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SAĞLIK ÇALIŞANLARININ, SAĞLIK İNANÇ MODELİ KAPSAMINDA COVID-19'A İLİŞKİN ALGILARININ VE İZOLASYON ÖNLEMLERİNE UYUMUNUN DEĞERLENDİRİLMESİ

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Öz

Bu çalışma, Sağlık İnanç Modeli kapsamında sağlık çalışanlarının COVID-19 algılarını ve izolasyon önlemlerine uyumlarını değerlendirmek amacıyla yapılmıştır. Kesitsel tipteki bu araştırmanın evrenini 10 Mayıs-30 Mayıs 2020 tarihleri arasında Türkiye'de bir üniversite hastanesinde çalışan hekim ve hemşirelerden oluşan 1500 sağlık profesyoneli, örneklemini ise araştırmaya katılmayı kabul eden 309 sağlık profesyoneli oluşturmuştur. Veri toplamada araştırmacılar tarafından hazırlanan tanımlayıcı özellikler formu, Sağlık İnanç Modeli kapsamında hazırlanan COVID-19 Algı Anketi ve İzolasyon Önlemlerine Uyum ölçeği kullanılmıştır. Algılanan duyarlılık, algılanan şiddet, algılanan faydalar, algılanan sağlık motivasyonu, algılanan öz-yeterlik, eylem ipuçları ve COVID-19 Algı Anketi toplam puan ortalamalarının ortalamanın üzerinde olduğu bulundu. Algılanan engeller ortalama puanı ise ortalamanın altında bulunmuştur. Hemşirelerin algılanan duyarlılık, algılanan ciddiyet ve harekete geçme ipuçları ortalama puanları, hekimlerin puanlarından anlamlı derecede yüksekti. Sağlık çalışanlarının izolasyona uyumları da ortalamanın üzerinde olup, hemşirelerin izolasyon önlemlerine uyum puan ortalamaları hekimlere göre anlamlı derecede yüksektir. Sağlık İnanç Modeli'ne dayalı olarak artan COVID-19 salgını algısı, sağlık çalışanlarının izolasyona uyumunu olumlu yönde etkilemektedir. Sağlık çalışanlarının COVID-19 salgınına yönelik algılarını ve izolasyon önlemlerine uyumlarını artıracak belirli stratejilerin geliştirilmesi önerilebilir.

Anahtar Kelimeler: COVID -19, SARS CoV-2, Sağlık profesyoneli, Sağlık İnanç Modeli, Hemşirelik

EVALUATION OF COVID-19 PERCEPTIONS AND COMPLIANCE WITH ISOLATION PRECAUTIONS OF HEALTH PROFESSIONALS WITHIN SCOPE OF HEALTH BELIEF MODEL

Abstract

This study was carried out to evaluate health professionals' perceptions of COVID-19 and their compliance with isolation precautions within the scope of the Health Belief Model. The population of this cross-sectional study consisted of 1500 health professionals comprising physicians and nurses who work in a university hospital in Turkey between 10 May and 30 May 2020, while its sample consisted of 309 health professionals accepting to participate in the study. In the data collection, descriptive characteristics form which was prepared by the researchers, the COVID-19 Perception Questionnaire prepared within the scope of the Health Belief Model, and the Isolation Precautions Compliance Scale were used. The mean scores of perceived susceptibility, perceived severity, perceived benefits, perceived health-motivation, perceived self-efficacy, cues to action, and the total mean score of the COVID-19 Perception Questionnaire were found to be above the average. Whereas, the perceived barriers mean score was found to be below the average. Perceived susceptibility, perceived severity, and cues to action mean scores of the nurses were significantly higher than those of the physicians. The compliance of health professionals with isolation was also above the average, and nurses' mean score of compliance with the isolation precautions is significantly higher than those of physicians. The increased perception of the COVID-19 epidemic based on the Health Belief Model positively affects the compliance of health professionals to isolation. The development of certain strategies be recommended that increase health professionals' perception of the COVID-19 outbreak and their compliance with the isolation precautions.

Keywords: COVID -19, SARS CoV-2, Health professional, Health Belief Model, Nursing

1. INTRODUCTION

The COVID-19 outbreak, which was first identified in Wuhan province of China in December 2019 and declared as a pandemic by the World Health Organization (WHO) on March 11, 2020, poses an international threat due to its spread rate (1). By 27 December 2021, over 281 million cases were detected worldwide and over 5 million people died from the COVID-19 epidemic (2). Since the first case was observed on March 11, 2020, over 9 million cases and 82 thousand deaths occurred in Turkey (3).

The greatest expectations are from health professionals in the struggle against the COVID-19 epidemic which was not identified in humans before, which can be transmitted through air, contact, and droplet, and which require serious organizational, environmental, and personal precautions (4,5) Health professionals who fight at the forefront of the COVID-19 pandemic, being the most fundamental and most active workforce, are at high risk of exposure to the virüs (5). In a study aiming to determine health professionals' COVID-19 risk in Turkey, along with their working conditions and views regarding the struggle against COVID-19, 31.7% of the health professionals were determined to have contact with COVID-19 cases, and 27.3% to have served patients diagnosed with COVID-19. Of the health professionals providing service, 31.7% are physicians, 38.3% nurses, 25.9% other health professionals, and 5.5% administrative staff. The results of the study indicate that the risk of contagion threatens the nurse group most (6).

