

Evaluation of the Fear of Covid-19 and Hygiene Behaviors of Municipal Employees

Belediye Çalışanlarının Covid-19 Korkusu ve Hijyen Davranışlarının Değerlendirilmesi

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ABSTRACT

The study was conducted to examine the relationship between the fear of COVID-19 and the hygiene behaviors of municipal employees. The descriptive and cross-sectional this study was conducted on 283 individuals who were employees of the municipality of the southwestern region of Turkey. The COVID-19 Fear Scale and the COVID-19 Hygiene Scale were used for data collection. It was found that the COVID-19 Fear Scale total score was determined to be 21.15 ± 6.31 , and the COVID-19 Hygiene Scale score was determined to be 105.04 ± 19.76 . A positive and moderate statistically significant correlation was found between the scales ($r=0.389$; $p<.050$). The most important variables affecting COVID-19 hygiene behavior were fear in the first place (Beta=0.30), education level (Beta=0.27), and COVID-19 status of individuals (Beta=0.13 at the second place). The mean score of the COVID-19 Fear Scale was higher in married individuals, those with low education levels, those with chronic diseases, and those whose relatives were diagnosed with COVID-19. In addition, the mean score of the COVID-19 Hygiene Scale was lower in divorced individuals, those with higher education and income levels, and those whose relatives were diagnosed with COVID-19 before. It was concluded that the most important variable affecting the COVID-19 hygiene behavior was the fear of COVID-19, and as the fear of COVID-19 increased, compliance with hygiene behaviors increased.

Keywords: COVID-19, Hygiene Behavior, Fear, Pandemic, Municipality Employee, Occupational Health, Occupational Safety.

ÖZET

Çalışma, belediye çalışanlarının COVID-19 korkusu ile hijyen davranışları arasındaki ilişkiyi incelemek amacıyla yapılmıştır ve tanımlayıcı-kesitsel türdedir. Türkiye'nin güneybatı bölgesindeki 283 örneklem büyüklüğüne sahip belediye çalışanları üzerinde yapılmıştır. Veriler COVID-19 Korku Ölçeği ve COVID-19 Hijyen Ölçeği kullanılarak toplanmıştır. COVID-19 Korku Ölçeği toplam puanı 21.15 ± 6.31 , COVID-19 Hijyen Ölçeği puanı 105.04 ± 19.76 olarak belirlenmiştir. Ölçekler arasında pozitif ve orta düzeyde istatistiksel olarak anlamlı bir ilişki bulunmuştur ($r=0.389$; $p<.050$). COVID-19 hijyen davranışını etkileyen en önemli değişkenler başta korku, eğitim düzeyi ve bireylerin COVID-19 geçirme durumudur. Evli bireylerde, eğitim düzeyi düşük olanlarda, kronik hastalığı olanlarda ve yakınlarına COVID-19 tanısı konanlarda COVID-19 Korku Ölçeği puan ortalaması daha yüksek bulunmuştur. Ayrıca boşanmış bireylerde, eğitim ve gelir düzeyi yüksek olanlarda ve yakınlarına daha önce COVID-19 tanısı konanlarda COVID-19 Hijyen Ölçeği puan ortalamaları daha düşüktü. COVID-19 hijyen davranışını etkileyen en önemli değişkenin COVID-19 korkusu olduğu ve COVID-19 korkusu arttıkça hijyen davranışlarına uyumun arttığı bulunmuştur.

Anahtar Kelimeler: COVID-19, Hijyen Davranışı, Korku, Pandemi, Belediye Çalışanı, İş Sağlığı, İş Güvenliği.

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I. INTRODUCTION

The coronavirus disease 2019 (COVID-19), which first emerged in China, has spread rapidly worldwide. On March 11, 2020, the World Health Organization declared COVID-19, a novel coronavirus, a global pandemic [1]. On the “Worldometer” website, which updates the statistical information on COVID-19 in the world, the number of individuals found to be infected with the disease in the world reached 623,823,992 , and the number of individuals who lost their lives due to the disease reached 6,552,071 . In Turkey, the number of individuals infected with COVID-19 was 16,873,793, and the number of individuals who died from COVID-19 was 101,139 [2].

In addition to the risk of disease or death, the pandemic process, which is seen as the effects of epidemic diseases that concern the society at a global level from past to present, negatively affects individuals and societies psychologically, sociologically, and economically [3]. Due to the COVID-19 pandemic, individuals’ social and economic lives and close relationships have been adversely affected, and their daily habits have changed. Similar pandemics, such as H1N1, SARS, MERS, Ebola, and Zika, have previously been reported to have serious adverse effects, commonly causing fear and anxiety disorders [4]. It has been emphasized in written, visual, and social media that exposure to COVID-19 causes anxiety and fear among the public [5,6]. Studies have shown that the fear of COVID-19 can increase the damage of the disease to the person [7,8]. Fears of getting sick, losing a loved one, breaking one’s habits, being quarantined, stigmatized, unemployment, and growing isolation lead individuals to deny that they are sick and to hide the symptoms of the disease. [8,9,10]. For this reason, the level of fear in individuals is important for human and public health [9].

