Original Article

The Relationship Between Women's Anxiety and Hygiene Habits   in the COVID-19 Pandemic

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Abstract
Background: The COVID-19 epidemic has affected women psychologically and caused their hygiene habits to change in many areas such as hand hygiene, shopping and social.
Objective: This study was performed with the aim of determining the correlation between coronavirus anxiety and hygiene habits of women during the COVID-19 pandemic.
Methodology: The sample for this descriptive and correlational research comprised 470 women. Data were collected with a Personal Information Form, Coronavirus Anxiety Scale and COVID-19 Hygiene Scale with face-to-face methods.
Results: There were positive correlations between the Coronavirus Anxiety Scale and some subdimensions of the COVID-19 Hygiene Scale. Coronavirus anxiety was found to be a predictive factor for hand hygiene ($p < 0.01$).
 Conclusion: As the coronavirus anxiety levels of women increased, COVID-19 hygiene habits increased. It is recommended that health professionals perform more research related to the topic.

Keywords: Anxiety, Coronavirus, Hygiene, Woman

Introduction

The COVID-19 pandemic has been effective all over the world and caused various measures to be taken. The risk of contracting the disease affected individuals psychologically and caused their anxiety levels to increase. This epidemic has changed daily life routines, caused negative mental health, and also caused individuals to change their hygiene habits.

Background

The continuing pandemic, affecting the whole world, caused by coronavirus infection has increased morbidity and mortality risk, and led to severe precautions including countries closing their borders (Evcili & Demirel, 2020). The whole world began a process of quarantine due to the negative outcomes caused by the pandemic. The pandemic affects risky and sensitive groups like the elderly, especially, and people with

disabilities and chronic disease (Evcili & Demirel, 2020). Individuals infected with coronavirus disease or with high risk of infection experience the psychosocial impacts of the pandemic more (Pfefferbaum & North, 2020). The impacts of the pandemic display differences according to sex, with women appearing to be more affected by the pandemic (Avcin & Erkoc, 2021). Similar situations occurred as during epidemics like Ebola and zika experienced in the past, and mother and infant death rates increased due to increased marriage at young age and adolescent pregnancies, and inadequate care as a result of delays in health services (Unal et al., 2021).

Infectious diseases are stated as a seriously psychologically challenging situation because they reveal a person's most basic human instincts such as survival (Bunul et al., 2022). Health problems may arise as a result of non-compliance with hygiene standards and inappropriate hygiene habits (Hartavi & Soyler, 2022). Studies indicate that the announcement of infectious disease outbreaks causes disease anxiety even in healthy people, and although the dissemination of information about diseases and recommended hygiene behaviors reduce the spread of the disease, it causes excessive anxiety and precautions against the risk of contracting the disease and changing hygiene habits (Blakey & Abramowitz, 2017; Cheung, 2015; Xie et al., 2011).

Global isolation implemented with the aim of reducing the impact of the pandemic led to reduced interaction between individuals and social distancing (Ornell et al., 2020). In this process, the roles and responsibilities of women increased due to continued distance education in schools, working from home and social isolation rules (Unal et al., 2020). A study in America identified that during the pandemic, the working hours of men reduced compared to women (Collins et al., 2020). In Turkey, with a gendered social approach, the more active role of women in childcare and working from home caused men to continue in employment, while women had further increased workload and anxiety (Unal et al., 2020). Women, undertaking care and health services in the family, were stated to allocate more time to medical topics compared to men and generally men had higher rates of risk related to health (Walter and McGregor, 2020). Women perceived COVID-19 as a larger health problem compared to men, had higher compliance with restrictions (Galasso et al., 2020), and the prevalence of depression and anxiety was higher in women compared to men (Hou et al., 2020). The higher depression, anxiety and health anxiety levels among women may indicate that the impact of the COVID-19 pandemic on mental health was higher for women (Ozdin & Bayrak Ozdin, 2020). COVID-19 death reports stated that men had higher death rate compared to women and this situation was due to low hand-washing rates, higher cigarette consumption and chronic disease (Betron et al., 2020).

