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ORIGINAL ARTICLE

Determination of the Relationship Between the Coronavirus-2019 Phobia Level and Hygiene Behaviors of Nurses

Hemşirelerin Koronavirüs-2019 Fobi Düzeyleri ile Hijyen Davranışları Arasındaki İlişkinin Belirlenmesi

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Abstract

Objective: Nurses are in the high-risk group in terms of catching Coronavirus disease-2019 (COVID-19) and infecting their families/relatives and society, as they take part in the diagnosis, treatment and care practices of individuals. Therefore, they are afraid and worried about catching the disease and infecting their families/relatives. During the COVID-19, nurses tried to protect both themselves and their families/relatives from the disease by taking personal protective and general hygiene measures protect themselves and to minimize the transmission routes of the coronavirus. The purpose of this study was to determine the relationship between the COVID-19 phobia level of nurses and their hygiene behaviors.

Method: The descriptive and correlation study was carried out with 287 nurses between July-November, 2021. Data were collected using online data collection tools "descriptive information form", COVID-19 phobia (CP19-S)" and "COVID-19 hygiene" scales. Cronbach's alpha values of the scales are respectively; it was found as 0.959 and 0.963.

Results: It was determined that the relationships between the total and sub-dimensions of the CP19-S and COVID-19 hygiene scale were examined; correlation coefficients were positive, varying between 0.213 and 0.401, and were found to be weak or moderate in terms of the strength of the relationships.

Conclusion: It was determined that when the total score from the CP19-S scale increased, the COVID-19 hygiene scale score also increased. It is recommended that the study be conducted in larger sample groups and that nurses should be taught how to cope with COVID-19 phobia.

Keywords: COVID-19, coronaphobia, nurse, hygiene

Öz

Amaç: Hemşireler, bireylerin tanı, tedavi ve bakım uygulamalarında yer aldıkları için Koronavirüs hastalığı-2019'a (COVID-19) yakalanma ve aile/yakınlarına ve topluma bulaştırma açısından yüksek risk grubunda yer almaktadır. Bu nedenle hastalığa yakalanmaktan ve ailelerine/akrabalarına bulaştırmaktan korkmakta ve endişe duymaktadırlar. COVID-19 sürecinde hemşireler kendilerini korumak ve koronavirüsün bulaşma yollarını en aza indirmek için kişisel koruyucu ve genel hijyen önlemlerini alarak hem kendilerini hem de ailelerini/yakınlarını hastalıktan korumaya çalıştılar. Bu çalışmanın amacı hemşirelerin COVID-19 fobi düzeyleri ile hijyen davranışları arasındaki ilişkiyi belirlemektir.

Yöntem: Tanımlayıcı ve ilişki arayıcı bu çalışma, Temmuz-Kasım 2021 tarihleri arasında 287 hemşire ile gerçekleştirildi. Veriler çevrimiçi veri toplama araçları olan "tanımlayıcı bilgi formu", COVID-19 fobisi (CP19-S)" ve "COVID-19 hijyeni" ölçekleri kullanılarak toplandı. Ölçeklerin Cronbach alfa değerleri sırasıyla; 0,959 ve 0,963 olarak bulundu.

Bulgular: CP19-S ve COVID-19 hijyen ölçeğinin toplam ve alt boyutları arasındaki ilişkilerin incelendiği; korelasyon katsayıları 0,213 ile 0,401 arasında ve pozitif, ilişkilerin gücü açısından zayıf veya orta düzeyde olduğu bulundu.

Sonuç: CP19-S ölçeğinden alınan toplam puan arttıkça COVID-19 hijyen ölçeği puanının da arttığı belirlendi. Araştırmanın daha geniş örneklem gruplarında yapılması ve hemşirelere COVID-19 fobisi ile baş etme yöntemlerinin öğretilmesi önerilmektedir.

Anahtar Kelimeler: COVID-19, koronafobi, hemşire, hijyen

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Introduction

Coronavirus disease-2019 (COVID-19) is an infectious respiratory disease caused by severe acute respiratory syndrome coronavirus 2 (1,2). At the beginning of December 2019, several pneumonia cases of unknown etiology were reported in the city of Wuhan, Hubei province. In January 2020, a new coronavirus was detected in a patient's throat swab by the Chinese Center for Disease Control and Prevention, and later this disease was named 2019-nCoV by the World Health Organization (WHO) (2,3). The first COVID-19 case in our country was reported by the Ministry of Health on March 10, 2020, and a pandemic was declared by WHO on March 11, 2020 (2).

Since the COVID-19 disease has not yet been fully controlled in the world and in our country, cases and deaths continue to be seen. Pandemics that affect public health on a universal scale affect individuals not only physiologically, but also psychologically, socially and economically. Various psychological problems such as fear, panic and phobia are seen in individuals. It has been reported in the literature that such pandemics affect people negatively and cause psychological problems such as fear and anxiety disorders (4,5). In addition, frequent exposure to news about COVID-19 in written, visual and social media increases people's anxiety and fear levels. This situation affects the whole society and increases the incidence of mental disorders such as anxiety, depression and acute stress disorder in nurses who play an active role during the fight against the pandemic (5,6).