It is stated that one of the most important steps in reducing the anxiety and fear of being infected with the disease and preventing its transmission and spread is to comply with the hygiene rules [11]. COVID-19 is transmitted by inhaling droplets released when an infected person coughs or sneezes or by contacting their hands and then putting them on the mucous membranes of the mouth, nose, or eyes [12]. Individuals need to increase personal hygiene measures, through the use of the appropriate masks and implementation of social distancing in order to protect themselves from COVID-19 [5].

During the pandemic period, many workplaces have introduced the remote working method but unlike some occupational groups, municipal employees go to their workplaces instead of performing their duties remotely and are directly exposed to the risk of COVID-19 [13]. Employees are struggling both economically and socially against a new biological risk, COVID-19 [14]. In addition, studies have reported that during the pandemic, municipal employees increased the level of job stress and desire to leave their jobs [16-18]. Municipal employees belong to the high-risk group for COVID-19 infection. Therefore, in this study, it is important and valuable to determine the fears and hygiene behaviors of municipal employees. Determining this will contribute to exposure reduction from the infection, increase awareness against the infection, increase COVID-19 precautionary measures, and emphasize occupational health and safety during the pandemic. The study was conducted to examine the relationship between the fear of COVID-19 and the hygiene behaviors of municipal employees.

II. METHOD

A. Design and Setting

The study is descriptive and cross-sectional and was

conducted between April and December 2021 in a metropolitan municipality in the southwestern part of Turkey.

B. Sample

The study population consisted of 748 adults who were all employees of the municipality of the southwestern region of Turkey, between the ages of 18 and 65 years. The sample size was calculated to be 255 using the sample size calculator from the Sample Size Online Calculator site, with a known population sampling method and a 95% confidence interval [19, 20]. A total of 283 municipal employees who voluntarily filled out the data collection form in 1 month were included in the study. This study aimed to reach at least 255 employees, and a total of 283 municipal employees were surveyed.

C. Data Collection Tools

The data were collected electronically between April 15 and May 15, 2021, by online survey method. The Socio-demographic Data Form, "COVID-19 Fear Scale," and "COVID-19 Hygiene Scale," as described in the following, were used for data collection. The data form and scales were turned into an online survey with the support of experts who were academic members of the nursing department, and the survey link was sent to the municipality employees via e-mail by their managers. Employees were encouraged to participate in the study by reminding them twice with an interval of 15 days. Each participant filled the survey once.

1. Personal Information Form

This form developed by the researchers in line with the pertinent literature consists of eight items on the participants' socio-demographic characteristics (i.e. age, gender, marital status, education status) [4,21].

2. COVID-19 Fear Scale

The scale developed by Ahorsu et al. to measure the fear levels due to COVID-19 of participants was adapted into Turkish by Ladikli et al. [22, 23]. The scale items had high discrimination. Test-retest and criterion-related reliability findings showed that the scale had a high reliability value, and the obtained data determined that the Coronavirus Fear Scale is a valid and reliable measurement tool for the Turkish sample. Furthermore, it was concluded that it is suitable for use in future studies. The scale has seven items. Responses are rated using a 5-point Likert-type scale ranging from 1 to 5 (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree and 5 = strongly agree). The lowest score that can be obtained from the scale is 7, and the highest score is 35. A high score from the scale indicates an increased fear for COVID-19. Each item in the scale is scored between 1 and 5 points. There is no reverse scoring item on the scale. The internal consistency of the scale was 0.82 and the test-retest reliability was 0.72. The scale includes statements such as 'I am very afraid of COVID-19', 'It bothers me to think about COVID-19', 'My hands are sweaty when I think of COVID-19', and 'I am afraid of losing my life because of COVID-19'. In the study of Ladikli et al., Cronbach's alpha value of the scale was found as 0.86 [23].

3. COVID-19 Hygiene Scale

The scale developed by Çiçek et al. to measure the hygiene levels due to COVID-19 of participants [24]. The scale has 27 items and six subscales (changing hygiene behaviors, home hygiene, social distancing and mask usage, shopping hygiene, hand hygiene and hygiene when coming home from outside". The scale are rated on a 5-point Likert-type scale. The maximum and minimum possible scores to be obtained from this scale are 27 and 135, re-

spectively. A high score indicates that individuals attach great importance to personal and general hygiene measures. In the study of Çiçek et al., Cronbach's alpha value of the scale was found as 0.90 [24].

D. Statistical Analysis

SPSS (IBM SPSS Statistics version 22.0; SPSS Armonk, NY: IBM Corp) was used for statistical analysis. In the analysis of the data, the Kolmogorov Smirnov test was used to examine the normality test of this study. T-test and ANOVA were used to examine the relationship between the independent and dependent variables. The data analysis was performed using t-test in paired groups (such as: gender, getting chronic diseases etc.) and one-way analysis of variance (ANOVA) in groups of more than two (such as: age, marital status, education status etc.). Pearson correlation coefficients were used to determine the relationship between fear of COVID-19 and hygiene behaviors, and multiple linear regression analysis was used to determine the effect of independent variables (such as: gender, marital status, education status, economical status, getting chronic diseases etc on hygiene behavior. The reliability coefficients (Cronbach's alpha) of the scales were determined by reliability analysis. The results were evaluated at a 95% confidence interval. Statistical significance was defined as a p-value of 0.05 for all analyses.

