

Original Article

The Relationship Between Social Support and Health Anxiety among Patients Admitted to Emergency Services During the Covid-19 Pandemic: A Cross-Sectional Study

Aysegul Yayla

Assistant Professor, Department of Surgical Nursing, Faculty of Nursing, Ataturk University, Erzurum, Turkey

Vesile Eskici Ilgin

Assistant Professor, Department of Surgical Nursing, Faculty of Nursing, Ataturk University, Erzurum, Turkey

Zeynep Karaman Ozlu

Associate Professors, Department of Surgical Nursing, Faculty of Nursing, Anesthesiology Clinical Research Office, Ataturk University, Erzurum, Turkey

Ibrahim Ozlu

Assistant Professors, Ataturk University Medical Faculty Hospital, Erzurum , Turkey

Gozde Aydin

Assistant Professor, Department of Surgical Nursing, Ataturk University Medical Faculty Hospital, Erzurum , Turkey

Merve Kaya

Assistant Professor, Department of Surgical Nursing, Faculty of Nursing, Ataturk University, Erzurum, Turkey

Correspondence: Aysegul Yayla, Assistant Professors, Department of Surgical Nursing, Faculty of Nursing, Ataturk University, Erzurum, Turkey E-mail: ayseguul21@hotmail.com

Abstract

Aim: The study was conducted with the aim of determining the relationship between social support and the health anxiety levels of patients admitted to emergency services during the COVID-19 pandemic.

Methods: The study uses a correlational, and cross-sectional design. The patients admitted to the emergency services of a Health Research and Application Center comprised the study universe. The study data were collected using the Sociodemographic Attributes Form, the Trait Anxiety Scale (TAI), the Health Anxiety Scale (HAS), and the Multidimensional Scale of Perceived Social Support (MSPSS).

Results: Social support perception was negatively affected during the pandemic. The variables of family support (Beta = -0.264; $p < 0.001$) and anxiety (Beta = 0.088; $p < 0.041$) were found to have significantly affected the health anxiety of the patients.

Conclusion: This study shows that the health anxiety levels of the patients admitted to emergency services during the COVID-19 pandemic are correlated with social support. Training, consultancy and psychotherapy could be used to decrease the health anxiety of patients admitted to emergency services via online methods. Additionally, social media could be used to increase their social support level.

Keywords: COVID-19, emergency service, patient, health anxiety, social support, stress, physical symptoms

Introduction

The number of cases during the pandemic increases day by day, which affects many people, both physically and psychologically (Taylor, 2019). The state of being at home all

the time to protect against the pandemic and the consequent decrease in social relationships may cause psychological problems such as fear of death, anxiety of not being able to have sufficient and productive health services, sleeping problems, and

anxiety in individuals (Torales et al., 2020). Health anxiety is experienced during such a period and, therefore, health anxiety levels have also increased as a result (Tutku et al., 2020). It is specified in some studies that health anxiety causes certain physical symptoms, and that it can cause repeated applications to internal diseases/cardiology clinics and emergency services due to increasing severity of physical symptoms (Bozkurt Zincir et al., 2014; Gul et al., 2014; Knudsen et al., 2015). Admissions of patients with health anxiety to the emergency departments lead to an increase in patient density, confusion, and inadequacy in the execution of health services (Incesu et al., 2016; Koe et al., 2011). There are many admissions to the emergency services during the day, and most of these admissions are due to non-emergency situations (Koe et al., 2011). Patients with health anxiety can cause unnecessary use of emergency services, which can lead these emergency services to experience excessive patient density. These patients, who have non-urgent and simple to mild complaints, prolong waiting times for admission to the emergency department, delay the treatment of patients with serious diseases, and decrease patient satisfaction (Incesu et al., 2016; Kaya & Karakayali, 2019).