Nurses are in the high-risk group in terms of catching the disease and transmitting it to their families/relatives and the community, as they play a role in the diagnosis, treatment and care practices of individuals with COVID-19. As a matter of fact, many nurses caught COVID-19, died due to this disease. Therefore, nurses have fear and anxiety about contracting the disease and infecting their families/relatives (7,8). Healthcare workers in Wuhan, where the pandemic started, are faced with problems such as high-risk of infection and inadequate protection against contamination, overwork, hopelessness, not being able to meet with their families and burnout, which results in mental health problems such as stress, anxiety, depressive symptoms, anger and fear (9).

The transmission of coronavirus from person to person through droplets and these infected droplets hanging on surfaces, and uninfected individuals carrying their hands to the mouth, nose or eye mucosa after contacting these surfaces accelerate the spread of the disease (10). For this reason, it is recommended that individuals increase their individual hygiene measures and avoid environments with close contact in order to protect themselves from the disease (11). During the COVID-19 pandemic, nurses tried to protect both themselves and their families/relatives from the disease by taking personal protective and general hygiene measures in order to protect themselves from the pandemic and to minimize the transmission routes of the coronavirus (12).

Main Points

- During the pandemic process, as with all individuals, nurses tried to protect themselves and their families/relatives from the disease by taking personal protective and general hygiene measures in order to protect themselves from the pandemic and to minimize the transmission routes of the Coronavirus disease-2019 (COVID-19).
- In the study; it was determined that the only variable affecting the COVID-19 phobia score of the nurses was their hygiene habits, and as the phobia scores of the nurses increased, they gave more importance to personal and general hygiene measures.
- In line with this result; it is recommended that nurses be supported psychologically in order to cope with COVID-19 phobia.

Although there is no study in the literature on determining the level of phobia of nurses related to COVID-19 disease, as a descriptive-relationship-seeking study to determine the relationship between the COVID-19 phobia level and hygiene behaviors of nurses working in health institutions.

In the literature, no study has been found to determine the level of phobia of nurses related to COVID-19 disease. There are limited studies on the evaluation of hygiene behaviors conducted only on nursing students (10,13). Therefore, the aim of this study was to determine the relationship between the COVID-19 phobia nurses and their hygiene behavior.

Research Questions

1. What is the COVID-19 phobia level and hygiene behaviors of nurses?

2. What is the correlation between nurses' COVID-19 phobia levels and hygiene behaviors?

Material and Methods

Design

It was planned as a descriptive and correlation study.

Sample

The population of the study consisted of nurses who were actively working in any health institution during the COVID-19 pandemic in Turkey. The sample of the study was carried out with 287 nurses who were actively working in any health institution between 1 July and 1 November 2021, who agreed to participate in the research and met the inclusion criteria of the study. Snowball sampling technique, one of the non-probability sampling methods, was used. Snowball sampling is used when the boundaries and units of the population cannot be determined precisely. Some form of connection is made to one of the units in the population to make a snowball sampling. With the help of this contact person, the second person is reached, and with the second contact, the third person is reached. Thus, like the snowball growth, the number of units of the sample also grows. Then, with the help of the contact person, another person is contacted, and then another person is contacted in the same way. Hence, the sample is enlarged as a snowball effect (14).

The analysis suggested for relational studies, which is used to determine the factors that are decisive in calculating the sample size, was used. Considering the number of independent variables, the study was planned to be completed after 285 nurses were recruited according to the parameters 0.05 significance value, 95% power and 0.15 effect size (15). The study was completed with the participation of 287 nurses.

Inclusion criteria: Being over the age of 18, working actively in any health institution during the COVID-19 outbreak and volunteering.

Exclusion criteria: Not to work in any health institution during the COVID-19 outbreak.

Data Collection Tools

In the study, the data collected by the researchers were in line with the literature (10,13) online data collection tools "personal description form", COVID-19 phobia (CP19-S)" and "COVID-19 hygiene" scales.

Personal description form: There are 17 questions in the form, such as the age, gender, education level, chronic disease status, and COVID-19 status of the nurses.

CP19-S: It is a 5-point Likert-type and 20-item self-assessment scale developed to measure the phobia that may develop against the Coronavirus by Arpaci et al. (5) scale items; it is evaluated between 1 "strongly disagree" and 5 "strongly agree". Items 1, 5, 9, 13, 17, and 20 psychological sub-dimension; items 2. 6. 10. 14. and 18. Somatic sub-dimension; 3. 7. 11. articles 15 and 19. Social sub-dimension; 4. items 8, 12 and 16 measure the economic sub-dimension. While the sub-dimension scores are obtained by the sum of the answers given to the items belonging to that sub-dimension; the total C19P-S score is obtained by the sum of the sub-dimension scores and ranges from 20 to 100 points. Higher scores indicate height in lower dimensions and general corona phobia. Arpaci et al. (5) while the Cronbach's alpha value was reported as 0.925 in the scale development study conducted by, it was found as 0.959 in the study.