III. RESULTS

The mean age (years) of the participants included in the study was 36.00 ± 8.51 (min:22, max:62). Of the participants, 65.4% were men, and 34.6% were women. The mean age of the participants was 36.00 ± 8.51 years. Moreover, 43.8% of the participants were married, 56.2 % were single. The respondents (49.8%) are both university graduates and their income is equal to their expenses. Of the participants, 84.5% were not diagnosed with COVID-

19, and 15.5% were diagnosed with the disease (Table 1).

The socio-demographic characteristics of the participants was shown in Table 1. There were statistically significant differences between marital status ($p < .001$, $F = 8.423$), education status ($p < .001$, $F = 18.115$), economic status ($p = .016$, $F = 4.194$), being diagnosed with COVID-19 ($p < .001$, $t = -4.944$) and being diagnosed of a relative with COVID-19 ($p < .001$, $t = -3.895$) and the mean scores of the COVID-19 hygiene scale ($p < .050$). There were no statistically significant differences between the age, sex, and existing chronic disease variables ($p > .050$), (Table 1).

In the present study, there were statistically significant differences between marital status ($p = .002$, $F = 6.479$), education status ($p = .002$, $F = 4.249$), presence of existing chronic diseases ($p = .008$, $t = 2.522$), their relative's diagnosis of COVID-19 ($p = .021$, $t = -2.321$) and the mean scores of the COVID-19 fear scale ($p < .050$). There were no statistically significant differences between the age, sex, economic status, and being diagnosed with COVID-19 variables ($p > .050$) (Table 1).

In the present study, the mean scores for the COVID-19 fear scale and the COVID-19 hygiene scale were 21.15 ± 6.31 (min = 7; max = 35) and 105.04 ± 19.76 (min = 47; max = 135), respectively. The mean scores for the COVID-19 hygiene sub-dimensions were "social distance and mask use" (17.47 ± 2.52), "hand hygiene" (21.11 ± 3.44), "hygiene behaviors changing with the epidemic" (11.23 ± 3.10), "home hygiene" (15.14 ± 3.65), "hygiene when coming home from outside" (11.23 ± 3.10) and "shopping hygiene" (17.30 ± 5.74), respectively (Table 2). In this study, the Cronbach's alpha values for the COVID-19 fear scale and the COVID-19 hygiene scale were found as 0.88 and 0.94, respectively.

According to the results of the Pearson correlation

analysis, there was a positive, moderately statistically significant relationship between the COVID-19 fear scale and the COVID-19 hygiene scale mean total scores and the sub-dimensions (Table 3). Correlation analysis was conducted to examine the relationship between fear of COVID-19 and hygiene behaviours of the participants. The correlation analysis revealed a positive and moderately significant relationship between the mean scores of the COVID-19 fear scale and the hygiene behaviours sub-dimension that changed during the outbreak of the COVID-19. A positive and weak moderate correlation was found between the mean scores of the COVID-19 fear scale and the COVID-19 hygiene scale and other sub-dimensions (home hygiene, social distance and mask use, shopping hygiene, hand hygiene, and hygiene when coming home from outside) (Table 3). According to the multiple linear regression analysis, it was determined that the first variable affecting the COVID-19 hygiene behavior was the COVID-19 fear level ($\beta = .30$), the second variable was the education level ($\beta = .27$), and the third variable was the being caught in COVID-19 status ($\beta = .13$) (Table 4).

IV. DISCUSSION

This study examined the relationship between the COVID-19 fear levels and hygiene behavior of municipal employees. The number of studies conducted on municipal employees during the pandemic is limited. In this study, the COVID-19 fear level among municipal employees was moderate. Moreover, similar to our study in the literature, the COVID-19 fear level among individuals working during the pandemic was moderate [18, 25]. In a study of Doğan and Düzel, the COVID-19 fear level of the working group was higher than that of the nonworking group [26]. In studies of Gencer and Sümen et al., the COVID-19 fear levels of adults were found to be moderate to high

[27, 28]. In a study of Reznik et al. on young adults, the COVID-19 fear level was low [29].

The findings of this study show that the COVID-19 fear levels of individuals are affected by some demographic variables. While the sex variable was not statistically significant in the fear scale in this study, some studies found that the COVID-19 fear level of women was significantly higher during the pandemic [29-32]. According to the literature, it is reported that women have high levels of stress, anxiety, and risk perception towards health [8, 32]. In the study of Doğan and Düzel reported that men have higher level of the fear [26]. Men were found to have a high level of fear and this was attributed to men comprising the majority of the working group, and the fear of being fired due to COVID-19 predominates. In a study by Aydin et al., similar to our study, no significance was reported between sex and fear of COVID-19 [33]. These differences in sex in the studies may be due to the age ranges, educational backgrounds, different cultures of the selected sample, and the fact that they were examined at different times during the pandemic.

