



COVID-19 Online Trainings Applied To Health Professionals In A Province Turkey

*Leyla ÜÇEŞ HARMANOĞULLARI

Abstract

Background: During the pandemic period, healthcare workers faced the risk of lack of knowledge and education about COVID-19. This study aims to evaluate the participation status and performance of online COVID-19 training provided for healthcare workers during the pandemic in 2021 in Mersin province, Turkey.

Materials and Methods: The data of this cross-sectional study includes 3723 health workers from 27 health institutions. Descriptive statistics were used to summarize data; the Chi-square and Mann Whitney U tests were used for data analysis.

Results: In 2021, online COVID-19 training was provided for a total of 3723 healthcare workers in Mersin, Turkey. Out of 3723 healthcare workers, 2611 (70.1%) participated in online training. The frequency of participation was significantly higher in women and in lower mean age ($p < 0.05$). Of the 2611 healthcare workers; 2537 (97.2%) completed the training successfully. No statistically significant difference was found between age, gender, profession and training performance ($p > 0.05$).

Conclusion: More than a quarter of the healthcare workers included in the study did not participate in online training. One over thirty-six of the participating healthcare workers completed the training unsuccessfully. It is important to increase in-service COVID-19 training for healthcare workers and to provide up-to-date information with effective online training

Keywords: COVID-19, health personnel, distance education, knowledge, health professional.

Türkiye'nin Bir İlinde Sağlık Çalışanlarına Uygulanan COVID-19 Online Eğitimleri

Öz

Amaç: Pandemi döneminde sağlık çalışanları COVID-19 hakkında bilgi ve eğitim eksikliği riskiyle karşı karşıya kalmıştır. Bu çalışma, Türkiye'nin Mersin ilinde 2021 yılında pandemi sırasında sağlık çalışanlarına verilen çevrimiçi COVID-19 eğitimlerine katılım durumunu ve eğitim performansını değerlendirmeyi amaçlamaktadır.

Materyal ve Metod: Kesitsel tipteki bu çalışmanın verileri 27 sağlık kuruluşundan 3723 sağlık çalışanını içermektedir. Verileri özetlemek için tanımlayıcı istatistikler kullanıldı; verilerin analizinde ki-kare ve Mann Whitney U testleri kullanıldı.

Bulgular: 2021 yılında Mersin'de toplam 3723 sağlık çalışanına online COVID-19 eğitimi verildi. 3723 sağlık çalışanından 2611'i (%70,1) online eğitime katıldı. Katılım sıklığı kadınlarda ve yaş ortalaması düşük olanlarda anlamlı olarak yüksekti ($p < 0.05$). 2611 sağlık çalışanından; 2537 (%97.2) eğitimi başarıyla tamamladı. Yaş, cinsiyet, uzmanlık alanı değişkenleri ve eğitim performansı arasında istatistiksel olarak anlamlı fark bulunmadı ($p > 0.05$).

Sonuç: Çalışmaya dahil edilen sağlık çalışanlarının dörtte birinden fazlası online eğitime katılmamıştır. Eğitime katılan sağlık çalışanlarının otuz altıda biri eğitimi başarısızlıkla tamamladı. Sağlık çalışanlarına yönelik hizmet içi COVID-19 eğitimlerinin artırılması ve etkin online eğitimlerle güncel bilgilerin sağlanması önemlidir.

Anahtar kelimeler: COVID-19, sağlık çalışanı, online eğitim, bilgi düzeyi, sağlık profesyoneli.

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INTRODUCTION

On December 31, 2019, the World Health Organization (WHO) was informed of cases of pneumonia of unknown cause in Wuhan City, China. On January 7, 2020, a new coronavirus was identified by the Chinese authorities as to the causative agent and was tentatively named '2019 nCoV'. Coronaviruses are a family of viruses that can infect both animals and humans, causing illnesses ranging from common cold to severe diseases. The novel coronavirus, subsequently named the SARS-CoV-2 is a new virus that has not been identified in humans. On January 30, 2020, the novel coronavirus outbreak was declared a public health emergency by WHO. The rapid increase in the number of cases outside of China led to the declaration of pandemic by the WHO on 11 March 2020 (WHO,2020; WHO 2022).