COVID-19 hygiene scale: It is a 5-point Likert-type and 27-item self-assessment scale developed by Çiçek et al. (16) to determine the personal and general hygiene measures that individuals take to protect themselves from the COVID-19 pandemic and to minimize the transmission routes of the coronavirus. Scale items were evaluated between 1 "never" and 5 "always". The 7^{th}, 11^{th}, 12^{th}, 14^{th}, 21^{st} and 27^{th} items included the "changing hygiene behaviors" sub-dimension, the 16^{th}, 18^{th}, 19^{th} and 20^{th} items included the "home hygiene" sub-dimension, 1^{st}, 2^{nd}, 3^{rd} and 25^{th} items "social distancing and mask use" sub-dimension, 15^{th}, 22^{nd}, 23^{rd}, 24^{th} and 26^{th} items "shopping hygiene" sub-dimension, 4^{th}, 5^{th}, 6^{th}, 8^{th} and items 9 measure "hand hygiene" and items 10, 13 and 17 measure "hygiene when coming home from outside" sub-dimension. The lowest score that can be obtained from the scale is 27, and the highest score is 135, and the high score indicates that individuals carry out personal and general hygiene measures and attach great importance to these measures. While the Cronbach's alpha value was reported as 0.908 in the scale development study conducted by Çiçek et al. (16) it was found as 0.963 in the study.

Data Collection

The nurses participating in the study were reached using the snowball sampling method. The link address for the data collection form was sent to the e-mail addresses or social media accounts of the nurses who will participate in the study. It was requested that the data collection form be forwarded to other nurses who met the inclusion criteria of the study. With the help of the contacted nurse, another nurse was reached, and then another nurse was reached in the same way. The data collection process was continued until the number of nurses to be included in the study was reached. On the entry page of the data collection form, the nurses who will participate in the study were informed about the purpose of the study and the principle of voluntary participation. Nurses who gave consent to the informed consent form were included in the study. Filling out the data collection form takes approximately 10 minutes.

Data were collected online in order to protect the health of the participants due to the ongoing pandemic, and to reach the participants more easily because the research population is Turkey in general.

Statistical Analysis

Data analysis was performed with SPSS 25.0 (Statistical Packages for the Social Sciences, Armonk, NY: IBM Corp. 2017) program. In the evaluation of the data, mean, standard deviation, median, frequency, percentage, minimum and maximum were used from descriptive statistics. Before examining the differences according to the socio-demographic variables regarding the total and sub-dimension scores of the scales, their conformity to the normal distribution was examined with the Kolmogorov-Smirnov test. Non-parametric tests, Mann-Whitney U test and Kruskal-Wallis test, were used to analyze the differences between groups, since many scores did not fit the normal distribution according to the groups. After Kruskal-Wallis test, Dunn-Bonferroni test was applied as a post-hoc test, and the results were evaluated at 95% confidence interval and $p<0.05$ significance level.

Ethical Consideration

Ethical permission for the research from Haliç University Non-Interventional Research Ethics Committee (date: 05.04.2021 and 2021-07-40), work permission from the Scientific Research Platform (2021-06-19T23_39_30), scale usage permission from the authors and participating in the research written informed consent was obtained from the nurses.

Results

According to their socio-demographic characteristics, 91.3% of the nurses are women, 38.3% are 24 years old and younger, 65.1% are undergraduate graduates, 56.8% are single, 28.9% have children. It was claimed that 57.5% of them had income equal to their expenses, 76.7% of them lived in the Marmara Region. According to their working status; it was determined that 47.4% of them were working in the state and 82.2% were working in clinics, and surgery + COVID-19 and intensive care clinics were prominent among the clinics studied. According to their working experience; it was found that 47% of them worked between 1-5 years. It was ascertained that 16% of the participants had a chronic disease, 39.7% had COVID-19, 89.2% had their relatives diagnosed with COVID-19, and 53% of the diagnosed individuals were family members. Although the rate of nurses who lost their relatives due to COVID-19 was 30%, it was determined that 8% of the degree of closeness was related (Table 1).

Cronbach's alpha coefficient was used to measure the reliability of the total and scale sub-dimensions of the CP19-S scale and COVID-19 hygiene scale included in the study. When the Cronbach alpha reliability coefficients in the total and sub-dimensions of the CP19-S scale were examined; it was detected that it varied between 0.850-0.959, and the COVID-19 hygiene scale ranged between 0.801-0.963. According to the coefficients determined, it is seen that the internal consistency of both scales is quite reliable.