In this study, no significant difference was found between the age of the participants and the fear of COVID-19. In a study by Sakıp et al. and Martínez-Lorca et al. found that fear of COVID-19 was higher in younger individuals [30, 34].

In the present study was found that the statistically significant difference was found between marital status and fear of COVID-19, and it was determined that the higher level of the fear was married participants. Similarly, in the study of Doshi et al., the group with the highest level of fear was married individuals with a rate of 46.4%. Moreover, fear is also higher among married individuals due to fear of infecting family members with the COVID-19 or

losing a family member through self-infection [32]. On the other hand Gencer and Gökmen et al., reported that single participants had a higher level of fear for COVID-19 [27, 35]. This could be ascribed to the support married couples receive from each other, while single individuals have to cope with stress alone.

There was a significant relationship between the fear of COVID-19 and education level of the individuals participating in this study. The fear scores were higher in individuals with low education levels. Similar to our study, in a study conducted on 1,499 individuals with high school or higher education in Indian society, those with high school education had the highest fear level [32]. This situation can be associated with the fact that education is a factor that facilitates the processes of accessing, understanding, and interpreting information on health issues [36]. As the education level decreases, the processes of accessing, understanding, and interpreting the right information will become more difficult, and, predictably, fear will increase as a result of erroneous information.

In the study, it was found that the hygiene behaviour levels of the participants were good and compliance with the rules was high. In the study of Altun on 240 adults, it was reported that the level of COVID-19 hygiene behavior was moderate [11]. One study described that the use of masks by nonworking individuals was found to be higher than that by working individuals [37]. In the study of Kalkan Uğurlu et al., no significant difference was noted between working and nonworking individuals in compliance with hygiene rules ($p>.050$) [38]. This study found that social distance and mask use among the COVID-19 Hygiene Scale subdimensions had the highest average scores. Our study results are compatible with the literature [39, 40].

In a study of Alicilar et al. on 1,179 individuals, the highest subdimension was hand hygiene, while in study of Altun, the highest subdimension was home hygiene [11,41]. In a study of Azlan et al., compliance with precautions was the highest in hand hygiene and the lowest in the use of masks [42]. The differences in the research results could be attributed to the following: the studies were conducted at different times during the pandemic, the measures were still uncertain at the beginning of the pandemic, and the sample groups came from different cultures.

While no significant difference was observed between the COVID-19 hygiene behavior level and the sex variable in the study, it was found that the COVID-19 hygiene behavior scores were higher in women [11,12,42]. In a parallel study on adolescents, the COVID-19 hygiene knowledge and behavior scores were found to be higher in girls [43]. Similarly, In a study of Zandian et al.on university students, women's knowledge regarding COVID-19 hygiene rules and behavioural compliance was reported to be higher than men [44].

In this study, the hygiene behavior score was higher in adults with low education levels. Similarly, it has been reported that while individuals with low education levels had more hygiene practices[12,42,45].

In our research, the hygiene behavior scores were found to be higher among low-income individuals. Similarly, in the literature, it was found that those with low incomes had higher compliance with hygiene rules, while another study found that those with higher incomes had higher compliance with hygiene rules [42,45]. Another finding of the study was that individuals who were not diagnosed with COVID-19 had a higher hygiene score. The score was lower in individuals diagnosed with COVID

-19 and have had the disease, which can be interpreted as experiencing relief as an effect of the thought that they are immune to the virus.

In this study, there was a statistically significant positive correlation between the COVID-19 Fear Scale and the COVID-19 Hygiene Scale mean scores. In a study of Altun, similar to our study, it was found that there was a significant relationship between the anxiety level of individuals and their hygiene behaviors ($p < .010$) [11]. In the study of Harper et al. found that the COVID-19 fear level triggered a behavioral change in individuals, thus increasing their compliance with COVID-19 public health measures, which supports the results [46]. It can be said that the fear of contracting the disease affects the implementation of rules for precautions. In the study of Sasaki et al. found that the COVID-19 fear level increased in employees as a result of increasing hygiene and distance measures for COVID-19 in their workplace [47].

V. CONCLUSION AND SUGGESTIONS

As a result of this study, it was determined that the fear of COVID-19 among municipal employees was at a moderate level and their hygiene behavior was at a good level. In addition, this study concluded that the most important variable affecting the COVID-19 hygiene behavior was the fear of COVID-19, and as the fear of COVID-19 increased, compliance with hygiene behaviors increased. Therefore, COVID-19 public health measures should be implemented in accordance with workplace reality. Adequate hand disinfectants, cleaning of common areas, and appropriate ventilation systems should be provided, and hygiene measures should be enforced to the employees.

