patients were high school graduates or had higher levels of education. 41.0% (n=86) of hospital visits took place through patients directly going to the hospital.

29.5% of the patients declared that they had researched their diseases on the internet before coming to the hospital, and the percentage of those who had visited the hospital for the same disease before was 52.4%. 32.9% of the participants stated that they were smokers. The percentage of the patients with alcohol use was 12.9%, and the percentage of those who stated that they had a nail-biting habit was 8.6%.

Table 1. Socio-demographic characteristics of the participants and their distribution according to some variables.

Characteristics		N	%
Age	18-64	179	85.3
	65↑	27	12.9
Gender	Female	89	42.6
	Male	120	57.4
Residency	Village	42	25.3
	Town	34	20.5
	City	89	53.6
Education	Secondary School and ↓	101	48.1
	High School and ↑	86	41.0
Method of making an appointment at the hospital	Directly and in person	86	41.0
	Central physician appointment system	42	20.0
Internet search of the current symptom	Yes	62	29.5
	No	146	69.5
Previous visits to the health institution	Yes	110	52.4
	No	93	44.3
Smoking	Yes	69	32.9
	No	135	64.3
Alcohol consumption	Yes	27	12.9
	No	167	79.5
Nail-biting	Yes	18	8.6
	No	181	86.2

A comparison of the BAS and HADS scores of the patients according to some variables is provided in Table 2. The mean BAS and HADS score of the patients was 7.92 ± 13.3 and 13.03 ± 6.57 , respectively. An independent groups t-test was applied. Those patients aged 65 or over had significantly higher BAS scores than patients aged 64 and under ($p < 0.001$). There was no significant difference in the HADS scores between these two groups ($p > 0.05$).

The mean BAS and HADS scores of female patients were significantly higher than that of male patients ($p < 0.001$).

The mean BAS score of the patients with an education level of secondary school or below was significantly higher than that of the patients with high school and above education ($p < 0.001$). There was no significant difference between the mean HADS scores with respect to the education level ($p > 0.05$).

Regarding the method of making an appointment at the hospital, there was no significant difference in the BAS scores of the patients who received an appointment remotely via the central physician appointment system and those who directly made an appointment at the hospital ($p > 0.05$). In addition, HADS scores were also comparable between these two groups ($p > 0.05$).

The mean BAS scores of smokers were significantly lower than that of the non-smokers ($p < 0.01$). No significant difference was found between the mean HADS scores of smoking and non-smoking patients ($p > 0.05$).

No significant difference was observed between the mean BAS and HADS scores among the patients who used alcohol and those who did not ($p > 0.05$).

There was no significant difference between the BAS and HADS scores of the patients with and without a nail-biting habit ($p > 0.05$).

The knowledge and the attitudes of the patients regarding COVID-19 are presented in Table 3. 81.1% of the patients participating in this study considered COVID-19 infection to be a very severe public health problem. 51.9% of the patients who visited the hospital stated that they were a little worried about COVID-19 infection at the time of application, and the percentage of those who were very worried was 38.6%.

While 72.4% of the patients stated that COVID-19 was transmitted by the respiratory tract, 60.5% stated that it was transmitted by hands.

In this study, 81.4% of the patients stated that they obtained information about COVID-19 from television, 41.4% from social media, and 19.0% from announcements.

In order to protect themselves against COVID-19 infection, 78.1% of the patients stated that they used masks, 76.7% said that they stayed distant from other people, and 27.6% of them said that they prayed.

The findings showed that there was significant difference about the concern about COVID-19 infection at the hospital

Table 2. Comparison of the Anxiety (BAS) and Hospital Anxiety (HADS) levels of the patients participating in this study according to some variables.