Just as soon as the relations between the total and sub-dimensions of the CP19-S scale for nurses and the COVID-19 hygiene scale were examined; correlation coefficients showing statistically significant relationships appear as weak or moderate in terms of the strength of the positive correlations, varying between 0.213 and 0.401.

Positive relationships show that as the score of one of the scales increases, the score of the other also increases (Table 2).

The total score obtained by the nurses from the scale was 47.96±17.4, and it can be said that the level of phobia is high. The socio-demographic characteristics of nurses include age, marital status, income level, education level, region of residence, clinic worked, duration of work, history of chronic illness and COVID-19 disease, as well as CP19-S scale total score, psychological sub-dimension, somatic sub-dimension, and there is no statistically significant difference between them in terms of social and economic sub-dimensions ($p>0.05$).

With nurses having children; while there was no statistically significant difference between them in terms of CP19-S scale total score, psychological sub-dimension, social sub-dimension and economic sub-dimensions ($p>0.05$), there was no statistically significant difference in somatic sub-dimension ($p<0.05$). The CP19-S scale mean score of those who had children was found to be higher than those who did not have children.

Conforming to the institution where the nurses work; while there was no statistically significant difference in terms of CP19-S scale total score and psychological sub-dimension ($p>0.05$), there was a statistically significant difference in terms of somatic sub-dimension, social sub-dimension and economic sub-dimension ($p<0.05$, $p<0.01$).

In the light of the results of the post-hoc test carried out to find the groups that make a difference; in the somatic sub-dimension, those who work at the university have higher values than those who work in the state or privately, those who work at the university in the social sub-dimension have higher values than those who work in the state, and those who work at the university in the economic sub-dimension have higher values than those who work privately.

Once there is no statistically significant difference in terms of the social sub-dimension of the CP19-S scale according to the position the nurses work in ($p>0.05$), there is a statistically significant difference in terms of the scale total score, psychological sub-dimension, somatic sub-dimension and economic sub-dimension ($p<0.05$). It was found that the mean scores of those working in administrative units had higher values than those working in clinical units.

The total score of the nurses from the COVID-19 hygiene scale is 98.71±23.27, and high scores indicate that individuals take personal and general hygiene measures and attach great importance to these measures. Between socio-demographic characteristics of nurses (marital status, education level, income status, having children, working institution, working position, clinic, working time, chronic disease history, and having COVID-19 disease) and total COVID-19 hygiene scale scores were compared and there is no statistically significant difference ($p>0.05$).

As claimed by the age groups of the nurses; while there was no statistically significant difference in terms of COVID-19 hygiene scale total score, social distance and mask use sub-dimension, shopping hygiene sub-dimension, hand hygiene sub-dimension ($p>0.05$), changing hygiene sub-dimension, home hygiene sub-dimension, outside-to-home There is a statistically significant difference in terms of hygiene sub-dimensions ($p<0.05$).

According to the results of the post-hoc test carried out to find the groups that make a difference; in the changing hygiene sub-dimension, the 25-29 and 30-34 age groups compared to the 24 and below age groups, in the home hygiene sub-dimension, the 25-29 age group compared to the 24 and below age group, and the 30-34 age group compared to the 35 and over age group in the hygiene sub-dimension when coming home from outside. found to have high values.

Table 1.
Introductory Characteristics of the Nurses (n=287)

Characteristics		***n***	***%***
Sex	Female	262	91.3
	Male	25	8.7
Age range	24 years and younger	110	38.3
	25-29 years old	84	29.3
	30-34 years old	35	12.2
	35 years and older	58	20.3
Education	Health vocational high school associate degree	78	27.2
	Undergraudate	161	56.1
	Graudate	48	16.7
Marital status	Single	163	56.8
	Maried	124	43.2
Status of having a child	No	204	71.1
	Yes	83	28.9
Income level	Income less than expenses	75	26.1
	Income equals expenses	165	57.5
	Income more than expenses	47	16.4
Living district	Marmara district	220	76.7
	Other district	67	23.3
Employed institution	State	136	47.4
	Private	108	37.6
	University	43	15.0
Position held	Clinic	236	82.2
	Administrative	51	17.8
Practiced clinic	Surgical and COVID clinic	63	22.0
	Intensive care unit	54	18.8
	Other (emergency, policlinic, administrative) clinics	47	16.4
	Operation room	46	16.0
	Obstetrics, gynecology and child clinics	43	15.0
	Internal medicine	34	11.8
Work experience	1 year and less	44	15.3
	1-5 years	135	47.0
	More than 5 years	108	37.6
Chronic disease history	Yes	46	16.0
	No	241	84.0
Infected with COVID in the past	Yes	114	39.7
	No	173	60.3
Presence of a family member infected with COVID-19 in the past	Yes	256	89.2
	No	31	10.8
COVID-19 infection by the proximity	Family member	152	53.0
	Relative	87	30.3
	Colleague	109	38
	Friend	87	30.3
	Neighbour	57	19.9
Presence of deceased relatives due to COVID-19	Yes	86	30.0
	No	201	70.0
Proximity of the person who deceased due to COVID-19	Family member	15	5.2
	Relative	23	8.0
	Colleague	15	5.2
	Friend	7	2.4
	Neighbour	8	2.8