Along with the perceptions of the disease, the anxiety about the chance of being infected with the virus caused a change in hygiene behavior (Yılmaz et al., 2020). Hygiene is the most effective route to prevent transmission and spread of microorganisms that may cause infection in humans, who are social individuals. Just as good hygiene practices may reduce the risk of infection, they may reduce health anxiety among individuals (Evren et al., 2020). In China, female health employees were identified to experience more negative moods like insomnia, anxiety, depression and stress compared to male health employees (Lai et al., 2020). In Turkey, the COVID-19 pandemic affected anxiety and hygiene behavior and hence physical and mental health (Altun, 2020). The number of studies about how the pandemic affected anxiety and hygiene behavior of women and changing hygiene habits is limited. This study was planned with the aim of determining the correlation between coronavirus anxiety and hygiene habits among women.

Research Questions:

- What is the level of coronavirus anxiety among women?

- What is the level of COVID-19 hygiene behavior among women?

- Is there a correlation between coronavirus anxiety and COVID-19 hygiene behavior among women?

-What are the COVID-19 hygiene behaviors predicted by coronavirus anxiety among women?

Methodology

The sample for this descriptive and correlational research comprised 470 women attending clinics in a university hospital and a state hospital in the Black Sea region of Turkey who abided by the research criteria. Before being included in the study, women were informed about the purpose and scope of the study. Written and verbal consent was obtained from the women before participating in the research. In the consent form, the answers to the questions will be kept confidential and will not be shared with anyone, it was stated that it was completely optional and that there was no obligation for participation and that the participant could withdraw from the study at any time. The sample for the study comprised women aged 18 years and older who volunteered to participate in the study. The number of women included in the sample in the research was calculated according to the unknown population. The sample number was calculated using the 23.2% anxiety prevalence found by combining moderate and high levels of anxiety from the study by Guloglu et al. (2020). At 99% confidence level and 0.05 deviation, the number of women that should be included in the sample was identified as 470 (Sumbuloglu & Sumbuloglu, 2005).

Inclusion Criteria: Participants in the study were required to meet the following criteria: being 18 years old or older, agreeing to participate, and not having any mental health issues.

Exclusion Criteria: Women who agreed to participate in the study but wanted to withdraw at any stage were excluded from the study.

Data collection: Research data were collected with a Personal Information Form including sociodemographic and COVID-19-related characteristics, the Coronavirus Anxiety Scale and COVID-19 Hygiene Scale. Data were collected with face-to-face methods from 2 July 2021 to 13 August 2021.

Personal Information Form: The personal information form included questions about sociodemographic information like age, marital status, educational level, employment status, family type, income level and place of residence. It also included questions about status of being infected with COVID-19,

COVID-19 vaccination status and loss of any relative due to COVID-19. The development of the personal information form was guided by existing literature (Avcin & Erkoc, 2021; Evcili & Demirel, 2021; Walter & McGregor, 2020).

Coronavirus Anxiety Scale: The Coronavirus Anxiety Scale (CAS) is a screening tool for anxiety experienced by individuals during the coronavirus pandemic. It was developed by Lee (2020) with Turkish validity and reliability performed by Evren et al. (2020) with this scale having 90% sensitivity and 85% specificity for diagnosis. The scale questions behavior and experiences within the last 2 weeks and comprises 5 items with Likert rating from 0 to 4. If the total points received are ≥ 9, the individual has dysfunctional anxiety related to coronavirus. Higher points indicate the individual should be referred for more advanced assessment and treatment. The Cronbach alpha reliability coefficient was .80 in the original study and found to be .893 in this study.