VI. IMPLICATIONS OF THE STUDY

Municipal employees, who are authorized to provide

service to the society, have been forced to work mostly in public spaces which required social interaction during the pandemic process. Therefore, in order to better control the global epidemic and be equipped for its sequelae, it is important to determine the fears and hygiene behaviours of the municipal employees, who belong to the high-risk group. The epidemic process has shown the importance of data-based decision-making strategies. With the results of the study, it is necessary to support the national education/information policies and programs that determine and encourage hygienic behaviours of municipal employees, who belong to the high-risk group, to ensure compliance with protective measures during the epidemic period. It will be cost- and time-efficient for municipalities to obtain and analyse data and implement service policies based on these data. In addition, the identification of social, psychological, and behavioural factors that will increase compliance of municipal employees with the health measures, who belong to the high risk group, will contribute to social policies and programs to be created for the dissemination of behaviours for the benefit of all humanity, both during the COVID-19 pandemic and other epidemics and disasters that may occur in the future. With the results of this study, this will increase awareness regarding the preparation of these programs and policies including municipal employees. Furthermore, preventing the spread of the virus by emphasizing the psychosocial needs of municipal employees and attaching special importance to the working environment (e.g. the provision of personal protective equipment, basic hygiene and cleaning materials, rotational work, technological support, psychological support, training and awareness meetings, increase in staff number, etc.) will provide positive contributions to the screening and treatment process.

It is necessary to have an effective disaster and epidemic

response strategy in the workplace including the implementation of these policies, as individual motivation with regard to implementing protective measures is expected to decrease in employees due to pandemic fatigue, which may cause poor work performance

VII. LIMITATIONS

The data is based on the self-report of the participants and may create bias since it is a survey study. Findings and conclusions are specific to adults working in a municipality and cannot be generalized. Another limitation of the study was that non-working adults were not included in the sample group. Therefore, a comparison could not be made regarding the fear of COVID-19 and hygiene behaviors in working and non-working individuals during the pandemic period.

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REFERENCES

- [1] WHO, "Director-General's opening remarks at the media briefing on COVID19," March 2020, [updated 2022 Mar 22; cited 2022 Mar 22]. Available from: <https://www.who.int/director-speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>.
- [2] Worldometer, "COVID-19 coronavirus pandemic 2021," c2021. [updated 2022 Mar 22; cited 2022 Mar 22]. Available from: <https://www.worldometers.info/coronavirus/>
- [3] G. Tanrıverdi, Y. Gürsoy, and G. Özsezer, "Halk sağlığı hemşireliği yaklaşımıyla COVID-19 pandemisi," *HSH Dergisi*, vol. 2, no. 2, pp.126-142, 2020.
- [4] I. Arpacı, K. Karataş, and M. Baloğlu, "The development and initial tests for the psychometric properties of the COVID-19 phobia scale (C19P-S)," *Personality And Individual Differences*, vol. 164, 110108, 2020.
- [5] V. Çakır Kardeş, "Pandemi süreci ve sonrası ruhsal ve davranışsal değerlendirme," *TDO Dergisi*, vol. 4 no. 2, pp.160-169, 2020.
- [6] S. Doğan, "Üniversite öğrencilerinin COVID-19'a yazdıkları 100 mektubun incelenmesi," *TDA Dergisi*, vol. 126, no. 248, pp.25-40, 2020.
- [7] O. Hatun, A. N. Dicle, and İ. Demirci, "Koronavirüs salgınının psikolojik yansımaları ve salgınla başa çıkma," *Electronic Turkish Stud*, vol. 15, no. 4, pp. 531-534, 2020.
- [8] J. J. Van Bavel, K. Baicker, P. S. Boggio, V. Capraro, A. Cichocka, and M. Cikara, "Using social and behavioural science to support COVID-19 pandemic response," *Nature Human Behaviour*, vol. 4, no. 5, pp.460-471, 2020.
- [9] T. Ekiz, E. İlman, and E. Dönmez, "Bireylerin sağlık anksiyete düzeyleri ile COVID-19 salgını kontrol algısının karşılaştırılması," *USYSA Dergisi*, vol. 6, no. 1, pp. 139-154, 2020.
- [10] B. Pfefferbaum, and C. S. North, "Mental health and the COVID-19 pandemic," *N Engl J Med*, vol. 383, no. 6, pp. 510-512, 2020.
- [11] Y. Altun, "COVID-19 pandemisinde kaygı durumu ve hijyen davranışları," *STE Derg*, vol. 29, no. 5, pp. 312-317, 2020.
- [12] N. Dwipayanti, D. S. Lubis, and N. Harjana, "Public perception and hand hygiene behavior during COVID-19 pandemic in Indonesia," *Frontiers in Public Health*, vol 9, no. 621800, 2021.
- [13] M. N. Esin, and N. Gülyenli, "İşyerlerinde COVID-19 pandemisi: hastalık yönetiminde iş sağlığı hemşireliği," in *COVID-19 Pandemisi ve Halk Sağlığı Hemşireliği*, S. Aksayan, Ed., Ankara: Türkiye Klinikleri S. Aksayan, pp. 58-65, 2020.
- [14] A. Ağar, "Biological risk factors in working life and COVID-19," *JPHN*, vol. 3, pp. 133-40, 2020.
- [15] C. Carvalhais, M. Querido, C. C. Pereira, and J.