COVID-19=Coronavirus disease-2019

Table 2.
Relationships Between Total and Sub-dimensions of the COVID-19 Phobia Scale and COVID-19 Hygiene Scale

		COVID-19 hygiene scale total	Changing hygiene subdimension	Domestic hygiene subdimension	Social distancing and mask use subdimension	Shopping hygiene subdimension	Hand hygiene subdimension	Hygiene sub-dimension when coming home from outside
COVID-19 phobia scale	rho	0.350	0.326	0.251	0.351	0.321	0.244	0.276
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Psychological sub-dimension	rho	0.329	0.263	0.240	0.401	0.301	0.265	0.246
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Somatic sub-dimension	rho	0.295	0.337	0.223	0.220	0.251	0.164	0.263
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.005**	0.000**
Social sub-dimension	rho	0.340	0.316	0.233	0.330	0.317	0.230	0.273
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Economic sub-dimension	rho	0.352	0.379	0.262	0.261	0.308	0.213	0.302
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**

*rho=Spearman Rho correlation coefficient, **p<0.01, COVID-19=Coronavirus disease-2019*

While there was no statistically significant difference in terms of the changing hygiene sub-dimension, home hygiene sub-dimension, and hand hygiene sub-dimension according to the region where the nurses live (p>0.05), the hygiene scale total score, social distance and mask use sub-dimension, shopping hygiene sub-dimension, there is a statistically significant difference in terms of hygiene sub-dimensions when coming home from outside (p<0.05). It was found that those living in non-Marmara Regions had higher average evaluations than those living in the Marmara Region.

When the regression analysis was performed to determine the effect of the independent variables on the dependent variable, it was determined that the only variable effective on the COVID-19 hygiene scale score was the score obtained from the CP19-S scale, and the hygiene score increased by 0.568 points with an increase in the score.

Discussion

Epidemics such as severe acute respiratory syndrome, middle east respiratory syndrome and Ebola, which have been seen recently, have spread all over the world from the countries where they were first seen (17). Epidemics turn into a crisis because they not only threaten the health of individuals, but also negatively affect daily life, require taking various precautions, and lead to an increase in the number of patients who need treatment (18).

Crises cause physical, cognitive, emotional and behavioral reactions in individuals such as anxiety, feeling of being unable to cope, depression, fear of harming themselves and their loved ones, uneasiness and changes in rituals (19). As in other epidemics, COVID-19 has affected individuals in many aspects such as health, psychology, social interaction and economy from the moment it was declared a pandemic by WHO (2) to the present (20,21). However, the health workers who were at the forefront of the COVID-19 pandemic, who worked for a long time, had frequent contact with infected individuals, had a high-risk of transmitting the disease to their families and loved ones, and who experienced fatigue and psychological distress, were particularly affected by this process (22,23).

Coronaphobia is a special type of phobia defined as specific to COVID-19 disease and accepted in diagnostic and statistical manual of mental disorders-5. The high scores indicate the height in the lower dimensions and general coronaphobia (5). Healthcare workers working with patients who are suspected and/or positive for COVID-19 have a high-risk of being infected with the coronavirus. In a study from China, it is reported that the fear, anxiety and depression values of healthcare personnel working with patients with suspected and/or positive COVID-19 were found to be higher than administrative personnel (24). In another study, when the COVID-19 phobia levels of 172 health workers (physicians, nurses and allied health workers) were evaluated with the CP19-S scale, the total score they got was determined as

50.1±17.3 (25). Although the total score of the nurses from the CP19-S scale in the research was 47.96±17.4, it can be interpreted that the nurses have moderate coronaphobia. It can be said that the total score of the health workers from the scale and the total score of the nurses in the research are similar.

In the light of Oktay Arslan's et al. (25) study, it was reported that no statistically significant difference was found when the C19P-S scale total and subscale scores and the socio-demographic characteristics (such as age, gender, marital status and chronic disease history) were compared (p>0.05). In the study, it was determined that there was no statistically significant difference between the socio-demographic characteristics of the nurses and the total score and sub-dimension scores of the C19P-S scale (p>0.05).

Oktay Arslan et al. (25) in their study, it was stated that healthcare professionals working in the intensive care unit had the highest C19P-S scale total and subscale scores. In the research, it was no statistically significant difference in terms of total score and sub-dimension scores with the clinics where the nurses work (p>0.05). The difference between the results of the research and the literature may be due to the fact that the study data were collected at a time when the pandemic was under control and the number of cases was decreasing. Another reason is that intensive care professionals are in constant and close contact with patients suspected and/or positive COVID-19, being exposed to a high-risk of contamination, heavy workload and death, can increase the level of coronaphobia.