COVID-19 Hygiene Scale: COVID-19 Hygiene Scale developed by CiCek et al. (2021) comprises 27 items and 6 subdimensions. It comprises items about general and personal hygiene behavior of individuals during the COVID-19 pandemic. It is a Likert-type scale with points from 1 to 5. The COVID-19 Hygiene Scale has minimum 27 and maximum 135 points. Increased points indicate the individual has high levels of hygiene behavior. There are six dimensions of "*changing hygiene behavior in the pandemic*", "*home hygiene*", "*social distance and wear of masks*", "*shopping hygiene*", "*hand hygiene*," and "*hygiene when coming home from outside*" on the COVID-19 Hygiene Scale. Points for the dimensions are 6-30 points for "*changing hygiene behavior in the pandemic*", 4-20 points for "*home hygiene*", 4-20 points for "*social distance and wear of masks*", 5-25 points for "*shopping hygiene*", 5-25 points for "*hand hygiene*," and 3-15 points for "*hygiene when coming home from outside*". The Cronbach alpha reliability coefficient was .908 in the original study and .901 in this study. The subdimensions of the scale had Cronbach alpha values of .749, .690, .688, .742, .702, and .698 in the original study, while in this study the values were .591, .796, .553, .655, .768, .567 and .901, respectively.

Ethical approvals: Before beginning the research, permission to use the scales were obtained by email from the authors. Permission was granted by Ordu University Non-Invasive Clinical Research Ethics Committee (17 June, 2021-143 decision number), COVID-19 research permission was granted by the Ministry of Health and institutional permission was granted by the Provincial Directorate of Health for the location where the research was performed (17 June 2021 date and 0602252 number). Written permission was obtained to collect of data from the hospitals'managements (25 June 2021). The research abided by the principles of the Helsinki Declaration. The data were stored on the computer hard disk by the researcher and each survey form was numbered.

Data analysis : Analysis of data used a statistical program on the computer. The analysis used descriptive tests including frequency, percentage, arithmetic mean and standard deviation. The fit of the research data to normal distribution was assessed with the Kolmogorov-Smirnov test, histogram, normal distribution curve, skewness (.449), kurtosis (.113) and variation coefficient. As the data displayed normal distribution, descriptive statistical methods, dependent groups t test and one-way ANOVA were used, with Pearson correlation analysis used to assess relationships and the Scheffe test used to determine which group was the source of any differences. In the study, the statistical significance level was taken as p<0.05.

Results

The mean age of 470 women participating in the study was 43.54±15.82 years (range 18-89), and mean number of children was 2.01±1.59 (range 0-10). Among women, 33% were primary school graduates, 77.3% were married, 53.8% were housewives, 60.2% lived with nuclear family, 54.3% had equal income and expenses, 54.7% lived in the provincial center, and 28.9% had retired partners. Of the women, 35.7% had chronic disease, 28.7% used medication continuously, 33% were infected with COVID-19, 76% were vaccinated against COVID-19 and 36% had lost a family member due to COVID-19 (Table 1). The mean total points for the Coronavirus Anxiety Scale were 6.06±3.89 with Cronbach alpha value of .893. The item

with highest points on the Coronavirus Anxiety Scale was "*when I read or hear news related to coronavirus, I get dizzy, lightheaded or feel faint*" (1.50±0.91) (Table 2). When the frequency of responses according to scale items are examined, the highest responses were 'several days' at 36.8% for the 1st item and "never/rarely, less than one or two days' at 63.2% for the 2nd item. The lowest responses were 'nearly every day' at 1.5% for the 3rd item, 'rarely, less than one or two days' at 41.9% for the 4th item, and 'several days or more' at 32.4% for the 5th item (Table 2).

The mean total points for the COVID-19 Hygiene Scale were 94.97±14.84. The mean subdimension points were 20.60±3.52 for changing hygiene behavior in the pandemic, 13.76±3.10 for home hygiene, 15.62±2.40 for social distance and wear of masks, 15.35±3.93 for shopping hygiene, 18.94±3.42 for hand hygiene and 10.69±2.32 for the hygiene when coming home from outside subdimension (Table 3).