- Santos, "Biological risk assessment: A challenge for occupational safety and health practitioners during the COVID-19 (SARS-CoV2) pandemic" *Work (Reading, Mass.)*, vol. 69, no. 1, pp. 3–13, 2021.
- [16] S. R. Khattak, I. Saeed, S. U. Rehman, and M. Fayaz, "Impact of fear of COVID-19 pandemic on the mental health of nurses in Pakistan," *ISJR*, vol. 26, no. 5, pp. 421-435, 2021.
- [17] B. Yiğitöl, and S. Büyükmumcu, "COVID-19 korkusu, kişilik özellikleri, iş performansı ve işten ayrılma niyeti arasındaki yordayıcı ilişkilerin incelenmesi," *OPUS UTAD Derg.*, Pandemi Special Issue, pp. 3414-3447, 2021.
- [18] L. J. Labrague, and J. de Los Santos, "Fear of COVID-19, psychological distress, work satisfaction and turnover intention among frontline nurses," *J Nurs Manag*, vol. 29, no. 3, pp. 395–403, 2021.
- [19] The Survey System, *Sample size calculator*, [homepage on the Internet]. c2017 [updated 2017; cited 2020 Dec 15]. Available from: <https://www.surveysystem.com/sscalc.htm>
- [20] N. Karatas, "Sampling research," In *Erefe INursing Research Principles, Process and Methods*, 3rd ed. Ankara: Focus Offset; 2004.
- [21] Ö. Tönbul, "Koronavirüs (COVID-19) salgını sonrası 25-60 yaş arası bireylerin psikolojik dayanıklılıklarının bazı değişkenler açısından incelenmesi," *Humanistic Perspective*, vol. 2, no. 2, pp. 159-174, 2020.
- [22] D. K. Ahorsu, C. Y. Lin, V. Imani, M. Saffari, M. D. Griffiths, and A. H. Pakpour, "The fear of COVID-19 scale: development and initial validation," *ISJR*, vol. 27, pp.1-9, 2020.
- [23] N. Ladikli, E. Bahadır, F. Yumuşak, H. Akkuzu, G. Karaman, and Z. Türkkkan, "Kovid-19 korkusu ölçeği'nin Türkçe güvenilirlik ve geçerlik çalışması," *INJOSS*, vol.3, no. 2, pp. 71-80, 2021.
- [24] B. Çiçek, H. Şahin, and S. Erkal, "Covid-19 hijyen ölçeği": Bir ölçek geliştirme çalışması," *Turkish Stud*, vol.15, no. 6, pp. 340-350, 2020.
- [25] H. Katra, and N. H.Korkmaz, "Investigation of COVID-19 fear according to physical activity levels of desk workers (example from çanakkale onsekiz mart university)," *RESSJ*, vol. 8, no. 5, pp. 335-44, 2021.
- [26] M. Doğan, and B. Düzel, "Fear-anxiety levels in Covid-19," *Electronic Turkish Stud*, vol.15, no. 4, pp. 739-52, 2020.
- [27] N. Gencer, "Pandemi sürecinde bireylerin koronavirüs (Covid-19) korkusu: Çorum örneği," *USBA Dergisi*, no. 4, pp. 1153-1173, 2020.
- [28] A. Sümen, and D. Adibelli, "The effect of coronavirus (Covid-19) out break on the mental well-being and mental health of individuals," *Perspect Psychiatr Care*, vol. 57, no. 3, pp. 1041–1051, 2020.
- [29] A. Reznik, V. Gritsenko, V. Konstantinov, N. Khamenka, and R. Isralowitz, "COVID-19 fear in Eastern Europe: Validation of the fear of COVID-19 scale," *Int. J. Ment. Health Addict*, vol.19, no. 5, pp.1903–1908, 2020.
- [30] N. Sakib, A. Bhuiyan, S. Hossain, F. Al Mamun, I. Hosen, A. H. Abdullah, et al. "Psychometric validation of the Bangla fear of Covid-19 Scale: Confirmatory factor analysis and rasch analysis," *Int. J. Ment. Health Addict*, vol. 11, pp.1–12, 2020.
- [31] D. Tzur Bitan, A. Grossman-Giron, Y. Bloch, Y. Mayer, N. Shiffman, and S. Mendlovic, "Fear of COVID-19 scale: Psychometric characteristics, reliability and validity in the Israeli population," *Psychiatry Res*, vol. 289, 113100, 2021.
- [32] D. Doshi, P. Karunakar, J. R. Sukhabogi, J. S. Prasanna, and S. V. Mahajan, "Assessing coronavirus fear in Indian population using the fear of COVID-19 scale," *Int. J. Ment. Health Addict*, vol.19, no. 6, pp.2383-91, 2021.
- [33] OA. Aydın, S. Orhan, M. Gümüş, N. Kaya, and E. Mahanoğlu, "COVID-19'un nedenleri algısı ile COVID-19 korkusu arasındaki ilişki üzerine bir inceleme," *Al Farabi-Injosos*, vol.6, no. 3, pp. 9-25, 2021.
- [34] M. Martínez-Lorca, A. Martínez-Lorca, J. J. Criado-Álvarez, M. Armesilla, and J. M. Latorre, "The fear of COVID-19 scale: Validation in Spanish University students," *Psychiatry Res*, vol. 293, 113350, 2021.
- [35] A. Gökmen, Y. Toprak, and S. Sami, "A coping model for the fear of COVID-19 in the context of coping and psychological resilience," *FSMIA Dergisi*, vol. 17, pp. 513-566, 2021.
- [36] A. B. Bakan, and M. Yıldız, "21-64 Yaş grubundaki bireylerin sağlık okuryazarlık düzeylerinin belirlenmesine ilişkin bir çalışma," *Sağlık ve Toplum*, vol. 29, no. 3, pp. 33-40, 2020.
- [37] H. Kocabaş, M. İlhan, Ö. Akoğlu, R. Sarıkaya, Y. Altınsoy, and K. Gür, "Pandemi sürecinde hemşirelik öğrencileri ve yakınlarının maske kullanım davranışları," *HSH Dergisi*, vol. 3, no. 2,