Social support refers to the care and support that is provided to people (Kilinc & Sis Celik 2021). Societies should conform to the precautions of social distancing and quarantine to stop the spread of the COVID-19 virus. The social support given to these individuals by their friends and families has been limited due to social isolation (Dawson & Golijani-Moghaddam, 2020). In this process, and during their respective periods of isolation, individuals who have social support may find this positively affecting their psychological and physical health, while those who do not have any social support may experience a negative effect on their psychological health (Szkody et al., 2020). It is also specified that the anxiety and stress levels of the people expressing higher levels of perceived social support are lower (Xiao et al., 2020). Results of another study showed a negative relationship between perceived social support and hopelessness (Zuo et al., 2021). Moreover, social support levels are

closely related to anxiety incidence and individuals who have low social support have a higher probability of having anxiety symptoms when exposed to stress (Guntzviller et al., 2020). The present study is considered to be a resource in terms of providing solution suggestions for future possible pandemics and filling this gap in the literature. This study aimed to determine the health anxiety levels of the patients and admitted to emergency services during the COVID-19 pandemic and their relationship with social support.

Methods

Research design and setting: This a correlational and cross-sectional study was conducted between January and September 2021 in the Health Research and Application Center of a university. The study patients were a consecutive sample. The study universe comprised all patients admitted to the emergency services of a university hospital between January and September 2021; 514 patients who met the inclusion criteria in the specified universe were used as the study sample.

Data collection: Data were collected from patients aged 18–65 years who presented to the emergency clinic and at the University Health Practice and Research Center. To ensure objectivity, the data were collected in the patients' emergency rooms by one researcher using a questionnaire form. All data were collected through face-to-face interviews with the patients.

Data collection tools:

Sociodemographic Attributes Form:

Questions related to the socio-demographic traits of patients are included in the form prepared by the researcher.

Trait Anxiety Inventory (TAI): This scale was developed by Spielberger et al. (1966) to measure state trait anxiety. Cronbach's alpha of the scale was found to be 0.83–0.87. Trait anxiety is the anxiety that exists even when there is no practical reason for it, and which is both long-term and severe when there is such a reason, regardless of the situation. Higher scores indicate that the respondent's anxiety level is higher (Oner & Compte, 1988). In this study, Cronbach's alpha internal consistency coefficient of the TAI was determined as 0.790.

Health Anxiety Scale-Short Form (HAS):

The HAS was developed by Salkovskis et al. (2002), and it is the 18-item short form of the original 64-item scale (Salkovskis et al., 2002). Responses to the scale items are scored between 0–3, with higher scores indicating higher anxiety levels. The second factor contains the last 4 items of the scale and is concerned with that dimension that is related to dimension related to the negative results of the disease (Aydemir et al., 2013). In the present study, Cronbach's alpha internal consistency coefficient of the scale was determined as 0.875.

Multidimensional Scale of Perceived Social Support (MSPSS):

The adaptation, validation, and reliability studies of this scale, which was developed by Zimet et al., (1988). Cronbach's alpha internal consistency coefficient of the overall scale was found to be 0.89, with a value of 0.85 for the family sub-dimension, 0.88 for the friend sub-dimension, and 0.92 for the significant other sub-dimension. A high score indicates that the perceived social support is high (Eker & Arkar, 1995). In this study, the internal consistency Cronbach's alpha coefficient of the scale was found to be 0.864, 0.880 for the family sub-dimension, 0.912 for the friend sub-dimension, and 0.895 for the significant other sub-dimension.

Ethical principles: Before starting the study, the ethical board approval was obtained by the Medical Faculty Ethical Board of a university. Only patients who voluntarily agreed to participate in the study were included. Verbal consent was provided by all patients after they had been given the necessary explanations. Participants were told that they could exit questionnaire process at any time and without penalty. It was specified that the identities of all the participants and the data they provided would remain confidential.