According to the sociodemographic and COVID-19 characteristics of women, the comparison of mean points on the Coronavirus Anxiety Scale and COVID-19 Hygiene Scale is shown in Table 2. Mean points on the Coronavirus Anxiety Scale were higher for women in the 28-37 year age group, without children, who were middle school graduates, single, self-employed, living with extended family, with income equal to expenditure, living in towns, with partners who were civil servants, with chronic disease, not using continuous medications, vaccinated, and not losing anyone in the family to coronavirus disease. There were statistically significant differences based on employment status (p=0.007), being infected with COVID-19 (p=0.026) and place of residence (p=0.004), while the differences for the other variables were insignificant (p>0.05) (Table 1).

The mean COVID-19 Hygiene Scale points of women were higher for women who were in the 28-37 year age group, had one child, were graduates/postgraduates, married, civil servants, living with nuclear family, with income equal to expenditure, living in towns, with partners who were civil servants, without chronic disease, not using continuous

medication, who had COVID-19, did not have COVID-19 vaccination, and lost a close relative in the family due to COVID-19. There were statistical differences for the age group (p=0.000), educational status (p=0.000), marital status (p=0.012), employment status (p=0.007), family type (p=0.000), place of residence (p=0.004), chronic disease (p=0.020) and having COVID-19 (p=0.037). The differences for the other variables were determined to be insignificant (p>0.05) (Table 1). As shown in Table 4, the Coronavirus Anxiety Scale points were positively correlated with COVID-19 hygiene, changing hygiene behaviors in the pandemic, home hygiene, hand hygiene, hygiene when coming home from outside. The correlational coefficients value (r) ranged from 0.098 to 0.83 (p<0.05, p<0.01)(Table 4). A linear regression model was used to analyze the effect of coronavirus anxiety on COVID-19 hygiene behaviors in women. Coronavirus anxiety was determined to affect COVID-19 hygiene behavior (R= .269, R^2=.072, F= 6.026, p<0.01). This result explained 26.9% of the variation in hygiene behavior during the COVID-19 pandemic among women. According to standard regression coefficients (β), COVID-19 hygiene behaviors were in the order hand hygiene (β=.295), shopping hygiene (β=-.109), social distance and wear of masks (β= -.100), home hygiene (β=.084), changing hygiene behaviors in the pandemic (β=.058), and hygiene when coming home from outside (β=-.054).When the t test results for regression coefficients are examined, coronavirus anxiety was found to be a predictive factor for hand hygiene (p<0.01). Coronavirus anxiety was not found to have a significant correlation with hygiene behavior changing in the pandemic, home hygiene, social distance and wear of masks, shopping hygiene and hygiene when coming home from the outside (p<0.05) (Table 5).

Discussion

The COVID-19 pandemic affected the whole world, impacting patients and healthy individuals. Social isolation precautions, staying at home, and the progression of the disease in this period caused physical, social and psychological problems in individuals. Determining high-risk groups in terms of psychological symptoms during the coronavirus pandemic will be beneficial for assessment and treatment of the target population.

Discussion of Findings on the Coronavirus Anxiety Scale: In this study, performed with the aim of determining the correlation between coronavirus anxiety and hygiene habits in women, mean Coronavirus Anxiety Scale points were 6.06±3.89. Coronavirus anxiety was lowest for women who were students and housewives, highest for women who were self-employed (p=0.007) and the coronavirus anxiety level of women who had COVID-19 (p=0.026) was higher than women who did not have the disease (Table 1). These differences were statistically significant. The study by Evren et al. (2020) found mean Coronavirus Anxiety Scale points were 6.66± 2.65, similar to this study. Studies found rates for post-traumatic stress (73.4%), depression (50.7%), generalized anxiety (44.7%) and insomnia (36.1%) were highest for health employees infected with COVID-19 and in infected patients (Bo et al., 2021; Lai et al., 2020; Xiang et al., 2020). A study of Turkey in general by Ekiz et al. (2020) found 1050 participants had moderate levels of health anxiety. Erdogdu et al. (2020) reported that one in every four participants showed symptoms of anxiety. Altun (2020) determined that women's mental health, in addition to physical health, was affected by the COVID-19 pandemic and anxiety levels increased. Karkın et al. (2021) stated there was no difference in mean total points for women who had and did not have COVID-19 in a study assessing COVID-19 phobia among women (Karkın et al., 2021). Other studies reported that women were more impacted mentally during the pandemic compared to men and the pandemic was a source of continuous worry and anxiety for women, supporting the results of our study (Erdogdu et al., 2020; Guloglu et al., 2020; Turkmen et al.,2021).