- pp. 79-95, 2021.
- [38] Y. Kalkan Uğurlu, H. Durgun, E. Nemutlu, O. Kurd, "COVID-19 salgını sırasında Türk toplumunun sosyal el yıkama bilgi ve tutumunun değerlendirilmesi," *JCM*, vol. 10, no. 4, pp. 617-624, 2020.
- [39] D. K. Chu, E. A. Akl, S. Duda, K. Solo, S. Yaacoub, H. J. Schünemann, et al. "Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-Cov-2 And COVID-19: A systematic review and meta-analysis," *The Lancet (London, England)*, vol. 395. Art. no. 10242, pp. 1973–87, 2020.
- [40] F. Dehghani, F. Omid, S. Yousefinejad, and E. Taheri, "The Hierarchy of preventive measures to protect workers against the COVID-19 pandemic: A review," *Work (Reading, Mass.)*, vol. 67, no. 4, pp. 771–777, 2020.
- [41] H. E. Alıcılar, G. Güneş, and M. Çöl, "Toplumda COVID-19 pandemisiyle ilgili farkındalık, tutum ve davranışların değerlendirilmesi," *ESTÜDAM TJJPH*, vol. 5, COVID-19 Special Issue, pp. 1-16, 2020.
- [42] A. A. Azlan, M. R. Hamzah, T. J. Sern, S. H. Ayub, and E. Mohamad, "Public knowledge, attitudes and practices towards COVID-19: A cross-sectional study in Malaysia," *PloS One*, vol. 15, no. 5, Art. no. e0233668, 2020.
- [43] K. Riiser, S. Helseth, K. Haraldstad, A. Torbjørnsen, and K. R. Richardsen, "Adolescents' health literacy, health protective measures, and health-related quality of life during the COVID-19 pandemic," *PloS One*, vol.15, no. 8, Art. no. e0238161, 2020.
- [44] H. Zandian, M. Sarailoo, S. Dargahi, H. Gholizadeh, A. Dargahi, and M. Vosoughi, "Evaluation of knowledge and health behavior of university of medical sciences students about the prevention of COVID-19," *Work (Reading, Mass.)*, vol. 68, no. 3, pp. 543–549, 2021.
- [45] J. Gibson Miller, T. K. Hartman, L. Levita, A. P. Martinez, L. Mason, O. McBride, et al. "Capability, opportunity, and motivation to enact hygienic practices in the early stages of the COVID19 Outbreak in The United Kingdom," *BJHPFP*, vol. 25, no. 4, pp. 856-864, 2020.
- [46] C. A. Harper, L. P. Satchell, D. Fido, and R. D. Latzman, "Functional fear predicts public health compliance in the COVID-19 pandemic," *Int. J. Ment. Health Addict*, vol.19, pp.1875-1888, 2021.
- [47] N. Sasaki, R. Kuroda, K. Tsuno, and N. Kawakami, "Workplace responses to COVID-19 associated with mental health and work performance of employees in Japan," *JSOH*, vol. 62, no. 1, Art. no. e12134, 2020

Table 1. Comparison of scale Scores by Descriptive Characteristics of Participants (n=283)