Data evaluation: Data analysis was conducted using Statistical Package for the Social Science (SPSS) 20.0 (SPSS Inc. Chicago. IL. The USA). Descriptive statistics were used in the analysis of the demographic data. Categorical variables were assessed using numbers and percentages, continuous variable (age point) mean, and standard deviation. The significance between health anxiety and the descriptive characteristics was assessed using *t*-test and ANOVA test in independent groups. Cronbach's alpha value

of the scales was calculated, and Pearson's correlation coefficient was used to determine the relationship between the scales. Additionally, multiple linear regression analysis was conducted to determine the factors affecting health anxiety. Statistical significance of the data was assessed at the $p < 0.05$ level.

Results

Concerning the patients who participated in the present study, 51.9% were male, 64.6% were graduates of primary school, 60% were bachelors, 67.5% lived in cities, 58.4% worked, 75.7% had an income equal or higher than their expenses, 54.7% had no history of being diagnosed with COVID-19, and 69.5% of them experienced contact with other individuals who had been diagnosed with COVID-19. The mean age of participants was 42.29 ± 15.62 years. A significant difference was determined between the participants' mean total HAS score and their descriptive characteristics ($p < 0.05$, Table 1).

Patients' HAS, TAI, and MSPSS sub-dimensions and mean total MSPSS scores, standard deviations, and correlation results are given in Table 2. The mean total score of the participating patients in the MSPSS was found to be 43.69 ± 4.43 ; the highest mean score among the sub-dimensions was (17.16 ± 3.27) in the "family support" sub-dimension, and the lowest mean score was (12.87 ± 2.14) in the "friend support" sub-scale. The mean HAS score of the patients participating in the study was determined as 32.02 ± 4.08 and total mean score of the TAI was determined as 52.47 ± 4.35 (Table 2). On examination of the correlation results, there was a negative and statistically significant correlation between patients' total HAS score and total MSPSS score ($r = -0.234$, $p < 0.001$) and MSPSS family support sub-dimension score ($r = -0.359$, $p < 0.001$). A positive and statistically significant correlation between patients' total HAS score and TAI score was also seen ($r = 0.211$, $p < 0.001$) (Table 2).

The hierarchical method was used in the analysis of the data and the variables that held significant relationships with health anxiety were included in the model. Socio-demographic variables that had a significant impact on health anxiety such as marital status, working status, place of residence,

history of COVID-19 diagnosis, contact with other individuals diagnosed with COVID-19 were included in the Model 1. The mean TAI scores that held a significant relationship with health anxiety were also included in the model in Model 2. The family support sub-dimension of the MSPSS was found to hold a significant relationship with health anxiety; the MSPSS sub-dimensions and mean total MSPSS scores were included in Model 3 and tests were conducted.

Analysis Results: The variables of marital status, working status, place of residence, history of COVID-19 diagnosis, and contact with other individuals diagnosed with COVID-19 significantly explained 6.2% of the variance in health anxiety ($R^2 = 0.062$). It was also found that the independent variables of marital status, place of residence, history of COVID-19 diagnosis, and contact with other individuals diagnosed with COVID-19 had significant relationship with health anxiety. In this respect, being a bachelor, place of residence, previously having been history of COVID-19 diagnosis, and contact with other individuals diagnosed with COVID-19 increased the health anxiety scores.

In Model 2, the test was performed by adding trait anxiety to Model 1. The independent variables entered in Model 2 were detected to have made significant contribution to the model ($p < 0.05$). Predictive variables were

determined as increasing 8.5% of the health anxiety variance, with an increase by 2.3% ($R^2 = 0.085$; F change=12.501; $p < 0.001$). The independent variables of marital status ($p = 0.003$), place of residence ($p = 0.010$), history of COVID-19 diagnosis ($p = 0.010$), contact with other individuals diagnosed with COVID-19 ($p = 0.007$), and trait anxiety ($p = 0.000$) were determined to have made contributions that were peculiar to the model ($p < 0.05$). It was also determined that these variables positively affected health anxiety (Beta = 0.153); in other words, it increased the score of health anxiety (Table 3).