The COVID-19 perception and compliance with isolation precautions of the nurses and physicians during the pandemic period who are actively involved in treatment and care are important in terms of protection from infection (4). Compliance with infection prevention and control procedures in Hong Kong during the early stages of the COVID-19 epidemic was emphasized to be effective in preventing infection in health professionals (7). By the increase of the infection confirmed in January 2020, Wuhan hospitals and the government have developed policies and strategies aimed at increasing the personal protection awareness of health professionals. Thereupon, the number of confirmed cases was observed to decrease rapidly by February 2020 (8). As another encouraging result, during the early stages of the COVID-19 epidemic, compliance with the test, infection prevention, and control procedures in Hong Kong was found to be effective in preventing infection in health professionals (7).

In light of all this, developing policies and strategies for health professionals' perceptions regarding COVID-19 and their compliance with isolation precautions gain importance. When the literature is examined, no study was found which evaluates the perceptions of health professionals within the scope of the Health Belief Model and associates these perceptions with compliance with isolation. For this reason, this study will support the relevant literature and guide policies that are being planned for the protection of health professionals from the pandemic. The aim of this study is to evaluate the perceptions of the COVID-19 pandemic within the scope of the Health Belief Model for healthcare professional and their compliance with isolation measures.

2. METHODS

This study was conducted cross-sectionally.

2.1 The population and the sample of the research

The population of the research consisted of physicians and nurses working at Mersin University, University Hospital between 10 May and 30 May 2020. The sample size was calculated to be a minimum of 306 health professionals according to the population of the study. The study included 309 health professionals who agreed to participate and met the inclusion criteria.

2.2 Data collection

In the data collection, the Isolation Precautions Compliance Scale (18 questions), the Health Belief Model-based generated COVID-19 Perception Questionnaire for evaluating perceived susceptibility, perceived severity, perceived benefits, perceived motivation, perceived self-efficacy, and cues to action (81 questions), and a descriptive caharacteristics form (14 questions) were used. The data that would be used in the study were collected by sending the questionnaire and scale to the participants via WhatsApp or e-mail.

2.2.1 The health belief model-based COVID-19 perception questionnaire

The Health Belief Model (HBM) was developed in 1950 by Hochbaum, Leventhal, Kegeles, and Rosenstock. According to HBM, in order to gain a positive health behavior, the beliefs and attitudes that prevent the adoption of that behavior must be determined by the individual and the group. Similarly, in order to abandon a negative health behavior, the beliefs and attitudes that cause the retention of that behavior must be determined at first. The model was formed from six basic concepts, which are perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, health-motivation, and cues to action (9,10).

The COVID-19 Perception Questionnaire prepared by researchers within the scope of the Health Belief Model consists of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, health-motivation, self-efficacy, and cues to action subdimensions. The questionnaire is of 5-point Likert type (1. Completely Disagree… 5. Completely Agree) and consists of 81 questions. Questions between 1-7 evaluate perceived susceptibility, 8-15 perceived severity, 16-30 perceived benefits, 31-49 perceived barriers, 50-62 health-motivation, 63-74 perceived self-efficacy, and 75-81 cues to action. The perceived susceptibility score varies between 7-35, perceived severity 8-40, perceived benefits 15- 75, perceived barriers 19-95, health-motivation 13- 65, self-efficacy 12-60, and cues to action 7-35. As the total score received from the COVID-19 Perception Questionnaire and the scores received from its subdimensions increase the perception level regarding the COVID-19 infection increases.

2.2.2 Isolation precautions compliance scale

The Isolation Precautions Compliance Scale (IPCS) developed by Ulupınar and Tayran (2011) to determine the levels of compliance of physicians and nurses to isolation precautions consists of 18 items in 5-point Likert type. Negative expressions (items 5, 7, 12, 17) are reversely scored from large to small (5, 4, 3, 2, 1) whereas remaining positive items are scored from small to large (1, 2, 3, 4, 5). In scoring, the total score (lowest 18, highest 90) or the mean value (the lowest mean value is 1; the highest mean value is 5) can be used (11). In the study of Ulupınar and Tayran (2011) the Cronbach's alpha value of the scale was found to be 0.85 , whereas in this study 0.842.

2.3 Evaluation of the data

The data were evaluated in the SPSS 22.0 package program; frequency test in statistical analysis, independent sample t-test and ANOVA test for parametrically distributed data, Kruskal-Wallis test and Mann Whitney U test were used for non-parametric analysis. Correlation analysis was performed between the total and sub-dimension mean scores of the COVID-19 Perception Questionnaire and the IPCS total score mean.