Charac- teristics		BAS	p	HADS					
				total score	p	anxiety	p	depression	p
Age	64 age and ↓	7.09±7.1	<0.001	12.97±6.5	>0.05	6.2±3.9	>0.05	6.6±3.6	>0.05
	65 age ↑	15.53±12.5		12.23±7.0		6.3±4.6		6.5±3.2	
Sex	Female	11.03±9.3	<0.001	14.55±6.6	<0.01	7.7±4.1	<0.001	6.7±3.4	>0.05
	Male	5.73±6.2		11.84±6.2		5.2±3.5		6.6±3.8	
Education	Secondary school and ↓	10.40±9.4	<0.001	14.31±6.8	>0.05	7.5±4.3	<0.01	7.3±3.5	>0.05
	High School and ↑	6.17±6.7		12.04±6.4		5.8±3.7		6.2±3.7	
Method of making an appointment at the hospital	Directly and in person	7.52±8.8	>0.05	12.36±6.61	>0.05	5.9±3.7	>0.05	6.4±3.9	>0.05
	Central physician appointment system	9.48±7.3		4.41±7.7		7.0±4.9		7.1±3.6	
Internet search of the current symptom	Yes	7.97±7.5	>0.05	11.90±6.0	>0.05	5.9±3.5	>0.05	6.0±3.5	>0.05
	No	7.89±8.3		13.55±6.7		6.5±4.2		6.9±3.6	
Smoking	Yes	6.34±5.9	<0.01	12.60±6.6	>0.05	6.1±4.1	>0.05	6.4±3.4	>0.05
	No	8.57±8.8		13.50±6.4		6.3±3.5		7.2±3.9	
Alcohol consumption	Yes	12.9±6.5	>0.05	7.96±8.3	>0.05	6.0±3.6	>0.05		>0.05
	No	13.2±6.7		7.61±7.1		6.2±4.0			
Nail-biting	Yes	8.40±8.2	>0.05	12.64±5.3	>0.05	6.0±3.6	>0.05	7.0±3.7	>0.05
	No	6.33±6.8		13.15±6.7		6.3±4.0		6.7±3.6	
Place of residence	Urban	7.6±7.5	>0.05	12.9±6.3	>0.05	5.9±3.9	>0.05	6.6±3.5	>0.05
	Suburban and Rural	8.2±9.5		12.4±3.7		6.3±3.7		6.5±3.8	

between the age groups of 64 and lower, and of 65 and above ($p<0.05$). There was no significant difference between the education levels of the patients with respect to the concern about COVID-19 infection at the hospital ($p>0.05$).

While 29.5% of the patients stated that they were very worried about visiting the hospital because of COVID-19 infection, 53.8% of patients expressed that they were a little worried. With respect to age, there was no significant relationship between the levels of worry due to COVID-19 in hospital admittance ($p>0.05$). However, there was a significant relationship between the genders and alcohol use in the level of worry about COVID-19 ($p<0.05$). Additionally, the worry levels were significantly higher among patients with nail-biting habits ($p<0.05$).

There was a significant negative correlation between the HADS of the patients and the anxiety which they felt due to COVID-19 because of coming to the hospital ($p<0.05$). There was a negative correlation between the HADS score and the worry about getting COVID-19 infection. As the HADS score in-

creases, the worry about getting COVID-19 infection decreases ($p<0.05$).

The percentage of those patients who thought they would definitely get COVID-19 infection was 29.5%, while the percentage of those who stated they would most likely get the infection was 53.8%. Female patients were more prone to think that they would get COVID-19 infection than the male patients ($p<0.05$). No significant difference was found regarding age, education level, smoking, alcohol use, and nail-biting habits between the method of making an appointment at the hospital and thinking that they might get a COVID-19 infection ($p>0.05$).

DISCUSSION

COVID-19 infection is known to spread faster among individuals (with respiratory droplets and aerosols) who stay in the same place with others who are infected, especially in crowded and poorly ventilated areas. Therefore, it is critical to take the necessary measures. The measures for protection from COVID-19 infection require self-responsibility, such as physi-

Table 3. Knowledge and attitudes of the patients participating in this study about the COVID-19 infection/outbreak.

Characteristics		N	%
How severe is COVID-19 as a public health problem?	Mild	2	1.0
	Moderate	14	6.7
	Very Severe	170	81.0
How worried are you about COVID-19 infecting you?	I'm not worried	12	5.7
	I'm a little worried	109	51.9
	I am very worried	81	38.6
Were you worried about COVID-19 on your way to the hospital?	Never worried	20	9.5
	A little worried	113	53.8
	I was overly worried	62	29.5
Do you think you will get sick due to the COVID-19 outbreak?	Impossible	20	9.5
	Most probably	113	53.8
	Absolutely	62	29.5
How is COVID-19 infection transmitted?	By inhalation	152	72.4
	With body fluids	31	14.8
	With hands	127	60.5
Where did you obtain information on COVID-19 infection?	Television	171	81.4
	Social media	87	41.4
	Health personnel	81	38.6
	Announcement	40	19.0
What are the precautions you take against COVID-19 infection?	Using a mask	164	78.1
	Distance from people	161	76.7
	Washing hands	158	75.2
	Paying attention to nutrition	98	46.7
	Praying	58	27.6
	Not smoking	53	25.2

cal distance, wearing a mask, ventilating rooms, and avoiding crowds. Hence, not going to hospitals in non-emergency situations is among the individual measures.