In Model 3, tests were conducted by adding the multi-dimensional scale of total perceived social support scores and family support sub-dimension scores to Model 2.

The variance explained in health anxiety scores increased from 8.5% to 15.7%, together with adding these variables to the model ($R^2 = 0.157$; F change=21.712; $p < 0.001$). While socio-demographic variables lose their significance, the independent variables of trait anxiety ($p = 0.041$) and family support ($p = 0.000$) were determined to have made contributions peculiar to the model ($p < 0.05$). Comparatively, while trait anxiety was found to increase health anxiety (Beta = 0.088), family support was found to decrease health anxiety (Beta = -0.264; Table 3).

Table 1. Comparison of Health Anxiety Scale Mean Scores of Patients Based on their Descriptive Characteristics (N =514)

Variables	n	%	Health Anxiety X±SD	Test and p value
Gender				
Female	247	48.1	31.72±3.85	t=-1.586
Male	267	51.9	32.29±4.28	p=0.113
Education Status				
Vocational School of Health	332	64.6	32.01±4.13	
Associate degree	131	25.5	31.80±3.60	F=0.646
Bachelor's degree	51	9.9	32.56±4.88	p=0.525
Marital Status				
Married	202	39.3	32.63±3.85	t=2.791
Single	312	60.7	31.61±4.18	p=0.005
Lived Place				
City	347	67.5	32.63±4.54	t=-2.363

District-Village	167	32.5	31.73±3.82	p=0.002
Working Status				
Working	300	58.4	32.54±4.22	t=2.200
Not Working	214	41.6	31.70±3.88	p=0.046
Income Status				
Income less than expenses	125	24.3	32.31±3.65	t=-1.626
Income equal or more than expenses	389	75.7	32.95±3.90	p=0.105
Primary Reason for Recourse to the Emergency Department				
Runny Nose-Sore Throat-Fever	104	20.2	31.60±4.04	
Dizziness and Headache	90	17.5	31.76±3.78	F=1.675
Abdominal Pain	84	16.3	31.55±3.98	p=0.139
Nausea- Vomiting- Diarrhea- Fatigue	92	17.9	32.85±4.35	
Joint pain	78	15.2	31.79±4.12	
Cough	66	12.8	32.68±4.14	
Previously having COVID 19 diagnosis				
Yes	233	45.3	32.59±4.60	t=-2.925
No	281	54.7	31.54±3.53	p=0.004
Person with COVID 19 diagnosis in surroundings				
Yes	357	69.5	32.29±4.04	t=-2.347
No	157	30.5	31.38±4.13	p=0.019
Ave. Age ± SD	42.29 ± 15.62		r= -0.040 p=0.370	

Table 2. The scales' mean scores, standard deviations and bivariate correlation values (N = 514)

	$\bar{X} \pm SD$	1	2	3	4	5	6
1. MSPSS Support by family	17.16± 3.27	1					
2. MSPSS Support by friends	12.87± 2.14	-0.198 p=.000	1				
3. MSPSS Support by significant other	13.65± 2.33	-0.068 p=.122	0.272 p=.000	1			
4. MSPSS total	43.69± 4.43	.606 p=.000	0.481 p=.000	-0.608 p=.000	1		
5. Trait anxiety scale	52.47± 4.35	-0.321 p=.000	0.048 p=.277	-0.007 p=.880	-0.217 p=.000	1	
6. Total of health anxiety scale	32.02± 4.08	-0.359 p=.000	0.014 p=.751	-0.045 p=.307	-0.234 p=.000	0.211 p=.000	1

Note: \bar{X} = Means SD = Standard Deviation r = Pearson's Correlation Analysis p = significance level.