Discussion of Findings on the COVID 19 Hygiene Scale: In this study, the mean COVID-19 Hygiene Scale points for women were higher for women who were 28-37 year of age, had education to undergraduate/postgraduate level, were married, worked as civil servants, lived with nuclear family, lived in towns, did not have chronic disease and had COVID-19 compared to other women. The differences were found

to be statistically significant (p=0.000, p=0.000, p=0.012, p=0.007, p=0.000, p=0.004, p=0.020, p=0.037, respectively) (Table 1). At the same time, Coronavirus Anxiety Scale scores were positively correlated with COVID 19 hygiene, changing hygiene behaviors in the pandemic, home hygiene, hand hygiene, hygiene when coming home from outside, and negatively correlated with the number of children. When the t test results for the regression coefficients are examined, coronavirus anxiety was found to be a predictive factor for hand hygiene (p<0.01) (Table 4).

Hygiene practices, with increasing importance during the COVID-19 pandemic, are precautions that need to be taken to prevent the spread of microorganisms. In this study including women, the mean total points for the COVID-19 Hygiene Scale were 94.97±14.84 out of a possible 135 points (Table 2). This finding shows that hygiene behavior of women during the pandemic was at moderate levels and participants displayed positive attitudes to hygiene behavior. A study by CiCek et al. (2021) determined that women had high hygiene behavior in terms of points on the COVID-19 hygiene scale, similar to the findings of our study. Research with Polish women by Mościcka et al. (2020) determined that there were increases in the use of disinfectant and hygiene practices when coming home from outside during the pandemic. A study by Turkmen et al. (2021) found that women paid more attention to mask and disinfectant use compared to men and attached more importance to taking precautions to protect against the virus and hygiene behavior (Turkmen et al., 2021). Another study found mean 85-90% increase in behavior involving protective precautions like cleaning, hygiene, mask and glove use during the COVID-19 pandemic among participants. They determined there was mean 95% reduction in going to crowded locations and use of public transport (Karatas, 2020).

A study by Geduk et al. (2021) found that those with high educational level and women experienced more negative feelings during the COVID-19 pandemic. At this point, it is thought that those with high educational level know the seriousness of the pandemic and have more information so they attempt to protect themselves from the virus more and pay more attention to hygiene; thus, they have high total COVID-19 hygiene points. Different from the findings in this study, CiCek et al. (2021) found women with associate degree or lower educational level had higher hygiene behavior points in a study during the pandemic (CiCek et al., 2021). Similar to the findings of this study, research investigating hand washing attitudes of individuals during the COVID-19 pandemic found married individuals had higher mean hand washing attitude points compared to single people and the difference between the groups was determined to be significant in statistical terms (Kalkan Ugurlu et al., 2020)

According to the findings of our study, women living in the provincial capital and women living in county towns both had higher hygiene behavior during the pandemic compared to women living in villages (Table 1). When the literature is examined, people living in metropolitan cities appeared to pay more attention to mask use and social distance; in short, precautions taken in terms of hygiene and health (Turkmen et al., 2021). During the pandemic, metropolitan cities with the highest number of cases and more cases in the centers of cities may cause individuals to orient more toward masks, distance and hygiene behavior (Turkmen et al., 2021).