In the literature it is stated that healthcare workers who are in direct contact with COVID-19 patients have significantly higher anxiety/anxiety scores than those who do not (24,26,27). While there was no statistically significant difference in the social sub-dimension of the C19P-S scale (p>0.05) in the research, there was a statistically significant difference in scale total score, psychological sub-dimension, somatic sub-dimension and economic sub-dimension (p<0.05). It was found that the average scores of employees in administrative units were higher than those working in clinical units. The result of the study does not show parallelism with the literature. Amin's et al. (28) study reported that having a child is associated with COVID-19 anxiety. While there was a statistically significant difference in the somatic sub-dimension according to having a child in the reseach (p<0.05), no statistically significant difference was found in the total score, psychological, social and economic sub-dimension (p>0.05). The average score of those who have children is higher than those without children. The results are similar to Amin's et al. (28) study. It can be said that those who have children are afraid and worried about infecting their children.

To control the pandemic and slow the spread of COVID-19, countries have had to implement individual and environmental hygiene measures, as well as practices such as social isolation and quarantine (29). Washing hands with soap and water for personal hygiene or using ≥60% alcohol-containing hand sanitizers in the absence of soap and water are some of the critical measures recommended (30).

Most of the studies reported in the literature are aimed at determining the change in hand hygiene habits of health workers, nurses and students studying in health-related departments and examining the use of personal protective equipment during the pandemic period. A study examining the importance of personal and general hygiene of health professionals together has not been found in the literature, and it is thought to be the first study in which the COVID-19 hygiene scale was used on healthcare workers and/or nurses. For this reason, the research results were compared with two different studies using the COVID-19 hygiene scale.

Aydın et al. (31) in their studies, the COVID-19 hygiene scale score of the participants was 94.62±26.56, Çiçek et al. (32) in their stuides reported it as 112.31±15.46. As a result of the research Aydın et al. (31) is similar to their studies, the total score of the nurses from the COVID-19 hygiene scale was 98.71±23.27. High scores indicate that individuals take personal and general hygiene measures and attach great importance to these measures.

In the research, no statistically significant difference was found between the socio-demographic characteristics of the nurses (marital status, education level, income status, having children, working institution, position, clinic worked, duration of work, history of chronic illness and having COVID-19 disease) and the COVID-19 hygiene scale score (p>0.05).

Uğurlu's et al. (33) in their study with 1660 participants to evaluate the knowledge and attitude of the Turkish society on handwashing during the COVID-19 pandemic, they stated that the frequency of handwashing increased. The relationship between socio-demographic characteristics and handwashing habits of adults in the United States of America was examined. It was stated that who reported less concern about Coronavirus, had no experience with the disease, men and younger participants compared to women, washed their hands and used hand antiseptics at a lower rate (34). In addition another study reported a significant difference between age and hand hygiene sub-dimension. It has been stated that the level of exhibiting hand hygiene behavior is lower under the age of 34 year and the age of 65 and over is higher (p<0.05) (32). Contrary to previous studies in the research (32,34) no statistically significant difference was found between the age of nurses and the "hand hygiene" sub-dimension.

Aydın et al. (31) In their studies, individuals belonging to the 18-33 years age group had significantly higher hand hygiene scores than the other age groups (p<0.05). Unlike the study, there was no statistically significant difference in hand hygiene sub-dimension according to the age groups of the nurses in the research.

Aydın et al. (31) in their studies, there was no significant difference in the hygiene scores as per the participants' marital status, education level, income level, employment status, COVID-19 diagnosis. Unlike the study, a statistically significant difference was found in the sub-dimensions of "changing hygiene", "home hygiene" and "hygiene coming home from outside" ($p<0.05$). According to "changing hygiene" sub-dimension, it was stated that the 25-29 and 30-34 age groups have higher dimension values than the 24 years old and below. According to "home hygiene" sub-dimension, the 25-29 age group has higher values than the 24 and under age group. According to "hygiene when you come home" dimension, the 30-34 age group had higher scores than the 35 and over age.

There was no statistically significant difference in the "social distance and mask use" sub-dimension, "shopping hygiene" sub-dimension and "hand hygiene" sub-dimensions in this research. It is thought that giving more importance to hand hygiene, social distance and mask use, and hygiene measures during and after shopping to protect their families/people the live with from the disease may lead to this result. In addition, according to the statistically significant result of the research, it can be concluded that as the age increases, the nurses want to pay more attention to personal and general hygiene measures to protect the health of themselves, their families/relatives/the people they live with.