Healthcare workers are at the frontline of any epidemic, so they are exposed to various hazards in the workplace. During the pandemic, healthcare workers have suffered from insufficient information and training related to COVID-19 (WHO,2021). In healthcare, employers and representatives must provide training for healthcare workers on infection prevention and control, as well as occupational health and safety (WHO,2020). Adequate training should be provided with up-to-date information on COVID-19 during the pandemic (WHO,2020; Republic Of Türkiye Ministry of Health, 2021; Gürer and Gemlik 2020). In this regard, healthcare workers are responsible to participate in training and keep up with the latest information (WHO,2020).

Different studies report varying rates on the level of COVID-19 knowledge among healthcare workers during the pandemic (Zhang et al., 2020; Asemahagn, 2020; Orhan&Gümüş, 2021). As in all diseases, health education bears great significance in the prevention of infectious diseases and epidemics (Akın, 2012). It is recommended to conduct regular online training for healthcare workers during the COVID-19 pandemic to convey the latest information. Well-trained employees are needed in the fight against the epidemic (Republic Of Türkiye Ministry of Health, 2021; Pala&Metintaş, 2020).

Purpose of the Research

This study aimed to evaluate the online COVID-19 training provided for healthcare workers during the pandemic in Mersin province, Turkey. The secondary objectives of the study were to contribute to the conduct of epidemiological studies in line with the titles of public health professionals in related fields and to provide a detailed report on online COVID-19 training studies provided for healthcare workers during the pandemic in the province of Mersin, Turkey.

MATERIAL AND METHODS

Design and Sample of the Research

The population of this cross-sectional study consists of healthcare workers who received online COVID-19 training during the pandemic in Mersin province, Turkey in 2021. The study was conducted between January 1, 2022 and June 30, 2022. The study universe consists of 3723 people. No sampling was performed as it was aimed to reach the entire population. Online training applied to healthcare professionals in 27 health institutions (provincial health directorate, 13 district health directorates, 9 public hospitals, 2 oral and dental health centers, 1 provincial ambulance service chief physician, 1 public health laboratory)

Data Collection Method and Tools

The data of the study were obtained from the Mersin Provincial Health Directorate education unit records by scanning electronic source data.

Healthcare workers received online COVID-19 training for approximately 1 hour via distance learning. This training is a compulsory training organized by the health directorate for health workers. At the end of the training, the participants were asked to answer a 4-question test consisting of training-related content. The questions were about the diagnosis and prevention of COVID-19 disease. Those who correctly answered at least 50% of the questions were deemed successful (middle and high knowledge level) while those with fewer correct answers were unsuccessful (low knowledge level). The same questions were used in the pretest application before the training.

In the study, participation in online COVID-19 training, post-training test performance, and underlying factors were investigated. The dependent variables of the study were participating in online COVID-19 training and post-training test performance while independent variables were age, gender and profession.

Research hypotheses:

- Women are more likely to participate in COVID-19 training,
- The rate of participation in COVID-19 training decreases with age,
- Women are more likely to succeed in COVID-19 training,
- The rate of success in COVID-19 training increases with age.

Research Questions

1. What is the participation rate of healthcare professionals in COVID-19 online trainings?
2. Does the participation in COVID-19 online trainings vary according to age and gender variables?
3. What is the success status of healthcare workers in COVID-19 online trainings?
4. Does the success status of healthcare professionals in COVID-19 online training change according to age, gender and profession characteristics?

Data Collection Process

The data of the study were collected by the researcher between the dates of March 21, 2022 and March 31, 2022.