In this study, women without chronic disease had higher mean COVID-19 Hygiene Scale points and the difference was significant (Table 1). Different to this, Srichan et al. (2020) in a study in Thailand found that people with chronic disease had higher knowledge and attitude levels. A study by CiCek et al. (2021) stated that participants with chronic disease had higher hygiene points and attached more importance to hygiene. According to our study results, it is thought that increased anxiety in women with chronic diseases prevents functionality in daily living activities (Ergun et al., 2020).

In our study findings, women who had COVID-19 were found to have higher mean COVID-19 Hygiene Scale points (Table 1). A study about mask use among students during the pandemic by Kocabas et al. (2021) found students who had COVID-19 had more common mask use and were more careful when putting on masks.

Table 1. Socio-Demographic and COVID-19 Characteristics of Women and Comparison of the Coronavirus Anxiety Scale and COVID 19 Hygiene Scale Score Averages

Characteristics of Women	n	%	CAS Mean±SD	COVID-19 Hygiene Scale Mean±SD
Age (years)				
18-27	96	20.4	6.05±4.41	93.90±17.40*a*
28-37	93	19.9	6.76±3.85	99.66±14.22*b*
38-47	90	19.1	6.00±4.18	95.26±14.48*c*
48-57	101	21.5	5.95±3.62	95.94±12.38*d*
58 and above	90	19.1	5.56±3.29	89.88±13.98*e*
Test and p			F=1.143/p=0.336	*b-e between* **F=5.398/p=0.000**
Number of children				
I haven't child	100	21.3	6.44±4.47	94.49±16.16
1 child	70	14.9	6.08±3.76	96.01±15.26
2 children	138	29.4	6.02±3.26	94.69±13.20
3 children and above	162	34.5	4.56±2.93	89.34±13.85
Test and p			F=1.452/p=0.227	F=1.498/p=0.214
Educational Status				
İlliterate	52	11.1	5.09±3.54	87.48±13.11*a*
Primary School	155	33.0	6.18±3.64	94.57±13.47*b*
Middle School	68	14.5	6.66±3.72	94.22±13.26*c*
High School	85	18.1	6.24±4.21	94.90±16.87*d*
Undergraduate/Graduate	110	23.3	5.86±4.19	99.41±15.30*e*
Test and p			F=1.369/p=0.244	*a-e* **F=6.260/p=0.000**
Marital Status				
Married	363	77.3	6.07±3.81	96.01±14.35
Single	89	18.9	6.13±4.35	92.06±16.01
Divorced/widowed	18	3.8	5.55±3.25	88.33±15.82
Test and p			F=0.169/p=0.845	**F=4.466/p=0.012**
Job				
Housewife	253	53.8	5.66±3.61	94.84±13.84*a*
Government officer	117	24.9	6.79±4.13	98.38±15.37*b*
Employee	58	12.3	6.24±3.77	90.43±15.58*c*
Self-employment	23	4.9	7.69±4.35	90.34±14.30*d*
Student	19	4.1	4.52±4.76	95.10±18.58*e*
Test and p			**F=3.557/p=0.007**	*b ve c between* **F=3.540/p=0.007**
Family type				
Alone	49	10.4	5.48±4.68	94.20±15.90*a*
Nuclear family	283	60.2	5.88±3.93	97.08±14.39*b*
Extended family	138	29.4	6.65±3.45	90.91±14.59*c*
Test and p			F=2.419/p=0.090	*b ve c between* **F=8.352/p=0.000**
Income rate				
Income less than expenses	145	30.9	5.62±4.10	92.88±15.29
Income equal to expenses	255	54.3	6.31±3.69	95.98±14.41
Income higher than expenses	70	14.8	6.08±4.16	95.64±15.21
Test and p			F=1.480/p=0.229	F=2.105/p=0.123

Table 1. (continued) Socio-Demographic and COVID-19 Characteristics of Women and Comparison of the Coronavirus Anxiety Scale and COVID 19 Hygiene Scale Score Averages