There was no statistically significant difference in terms of hygiene, home hygiene, hand hygiene sub-dimension according to the region where the nurses live ($p>0.05$). A statistically significant difference was found in terms of hygiene scale total score, social distance and mask use, shopping hygiene, when coming home from outside sub-dimensions ($p<0.05$). The average of the evaluation of the people living in the non-Marmara district is higher than the ones living in the Marmara district. In the studies conducted on this subject in the literature, comparisons were made not according to the region they lived in, but according to the place where they live. Haas et al. (35) in their studies; it is reported that individuals living in villages/towns, districts and provinces pay more attention to home hygiene than those living in metropolitan areas in order to protect themselves from the pandemic, while those living in metropolitan areas attach more importance to hand hygiene than those living in other places. As the Marmara district has the largest metropolitan area and the most densely populated region in Turkey, the results of the study were obtained by Haas et al. (35). When compared with the research, it is seen that the results do not show parallelism with each other. It is thought that in the research, the fact that nurses living in the Marmara district receive support in carrying out domestic activities (including cleaning and maintenance of the house, vacuuming, dusting, laundry, etc.) and their active participation in working life may be effective in the absence of difference in the sub-dimension of home hygiene.

Study Limitations

The results obtained from the study can only be generalized to the nurses who participated in this study. In addition, it is thought that the nurses invited by the researchers to participate mostly from a single region, the reduction in restrictions in the world and Turkey at the time of data collection, more information about the disease, and the widespread application of vaccination to the community may affect the results.

Conclusion

The COVID-19 phobia score is the only variable that affects hygiene habits, and an increase of one point in the phobia score increases the other scale score by 0.568 points. It is seen that the higher the phobia scores of the nurses, the more importance they attach to personal and general hygiene measures. In line with the results; it is recommended that the study be conducted in larger sample groups and that nurses should be provided with psychological support to cope with COVID-19 phobia.

Ethics Committee Approval: Ethical permission for the research from Haliç University Non-Interventional Research Ethics Committee (date: 05.04.2021 and 2021-07-40), work permission from the Scientific Research Platform (2021-06-19T23_39_30).

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References

1. Çelik B, Yasak K, Damar HT, Umar DÇ, Öğce F. COVID-19 salgınında ameliyathane ve vaka yönetimi. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi 2020;23(2):331-342. [Crossref]
2. Gök AFK, Eryılmaz M, Özmen MM, Alimoğlu O, Ertekin C, Kurtoğlu MH. Recommendations for trauma and emergency general surgery practice during COVID-19 pandemic. Ulus Travma Acil Cerrahi Derg 2020;26(3):335-342. [Crossref]
3. Karaca AS, Özmen MM, Uçar AD, Yastı AÇ, Demirer, S. General surgery operating room practice in patients with COVID-19. Turk J Surg 22020;36(1):I-V. [Crossref]
4. Altun Y. Covid Anxiety and Hygiene Behaviours During the Covid-19 Pandemic. STED 2020;29(5):312-317. [Crossref]
5. Arpaci I, Karataş K, Baloğlu M. The development and initial tests for the psychometric properties of the COVID-19 Phobia Scale (C19P-S). Personality and Individual Differences 2020;164:110108. [Crossref]