Data Analysis

Analyzes were performed using the SPSS (Statistical Package for the Social Sciences) 22 program and descriptive statistics were used to summarize data; while the Chi-square and Mann Whitney U tests were used for data analysis. The study was conducted in Mersin Provincial Health Directorate between January and June 2022 and no financial support was received from any institution or organization for the study.

Ethical Dimension of the Study

For the study, necessary permissions were obtained from the Ministry of Health General Directorate of Health Services. Ethics committee approval was obtained from Toros University Scientific Research and Publication Ethics Committee (Date and number: February 25,2022 and 42).

RESULTS

In 2021, online COVID-19 training was provided for 3723 healthcare workers in Mersin, Turkey. Of 3723 healthcare workers, 2611 (70.1%) attended online training while 1112 (29.9%) did not (Figure 1). These 1112 people also did not participate in the pre-test application. One hundred twenty one (3.25%) of the participants completed the pre-test application unsuccessfully.

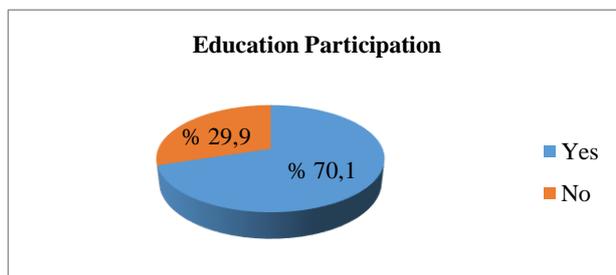


Figure 1. Participation of healthcare professionals in online training on COVID-19

A significant relationship was found between participation and gender ($p < 0.001$). The rate of participation is 74.3 % in women, which is higher than in men (64.6 %) (Table 1).

Table 1. Comparison Of Education Participation Status And Gender Characteristics

Gender	Education Participation						p
	Yes		No		Total		
	n	%	n	%	n	%	
Female	1576	%74.3	544	%23.7	2120	%56.9	41.622 p<0.001
Male	1035	%64.6	568	%35.4	1603	%43.1	
Total	2611	%70.1	1112	%29.9	3723	%100.0	

Of the 2611 health workers who attended the training, 1576 (60.4%) were women; 1035 of them (39.6%) are male. Of the 2611 participating healthcare workers, 559 (21.4%) were health officers, 481 (18.4%) midwives, 477 (18.3%) doctors, 339 (13.0%) health technicians, and 190 nurses (% 7.3); with a median age of 41 (min: 20, max: 72) years (Table 2).

Table 2. Distribution of health workers according to their titles

Title	Frequency (n)	Percent (%)*	Total population	Percent (%)**
Health Officer	559	21.4	677	82.6
Midwife	481	18.4	671	71.7
Doctor	477	18.3	738	64.6
Health Technician	339	13.0	409	82.9
Permanent Worker	215	8.2	351	61.3
Nurse	190	7.3	270	70.4
Data Preparation	75	2.9	113	66.4
Specialist Doctor	52	2.0	89	58.4
Health Technician (High School)	28	1.1	30	93.3
Servant	27	1.0	74	36.5
Chauffeur	25	1.0	40	62.5
Other Health Personnel	143	5.4	261	54.8
Total	2611	100.0	3723	70.1

*Column percent, ** row percent

A significant relationship was found between participation and age. The median age of those who participated in training was significantly lower (median 40) than those who did not participate in training (median 42) ($p < 0.001$).

Of the 2611 healthcare workers, 2537 (97.2%) completed the training successfully and 74 (2.8%) unsuccessfully (Figure 2).



Figure 2. The success status of the health workers who attended the training at the end of the training

No statistically significant difference was found between age, gender, profession and training performance ($p > 0.05$).

DISCUSSION

While the rate of participation in online education was 70.1% in our study, in the study of Desalegn et al. (2021) one-third of health workers received training on COVID-19. A significant portion of the healthcare workers included in our study did not participate in online training. Insufficient preliminary information about online COVID-19 training may be the reason why more than a quarter of healthcare workers failed to attend training. It is important to provide preliminary information prior to training and to get feedback from participants regarding their expectations from the training to improve healthcare workers' knowledge about the pandemic and to provide up-to-date information. Providing related training in line with expectations can increase participation in online training among healthcare workers.