Table 3. Hierarchical Multiple Linear Regression Models Regarding the Prediction of Health Anxiety

	Model 1				Model 2				Model 3			
	β	beta	t	p	β	beta	t	p	β	beta	t	p
Marital Status	1.196	.143	3.242	.001*	1.081	.129	2.953	.003*	.669	.080	1.872	.062
Working Status	.434	.052	1.216	.225	.331	.040	.935	.350	.039	.005	.112	.911
Lived Place	1.106	.127	2.920	.004*	.967	.111	2.569	.010*	.643	.074	1.759	.079
Covid Diagnosis Status	.863	.105	2.431	.015*	.903	.110	2.571	.010*	.658	.080	1.931	.054
Person with Covid Diagnosis in Surroundings	1.217	.137	3.125	.002*	1.053	.119	2.713	.007*	.671	.076	1.774	.077
Trait Anxiety					.143	.153	3.536	.000**	.082	.088	2.048	.041*
MSPSS Family Support									-.332	-.264	-4.820	.000**
MSPSS Total									.040	-.044	-.843	.399
	R²	Adjusted R²	R² change	F	F-change	p	Durbin Watson					
Model 1	.062	.053	.062	6.721	6.271**	0.000	1.560					
Model 2	.085	.074	.023	7.811	12.501**	0.000						
Model 3	.157	.144	.072	11.765	21.712**	0.000						

Abbreviations: R²: R-square (the coefficient of determination) * p < 0.05 ** p < 0.001

Note: Dummy coded: marital status (married = 0, single = 1); working status (working= 1, not working=0); lived place (city=1, district-village=0); Covid 19 diagnosis status (yes= 1, no= 0); person with Covid 19 diagnosis in surroundings (yes= 1, no= 0).

Discussion

Health anxiety was determined to be high among patients in the present study. In the study conducted by Yilmaz et al. (2018), the mean total HAS scores of the patients in the internal and surgical clinics were determined as 17.34 ± 8.45 (Yilmaz et al., 2018). In other studies, conducted before the pandemic, patients' mean HAS scores were also not high (Bozkurt Zincir et al., 2014; Gul et al., 2016). In one study using people aged 65 years or over, which was conducted during the phases of the pandemic the mean HAS score of the participants was found to be 17.1 ± 6.9 (Kazan Kizilkurt et al., 2021). A study conducted during the COVID-19 pandemic showed that the individuals had moderate levels of health anxiety (Alan & Cevik, 2020). Various precautions, such as social distancing, lockdown, and self-isolation, continue to be applied to decrease the spread of the virus during the pandemic. Relatively high health anxiety (32.02 ± 4.08) is not surprising in the patients admitted to emergency services. High health anxiety may cause the individual to misinterpret their own senses and may leave them defenseless against the negative sentimental situations such as anxiety and depression. Accordingly, the presence of high health anxiety in the individuals who presented to the emergency services during the COVID-19 pandemic is an expected situation.

It was determined as a result of the current study that mean total MSPSS score was 43.69 ± 4.43 . In the study conducted by Kaya and Ozlu (2019), the mean total MSPSS score of the study participants was 54.87 ± 16.69 (Kaya & Ozlu, 2019). Comparatively, another study (Celik & Enc, 2021) found the mean total MSPSS scores of the patients to be 57.50 ± 16.30 . In addition, people under quarantine are unable to communicate face-to-face and lack the traditional social support, and thus, their stress levels increase (Zhang & Ma, 2020). The mean total MSPSS scores of patients in the present study were found to be lower than those reported in studies conducted before the COVID-19 pandemic. Throughout the current COVID-19 pandemic, strict social limitations have been applied to decrease the infection rates of the disease. Therefore, it is possible that the participants of the present

study had limited access to social support (such as family and friend support).