6. Jackson D, Bradbury-Jones C, Baptiste D, Gelling L, Morin K, Neville S, et al. Life in the pandemic: Some reflections on nursing in the context of COVID-19. J Clin Nurs 2020;29:2041-2043. [Crossref]
7. Feng MC, Wu HC, Lin HT, Lei L, Chao CL, Lu CM, et al. Exploring the stress, psychological distress, and stress-relief strategies of Taiwan nursing staffs facing the global outbreak of COVID-19. Hu Li Za Zhi 2020;67(3):64-74. [Crossref]
8. Walton M, Murray E, Christian MD. Mental health care for medical staff and affiliated healthcare workers during the COVID-19 pandemic. European Heart Journal: Acute Cardiovascular Care 2020;9(3):241-247. [Crossref]
9. Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, et al. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. The Lancet Psychiatry 2020;7(3):e14. [Crossref]
10. Ünal E, Özdemir A, Kaçan CY. Covid-19 pandemisinin hemşirelik öğrencilerinin beslenme ve hijyen alışkanlıklarına etkisi. Uludağ Üniversitesi Tıp Fakültesi Dergisi 2020;46(3):305-311. [Crossref]
11. Karataş Z. COVID-19 pandemisinin toplumsal etkileri, değişim ve güçlenme. Türkiye Sosyal Hizmet Araştırmaları Dergisi 2020;4(1):3-15. [Crossref]
12. Şahin B, Keskin N, Sarıtaş S, Kuzkaya T. COVID-19 kapsamında sağlık çalışanlarının maruziyet risklerinin ve enfeksiyon kontrol önlemlerine uyma durumlarının değerlendirilmesi. Türk Kamu Yönetimi Dergisi 2020;1(1):40-46. [Crossref]
13. Yüksekol ÖD, Orhan İ, Yılmaz AN. Ebelik ve hemşirelik bölümü öğrencilerinin Covid 19 salgını ile ilgili bilgi düzeyleri ve önleyici davranışları üzerine bir çalışma. Acıbadem Üniversitesi Sağlık Bilimleri Dergisi 2021;12(2):487-495. [Crossref]
14. Karagöz Y. Örnekleme Dağılımı. İçinde: SPSS 21.1 Uygulamalı Biyoistatistik. Ankara: Nobel Akademik Yayıncılık; 2014; s. 137-156.
15. Calculator: A-Priori Sample Size For Multıple Regression. Available from: https://www.danielsoper.com/statcalc/calculator.aspx?id=1. Accessed: 16.05.2021. [Crossref]
16. Çiçek B, Şahin H, Erkal S. "Covid-19 Hijyen Ölçeği": Bir ölçek geliştirme çalışması. Turkish Studies 2020;15(6):339-350. [Crossref]
17. Parıldar H. Tarihte bulaşıcı hastalık salgınları. J Tepecik Educ Res Hosp 2020;30(2):19-26. [Crossref]
18. Dizer U, Demirpek U. Blood supply in pandemics. Turkish Journal of Infection 2009;23(1):29-34. [Crossref]
19. Oflaz F. Felaketlerin psikolojik etkileri ve hemşirelik uygulaması. C.Ü Hemşirelik Yüksekokulu Dergisi 2008;12(3):70-76.
20. Dubey S, Biswas P, Ghosh R, Chatterjee S, Dubey MJ, Chatterjee S, et al. Psychosocial impact of COVID-19. Diabetes Metab Syndr 2020;14(5):779-788. [Crossref]
21. Sarkodie SA, Owusu PA. Global assessment of environment, health and economic impact of the novel coronavirus (COVID-19). Environ Dev Sustain 2021;23(4):5005-5015. [Crossref]
22. Abdel Wahed WY, Hefzy EM, Ahmed MI, Hamed NS. Assessment of Knowledge, Attitudes, and Perception of Health Care Workers Regarding COVID-19, A Cross-Sectional Study from Egypt. J Community Health 2020;45(6):1242-1251. [Crossref]
23. Elbay RY, Kurtulmuş A, Arpacıoğlu S, Karadere E. Depression, anxiety, stress levels of physicians and associated factors in Covid-19 pandemics. Psychiatry Res 2020;290:113130. [Crossref]
24. Lu W, Wang H, Lin Y, Li L. Psychological status of medical workforce during the COVID-19 pandemic: A cross-sectional study. Psychiatry Res 2020;288:112936. [Crossref]
25. Oktay Arslan B, Batum Ö, Varol Y, Şenel E, Uçar ZZ. COVID-19 phobia in healthcare workers; a cross-sectional study from a pandemic hospital. Tuberk Toraks 2021;69(2):207-216. [Crossref]
26. Abolfotouh MA, Almutairi AF, BaniMustafa AA, Hussein MA. Perception and attitude of healthcare workers in Saudi Arabia with regard to Covid-19 pandemic and potential associated predictors. BMC Infect Dis 2020;20:719. [Crossref]
27. Cabarkapa S, Nadjidai SE, Murgier J, Ng CH. The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review. Brain Behav Immun Health 2020;8:100144. [Crossref]
28. Amin F, Sharif S, Saeed R, Durrani N, Jilani D. COVID-19 pandemic-knowledge, perception, anxiety and depression among frontline doctors of Pakistan. BMC Psychiatry 2020;20(1):459. [Crossref]
29. World Health Organization [WHO]. (2020-b). Coronavirus Disease 2019 (COVID-19) Situation Report – 72. https://apps.who.int/iris/bitstream/handle/10665/331685/nCoVsitrep01Apr2020-eng.pdf Accessed: 03.11.2020. [Crossref]
30. CDC, 2019. (https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html). Accessed: 01.02.2022. [Crossref]
31. Aydın Aİ, Doğan DA, Serpici A, Atak M. Individual hygiene behaviors during the COVID-19 pandemic. Rev Esc Enferm USP 2023;56:e20220283. [Crossref]
32. Çiçek B, Şahin H, Erkal S. An Investigation Of Individuals' Personal And General Hygiene Behaviors During The Covıd-19 Pandemic Period. Elektronic Journal of Social Sciences 2021;20(80):2157-2173. [Crossref]
33. Uğurlu YK, Durgun H, Nemutlu E, Kurd O. Assessment of Individuals' Knowledge and Attitude of Social Hand Washing During Covid-19 Pandemic: The Case of Turkey. J Contemp Med 2020;10(4):617-624. [Crossref]
34. Czeisler MÉ, Garcia-Williams AG, Molinari NA, Gharpure R, Li Y, Barrett CE, et al. Demographic Characteristics, Experiences, and Beliefs Associated with Hand Hygiene Among Adults During the COVID-19 Pandemic - United States, June 24-30, 2020. MMWR Morb Mortal Wkly Rep 2020;69(41):1485-1491. [Crossref]
35. Haas R, Şekercioğlu F, Meldrum R, Young I. "I walk around like my hands are covered in mud": food safety and hand hygiene behaviours of Canadians during the COVID-19 pandemic. MedRxiv 2020. [Crossref]