Characteristics of Women	n	%	CAS Mean±SD	COVID-19 Hygiene Scale Mean±SD
Place of residence				
Village	48	10.2	6.04±4.02	87.68±14.98*a*
Town	39	8.3	6.82±3.76	96.23±11.06*b*
District	126	26.8	6.10±3.86	95.08±14.30*c*
Province	257	54.7	5.94±3.92	96.08±15.26*d*
Test and p			F=0.577/p=0.631	***a-c ve a-d between F=4.534/p=0.004***
Your spouse's employment status				
Government officer	68	18.9	6.25±3.82	99.89±14.49
Employee	93	25.8	6.16±4.11	93.82±14.20
Self-employment	81	22.5	5.98±3.94	97.38±14.73
Retired	104	28.9	6.04±3.56	94.74±13.45
Not working	14	3.9	5.21±3.16	92.78±18.13
Test and p			F=0.235/p=0.918	F=2.356/P=0.053
Chronic disease				
Yes	168	35.7	6.30±3.57	92.83±14.35
No	302	64.3	5.93±4.06	96.16±15.00
Test and p			t= 0.976/p=0.329	**t= -2.343/p=0.020**
Continuous medication use				
Yes	135	28.7	5.75±3.58	93.17±13.58
No	335	71.3	6.19±4.01	95.70±15.28
Test and p			t= -1.103/p=0.270	t= -1.676/p=0.094
Infected with COVID-19 status				
Yes	155	33.0	6.63±3.99	97.00±15.40
No	315	67.0	5.78±3.82	93.97±14.48
Test and p			**t= 2.235/p=0.026**	**t=2.089/p=0.037**
Vaccinated against COVID-19				
Yes	357	76.0	6.14±3.85	94.67±14.66
No	113	24.0	5.84±4.03	95.92±15.44
Test and p			t= 0.711/p=0.478	t= -0.777/p=0.438
Death of a family member due to COVID-19				
Yes	169	36.0	5.90±3.80	96.20±13.78
No	301	64.0	6.15±3.95	94.28±15.38
Test and p			t= -0.678/p=0.498	t=1.343/p=0.180

Table 2. Scores of the COVID-19 Hygiene Scale and its sub-dimensions of women

COVID-19 Hygiene Scale and Sub-Dimensions	Mean ±SD	Min-Max	Cronbach Alfa
Changing hygiene behaviors in the pandemic	20.60±3.52	(10-30)	.591
Home hygiene	13.76±3.10	(6-20)	.736
Social distance and wear of masks	15.62±2.40	(7-20)	.553
Shopping hygiene	15.35±3.93	(5-25)	.655
Hand hygiene	18.94±3.42	(6-25)	.768
Hygiene when coming home from outside	10.68±2.32	(4-15)	.567
COVID-19 Hygiene Scale total	94.97±14.84	(51-135)	.901

Abbreviations: SD, standard deviation; Min, minimum; Max, maximum

Table 3. Coronavirus Anxiety Scale scores of women

CAS Items	Mean ±SD	For the last two weeks											
		None		Rare, less than a day or two		Several days		More than seven days		Almost every day		CAS Total	
		n	%	n	%	n	%	n	%	n	%	n	%
1. Item	1.50±0.91	66	14.0	168	35.7	173	36.8	59	12.6	4	0.9	470	100.0
2. Item	1.27±0.91	95	20.2	202	43.0	129	27.4	39	8.3	5	1.1	470	100.0
3. Item	0.98±0.94	167	35.5	179	38.1	93	19.8	24	5.1	7	1.5	470	100.0
4. Item	1.17±0.95	121	25.7	197	41.9	111	23.6	32	6.8	9	1.9	470	100.0
5. Item	1.13±0.93	131	27.9	187	39.8	117	24.9	29	6.2	6	1.3	470	100.0
Toplam	6.06±3.89												
Cronbach Alfa	.893												

1. Item: I felt dizzy, dazed or fainted when reading or listening to news about the coronavirus.
2. Item: I had trouble falling asleep or staying asleep because I was thinking about the coronavirus.
3. Item: I felt paralyzed or frozen when I thought about the coronavirus or was exposed to this information.
4.Item: I lost interest in eating when I thought about or was exposed to information about the coronavirus.
5.Item: I felt nauseous or had stomach problems when thinking about or exposed to this information about the coronavirus.