| Variables | n (%) | COVID-19 HS M ± SD | COVID-19 FS M ± SD |
|---|------------|-----------------------|-----------------------|
| Age group (years) The average age: 36.00±8,51(min:22, max:62) | | | |
| 22-35 age | 98 (34.6) | 105.68±19.56 | 21.50±6.25 |
| 36-49 age | 90 (31.8) | 103.58±21.33 | 20.52±6.01 |
| 50 years and older | 95 (33.6) | 105.75±18.505 | 21.39±6.66 |
| | | p=.700 F=0.358 | p=.517 F=0.662 |
| Gender | | | |
| Male | 185 (65.4) | 106.14±20.62 | 20.93±6.59 |
| Famale | 98 (34.6) | 102.95±17.92 | 21.57±5.76 |
| | | p=.178 t=1.351 | p=.398 t=-0.847 |
| Marital status | | | |
| Single | 124 (43.8) | 100.78±19.73 | 19.85±6.03 |
| Married | 159 (56.2) | 108.35±19.20 | 22.16±6.36 |
| | | p<.001 ** t=-3.240 | p=.002** t=-3.117 |
| Educational Status | | | |
| Primary school | 40 (14.1) | 115.30±16.42 | 23.90±7.15 |
| Middle School | 21 (7.4) | 124.38±11.75 | 23.67±7.06 |
| High school | 51 (18.0) | 111.39±19.13 | 21.39±6.45 |
| University | 141 (49.8) | 99.49±19.53 | 20.33±5.72 |
| Postgrauate Degree | 30 (10.6) | 93.07±8.98 | 19.20±5.70 |
| | | p<.001 ** F=18.115 | p=.002** F=4.249 |
| Economical situation (from income and expense...) | | | |
| Little | 98 (34.6) | 109.10±18.27 | 21.51±6.61 |
| Equal | 141 (49.8) | 103.99±20.78 | 21.09±5.90 |
| More | 44 (15.5) | 99.34±18.07 | 20.57±6.98 |
| | | p=.016** F=4.194 | p=.704 F=0.352 |
| Do you have any chronic diseases? | | | |
| Yes | 43 (15.2) | 109.67±15.19 | 23.49±6.67 |
| No | 240 (84.8) | 104.20±20.38 | 20.73±6.17 |
| | | p=.095 t=1.677 | p=.008** t=2.522 |
| Have you had COVID-19? | | | |
| Yes | 44 (15.5) | 92.75±17.66 | 19.95±6.09 |
| No | 239 (84.5) | 107.30±19.32 | 21.37±6.34 |
| | | p<.001 ** t=-4.944 | p=.164 t=-1.409 |
| Has anyone close to you got COVID-19? | | | |
| Yes | 125 (44.2) | 100.03±18.96 | 20.19±5.87 |
| No | 158 (55.8) | 108.99±19.53 | 21.91±6.56 |
| | | p<.001 ** t=-3.895 | p=.021** t=-2.321 |

Note: t : Independent-Samples T test, F: One-Way ANOVA, FS: Fear Scale, HS: Hygiene Scale
 ** p<.05

Table 2. Distribution of COVID-19 fear scale and COVID-19 hygiene scale and sub-dimension score averages (n=283)

| Scale | Total Points M ± SD | Min-Max. | Item Score M ± SD | Min-Max. |
|---|---------------------|----------|-------------------|-----------|
| COVID-19 Fear Scale | 21.15±6.31 | 7-35 | 3.02±0.90 | 1.00-5.00 |
| COVID-19 Hygiene Scale | 105.04±19.76 | 47-135 | 3.89±0.73 | 1.74-5.00 |
| <i>Changing Hygiene Behaviors with the Pandemic</i> | 22.78±4.63 | 6-30 | 3.79±0.77 | 1.00-5.00 |
| <i>Home Hygiene</i> | 15.14±3.65 | 4-20 | 3.78±0.91 | 1.00-5.00 |
| <i>Social Distancing and Mask Use</i> | 17.47±2.52 | 7-20 | 4.36±0.63 | 1.75-5.00 |
| <i>Shopping Hygiene</i> | 17.30±5.74 | 5-25 | 3.45±1.14 | 1.00-5.00 |
| <i>Hand Hygiene</i> | 21.11±3.44 | 7-25 | 4.22±0.68 | 1.40-5.00 |
| <i>Hygiene When Coming Home from Outside</i> | 11.23±3.10 | 3-15 | 3.74±1.03 | 1.00-5.00 |

Note: * Minimum-maximum points possible; Min-Max: Minimum-Maximum; M ± SD: Mean±standard deviation

Table 3. The relationship between participants' COVID-19 fear scale score and hygiene scale score (n=283)

| | HS mean scores | HS-CHBP | HS-HH | HS-SDMU | HS-SH | HS-HH* | HS-HCHO |
|-----------------------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| FS mean scores | r=0.389** | r=0.419** | r=0.321** | r=0.218** | r=0.363** | r=0.249** | r=0.344** |
| | p<.001 | p<.001 | p<.001 | p<.001 | p<.001 | p<.001 | p<.001 |

Note. FS: Fear Scale, HS: Hygiene Scale, HS-CHBP: Changing Hygiene Behaviors with the Pandemic, HS-HH: Home Hygiene, HS-SDMU: Social Distancing and Mask Use, HS-SH: Shopping Hygiene, HS-HH*: Hand Hygiene, HS-HCHO: Hygiene When Coming Home from Outside

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

Table 4. Predictors Affecting the COVID-19 Hygiene Scale by Linear Regression Model

| Variables | Beta (β) | t | p | R ² |
|---------------------------------|----------|-------|---------|---------------------|
| Constant | - | 8.873 | <.001 * | 0.31 |
| Age | .17 | -2.82 | .005 | |
| Gender | .02 | -.49 | .623 | |
| Marital status | .14 | 2.41 | .016 | |
| Educational Status | .27 | -4.55 | <.001 | |
| Economical situation | .05 | -1.01 | .310 | |
| Fear level | .27 | 5.14 | <.001 * | |
| Being caught in COVID-19 status | .15 | 2.83 | .005* | |
| Relatives having COVID-19 | .05 | 1.02 | .306 | Durbin Watson: 1.87 |

* p<.05