A negative and statistically significant correlation was found between participants' health anxiety and total MSPSS scores in the family support sub-dimension, while a positive and statistically significant correlation was found between HAS and trait anxiety. Social support affects the reactions given to the stressful phenomena by individuals during the COVID-19 pandemic (Qi et al., 2020). Some current meta-analytical examinations working on the relationship between social support and mental health assert that the existence of such a support foresees a better mental health operation and could also be considered as a protective factor against the commencement of mental health problems (De Silva et al., 2005; Harandi et al., 2017). Perceived social support is beneficial in decreasing the negative psychological effects and facilitating adjustment after traumatic experiences (Woodward et al., 2015). In addition, having social support after traumatic events contributes to developing a sense of trust (Dombo & Ahearn, 2017; Kaniasty, 2012). This result makes us think that high health anxiety could be decreased together with the increase in social support. Studies have found a relationship between health anxiety and COVID-19 anxiety (Jungmann & Witthoft, 2020; Nikčević et al., 2021). It was also reported that the health anxiety existent in the patients admitted to emergency services could be a risk factor for the anxiety to increase during the pandemic (Asmundson & Taylor, 2020). Easy infection of COVID-19, lack of treatment for the disease, and high death rates due to the virus may contribute to the increase in the anxiety levels of the patients during the COVID-19 pandemic. The result of this study is in accordance with the literature.

In the present study, the variable predicting the health anxiety at the highest level was family support and there was a negatively significant relationship between them. It is highly likely for an individual to experience less stress when they have access to social support (Raffaelli et al., 2013; Tindle & Moustafa, 2021). Although no previous studies have directly examined the relationship between the meaning of life perceived social support and health anxiety, a

previous study indicates that without social connection, people's lives would lack meaning (Chen et al., 2020). Isolation measures and the quarantine processes, which are among the globally effective measures in the management of COVID-19, cause social isolation and lifestyle changes in individuals (Li et al., 2021). Perceived social support can protect against loneliness during unexpected crises and increase resilience (Xu et al., 2020). During the COVID-19 outbreak, individuals may have difficulty adapting to the new virus-threatened lifestyle, as they face both the uncertainty of the pandemic and major changes in work, life, and social interaction (Garfin et al., 2020; Velavan & Meyer, 2020). The negative psychological impacts of the social isolation precautions may be decreased, together with an increase in perceived social support (Zhang & Ma, 2020). Furthermore, it has been shown in the study conducted by Lee et al. (2018) that not friend and spouse support, but family support mediates to impacts of stress on health (Lee et al., 2018). Results of a study examining the relationship between anxiety levels and perceived social support during the COVID-19 pandemic showed that the anxiety levels decrease significantly with an increase in perceived social support (Ozmete & Pak, 2020). The perceived access to social support is more limited due to the current COVID-19 social restrictions. The support given to patients, especially by their families, is more than the support provided by friends or significant others during the same, current pandemic. In the present study, the increase in health anxiety especially due to the decrease in family support could be assessed as an inevitable result. Provision of more family support during the pandemic may contribute to decreasing negative sentimental levels.

Conclusion: The health anxiety of the patients and admitted to emergency services is high. Social support levels are negatively affected. Health anxiety levels decrease in the patients admitted to emergency services during the COVID-19 pandemic as the family support increases and anxiety decreases. Family support and anxiety are the most important factors affecting health anxiety. According to these results, social support level should be increased to decrease the health anxiety of the patients. Online methods

and social media could be used to increase the perceived social support. Services and practices that strengthen the perception of social support of individuals can increase their coping capacity, particularly, of the individuals who are at risk. A plan should be created for patients to follow during the diagnosis and treatment of possible acute and chronic health problems. This plan should be accessible to patients, and they should be encouraged to follow the plan.

Limitations of the Study: Due to the current study being a cross-sectional design, it has not revealed the causality of any variable. Within this context, a longitudinal study is needed to better understand the behaviors of the patients admitted to emergency services, their specific anxieties related to COVID-19, and their social support perceptions. Results of this study are therefore limited to the patients admitted to the emergency services of the health institution in which this study was conducted; therefore, they cannot be generalized to all institutions and regions. The measurements attained from the study are limited to the used scales and the self-reports of the participants. It could be suggested that the study be conducted in other countries and in wider sample groups.

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