In our study, a significant relationship was found between participation and gender, with a higher rate of participation among women. It bears great importance to increase participation in online COVID-19 training courses among all healthcare workers, especially men. In the study, a significant relationship was found between age and participation. This may be due to the fact that older participants do not feel the need to participate in training and that they find their knowledge sufficient. It is important to ensure participation in online COVID-19 training courses among healthcare workers, especially in older age groups.

Unsuccessful post-training test performance among more than one over forty of the participating healthcare workers may be related to the same content of training provided for all participants. Different presentations according to the place of duty and educational background of healthcare workers can be prepared to improve prospective post-training test performance.

In our study; no significant difference was found between training performance; age, gender and profession of healthcare workers. In the study of Wahed et al. (2020) no significant relationship was found between the level of knowledge and gender. In addition, in some studies, the level of knowledge of COVID-19 was found to be significantly higher in men (Desalegn et al. 2021; Fetansa et al. 2021). In the studies of Desalegn et al. (2021) and Fetansa et al. (2021) the level of knowledge of non-physician health workers was found to be significantly low. In addition, there are studies stating that there is a significant relationship between knowledge level and age (young age in some studies, advanced age in some studies) (Desalegn et al. 2021; Wahed et al. 2020). It is important to develop online training on COVID-19 for healthcare professionals in all age groups.

Of the 2611 healthcare workers, 2537 (97.2%) completed the training successfully and 74 (2.8%) unsuccessfully. The study of Asemahagn (2020) investigated the level of COVID-19 knowledge among healthcare workers through an online survey and reported that 70% of the participants had

good knowledge of COVID-19. In their study, Jemal et al. (2021) investigated the level of COVID-19 knowledge among healthcare workers, in which 94% of 397 healthcare workers participated in the questionnaire study, reporting that 94.7% of the participants had good knowledge on COVID-19. Different rates are reported in studies on the level of knowledge about COVID-19 among healthcare professionals; Salman et al. (2020) 75.5%, Shi et al. (2020) 89.51%, Lake et al. (2021) 79.4%, Mbachau et al. (2020) 88.59%. In the systematic review study of Polychronis et al. (2021) it was reported that health workers had good knowledge level in 7 out of 9 articles. The rate of correct response by healthcare professionals to questions about COVID-19 was reported as 86.9-98.3% in the study of Roupa et al. (2021) and 80.4% in the study of Wahed et al. (2020). In the study conducted by Orhan et al. (2021) it was determined that 75% of healthcare workers had good knowledge on COVID-19. The difference between studies is attributed to the use of different criteria for determining the level of knowledge.

In our study, no significant relationship was found between gender and post-COVID-19 training test performance. The study conducted by Arslanca et al. (2021) in which the level of knowledge on COVID-19 was investigated among 251 healthcare workers, reported no significant relationship between test performance and gender.

Compared before and after online training in our study, while 3.25% of the participants completed the pre-test application unsuccessfully, this frequency decreased to 2.8% in the post-test application.

CONCLUSION

In conclusion, more than a quarter of the healthcare workers included in the study did not participate in online training. The rate of participation was lower in men and older age groups. More than one-fortieth of the participants completed the training unsuccessfully. It is important to increase in-service COVID-19 training for healthcare workers and to provide up-to-date information with effective and high-participation online training. It is recommended to carry out elaborate studies to evaluate in-service COVID-19 training provided for healthcare workers.

Limitations of the Study

Since the online training data of healthcare professionals in Mersin province were evaluated in the study, the results obtained can be generalized to healthcare professionals working in Mersin province. Due to the limited number of studies that evaluate online trainings of healthcare professionals, comparisons were made with studies investigating the level of knowledge of healthcare workers in the discussion section.

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