Hospitals in Türkiye provide patients with two options to make an appointment for examination in a hospital. One of them is the central physician appointment system, which can be accessed via telephone or internet (i.e., remotely) before coming to the hospital for examination. The other choice for patients is a direct hospital appointment, where the patient has to come to the hospital in this case. Making an appointment remotely/previously via telephone or internet provides minimal time spent in the hospital, while those patients who make the appointment directly at the hospital spend more time in the hospital for examination. In this study, only 20% of the patients stated that they made their hospital appointments via the central physician appointment system. The patients who make a hospital appointment directly and in person are more likely to get a COVID-19 infection. The COVID-19 pandemic demonstrated the importance of digital health solutions during the crisis and the need to further align digital health initiatives in the future, both of which facilitates the lives of people on the

front lines of the crisis (Fagherazzi, Goetzing, Rashid, Aguayo, & Huiart, 2020). Digital technologies can facilitate the provision of healthcare services during the pandemic (WHO, 2021b; Golinelli, 2020).

The mean BAS scores of the patients were low. However, the BAS scores of those women who were at an age of 65 years or above, those who have secondary school education or below, and those who do not smoke were significantly higher. Similar to our study, in Hyland et al.'s (2020) study, the anxiety level of individuals aged 65 and over was higher than those of individuals at younger ages. This may be because COVID-19 is a severe infection and the mortality rate is higher among individuals aged 65 and over. In a related study by Özdin et al. (2020) on anxiety and depression levels during the pandemic, it was also found that women are psychologically more affected by the pandemic. The mean of the HADS scores given in Özdin et al. (2020) was lower than the corresponding mean HADS score that we observed in our study.

The HADS scores of patients were high. While there was no significant difference between the HADS scores considering other

variables, the HADS scores of the female patients were significantly higher than that of males. Similar to our results, in the study conducted by Argüder et al. (2020), the HADS scores due to COVID-19 were significantly higher among female patients.

While 81.0% of the patients participating in this study stated that they considered COVID-19 to be a very severe public health problem, 8.7% described it as a mild or moderate public health problem. In our study, no significant relationship was found between the ages of the patients and the perception of COVID-19 as a threat ($p < 0.05$). Gesser-Edelsburg et al. (2020) suggested that participants aged 65 and over perceived the COVID-19 pandemic as a greater risk than those at younger ages.

In our study, the percentage of those patients who indicated that they were a little worried about the COVID-19 infection was 51.9%. More than half of the patients did not worry too much. Anxiety about getting COVID-19 differs significantly among the gender groups. A positive correlation was found between gender and worry. In Wolf et al's (2020) study, which is consistent with our study, it was reported that women were more concerned about the transmission of the disease than men.

COVID-19 is transmitted by close contact with the aerosols, saliva droplets, and exhalations that the infected person exhales to the mouths, noses, or eyes of other people. Hands that are exposed to the droplets of infected people may cause contamination when in contact with the mouth, nose, and eyes (WHO, 2020b). In our study, the percentage of patients who stated that COVID-19 was transmitted by the respiratory tract was 72.4%. Almost one-third of the patients did not agree that it was transmitted through the respiratory tract. WHO recommends complying with physical distance, wearing masks, ventilating your environment, keeping your hands clean, and avoiding crowds in order to be protected from COVID-19 (WHO, 2021a). Although hands play an important role in transmission, 39.5% of the patients did not indicate that hands were one of the ways of COVID-19 transmission. In our study, the percentages of the participants who employed precautions such as mask-wearing, social distancing, and hand-washing against COVID-19 transmission were high. These results were in line with other related studies conducted in other countries (Alsaif et al., 2021).

The limitations of the study include the following: the research was conducted in a single clinic and the participating patients had limited time since they were waiting for examination. The study could be performed on more patients who visit different clinics.

CONCLUSION

It has been determined in this study that individuals mostly between the ages of 20 and 64 go to the hospital and half of the patients live in the city center. Both Beck Anxiety Scale and Hospital Anxiety and Depression Scale scores were significantly higher for female patients. Among the findings of the study, it is thought-provoking that one-third of the patients were not aware that COVID-19 is transmitted by the respiratory tract, and one-fifth did not include using a mask among the methods of protection. The BAS scores of those women who were

at an age of 65 years or above and those who had secondary school education or below were significantly higher. Therefore, it is recommended that COVID-19-related research focusing on these groups in particular should be conducted in the future.

Ethics Committee Approval: This cross-sectional study complies with the principles of the Helsinki Declaration, and the study was also approved by the local ethics committee of Giresun University (Ethics Committee Number: 22.05.2020/15).

Peer-review: Externally peer-reviewed.

Informed Consent: Written consent was obtained from the participants.

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