Table 4. Correlations between Coronavirus Anxiety Scale and COVID-19 Hygiene Scale and its Subscales scores of women

	Scales And Subscales	CAS	COVID-19 hygiene behaviors total	Changing hygiene behaviors in the pandemic	Home hygiene	Social distance and wear of masks	Shopping hygiene	Hand hygiene	Hygiene when coming home from outside
	CAS	-							
	COVID-19 hygiene behaviors total	.138**	-						
	p value	.003							
	Changing hygiene behaviors in the pandemic	.130**	.838**	-					
	p values	.005	.000						
	Home hygiene	.110*	.805**	.630**	-				
	p values	.017	.000	.000					
COVID 19 Hygiene Subscales	**Social distance and wear of masks**	.046	.695**	.483**	.449**	-			
	p values	.318	.000	.000	.000				
	Shopping hygiene	.028	.813**	.592**	608**	.486**	-		
	p values	.541	.000	.000	.000	.000			
	Hand hygiene	.233**	.760**	.566**	.464**	.536**	.454**	-	
	p values	.000	.000	.000	.000	.000	.000		
	Hygiene when coming home from outside	.098*	.828**	.659**	.676**	.462**	.623**	.580**	-
	p values	.034	.000	.000	.000	.000	.000	.000	

*** Correlation is significant at the 0.01 level (2-tailed).*
* *Correlation is significant at the 0.05 level (2-tailed).*

Table 5. Predictors of Coronavirus Anxiety of Women

	B	*SE*	*β*	*t*	*p*
(Constant)	2083	1.295		1.609	.108
Changing hygiene behaviors in the pandemic	.064	.075	.058	.859	.391
Home hygiene	.106	.084	.084	1.259	.209
Social distance and wear of masks	-.162	.092	-.100	-1.760	.079
Shopping hygiene	-.108	.063	-.109	-1.718	.087
Hand hygiene	.336	.069	.295	4.859	**.000**
Hygiene when coming home from outside	-.091	.120	-.054	-.754	.451

$R=.269, R^2=.072, F=6.026, p<0.01$

Discussion cont.

A study of Polish adolescents by Głąbska et al. (2020) found that hand washing behavior increased during the COVID-19 pandemic compared to before the pandemic; however, there was still a need for hand hygiene education.

A study of adults aged 85 years and older in Japan by Arai et al. (2021) found hand washing frequency increased during the first wave of the COVID-19 pandemic and this increase was highest among women. Due to individuals who have had COVID-19 knowing the care process and severity of the disease, it is thought they attach more importance to use of masks and additional hygiene behavior compared to other individuals (Kocabas et al., 2021).

Limitations of the study: This research was performed with women attending clinics in two state hospitals and education-research hospital in a single province in the Black Sea region of Turkey. The results can only be generalized to this sample.

Conclusion: In conclusion, in our study, coronavirus anxiety was positively correlated with COVID 19 hygiene, changing hygiene behaviors, home hygiene, hand hygiene, and hygiene when coming home from outside. Coronavirus anxiety was found to be a predictive factor for hand hygiene. It is recommended to perform advanced studies with different samples and in different countries about coronavirus anxiety and hygiene behavior.

Just as the COVID-19 pandemic affected physical health, it also affected mental health. Women receiving training or information about transmission routes and protective methods during the pandemic may ensure continuity of hygiene behavior. It is thought that determining the psychological states and hygiene attitudes of women receiving treatment and care in health institutions during the pandemic will guide health professionals in planning interventions and developing governments' health care services and policies.The global pandemic caused changes in anxiety levels and hand hygiene behavior of all women and considering repeated behavior changes may cause anxiety disorder and obsessive compulsive disorder at more advanced levels, it is recommended to organize psychoeducation, web-based cognitive interventions and programs in publications/media organizations for women.

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