2.4 Ethical considerations

Ethics committee approval (Decision No: 2020/308, Date: 15.04.2020) was obtained from Mersin University Clinical Research Ethics Committee. And the institutional permission was received from Mersin University Hospital for conducting the research.

3. RESULTS

Of the health professionals within the scope of the research, 35.9% are between the ages of 20-30, 78.3% are women, 70.9 % are single, 58.9% have a bachelor's degree, 80.3% are nurses, 45% are in their 0-10 years in the profession, 33.7% work in a clinical ward, 74.1% take an active role in treatment and care, 65.4% work actively in the pandemic period, 52.8% perceive their risk status in the pandemic period as "high-risk", 46.9% perceives the risk status of their working unit in the pandemic period as "high-risk", 71.82% do not have a chronic disease, 96.8% do not have a disability and 72.5% do not smoke (Table 1).

Table 1. Distribution of the health professionals's introductory features

Introductory Features		S	%
Age	20-30	111	35.9
	31-40	90	29.1
	41-50	74	23.9
	51-60	34	11.0
Gender	Woman	242	78.3
	Man	67	21.7
Marital status	Married	90	29.1
	Single	219	70.9
Education status	High school	23	7.4
	Bachelor's degree	182	58.9
	Postgraduate	104	33.7
Job	Nurse	248	80.3
	Doctor	61	19.7
The working year in the profession	0-10 years	139	45.0
	11-20 years	82	26.5
	21-30 years	70	22.7
	31-40 years	18	5.8
Working unit	Clinical ward	104	33.7
	Intensive care unit	47	15.2
	COVID ward	9	2.9
	COVID intensive care unit	3	1.0
	Outpatient clinic	8	2.6
	Operating theater	9	2.9
	Emergency	52	16.8
	Other units	77	24.9
The status of having an active duty in treatment/care	Yes	229	74.1
	No	80	25.9
The status of actively working during the pandemic period	Yes	202	65.4
	Partially	62	20.1
	No	45	14.6
The perceived your risk status during the pandemic	High grade	163	52.8
	Moderate grade	121	39.2
	Low-grade	25	8.1
The risk status of the working unit in terms of pandemic	High grade	145	46.9
	Moderate grade	127	41.1
	Low-grade	37	12.0
Chronic disease	Yes	87	28.2
	No	222	71.8
Disability	Yes	10	3.2
	No	299	96.8
Smoking	Yes	85	27.5
	No	224	72.5

When the descriptive characteristics were compared with the COVID-19 Perception Questionnaire total and subdimension mean scores;

Perceived susceptibility and perceived severity for those aged "41-50", perception of barriers for those aged "51-60" and cues to action factors for those aged "31-40" sub-dimension mean score was found to be significantly higher ($p<0.05$) (Table 2).

Perceived susceptibility and perceived severity, cues to action factors and COVID-19 questionnaire total score of women were found to be significantly higher than men ($p<0.05$) (Table 2).

The nurses' perception of susceptibility, the perception of severity and the cues to action factors mean scores were found to be significantly higher than that of physicians ($p<0.05$) (Table 2).

Susceptibility perception of those whose working years in the profession are between "0-10 years"; the mean cues to action factor scores of those between "11-20 years" were found to be significantly higher ($p<0.05$) (Table 2).

Susceptibility perception mean score of the health professionals in the COVID service and intensive care unit was significantly higher ($p<0.05$) (Table 2).

Susceptibility perception mean score of those who took active roles in treatment and care was found to be significantly higher ($p<0.05$) (Table 2).

Susceptibility perception of active workers during the pandemic process and the total mean score of the COVID-19 questionnaire were significantly higher ($p<0.05$) (Table 2).

Susceptibility perception, severity perception, health motivation and COVID-19 questionnaire total score average were significantly higher for those who perceived their risk status as "high degree" during the pandemic process ($p<0.05$) (Table 2).

Susceptibility perception, severity perception, health motivation and the mean score of the COVID-19 questionnaire were found to be significantly higher in those working in jobs with a high risk of pandemic ($p<0.05$) (Table 2).

It was determined that the mean cues to action factors score of those without disability was higher ($p<0.05$) (Table 2).

Susceptibility perception and severity perception mean scores of smokers were significantly higher ($p<0.05$) (Table 2).

Table 2. Comparison of the health professionals's introductory features with the total and sub-dimension mean scores of the COVID-19 perception questionnaire (p <0.05)

Introductory Features		COVID-19 Perception Questionnaire total and Sub-Dimensions (X±SD)							
		Perceived Susceptibility	Perceived Severity	Perceived Benefits	Perceived Barrier	Health-Motivation	Self-Efficacy	Cues To Action	COVID-19 Perception Questionnaire Total
Age	20-30	28.3±3.7	29.0±6.6	61.4±7.4	52.9±11.9	59.7±5.6	50.3±6.0	28.9±4.0	310.9±20.0
	31-40	28.7±4.5	29.1±6.5	60.0±7.9	51.8±11.4	59.2±5.7	49.9±5.8	29.1±3.6	308.2±19.7
	41-50	28.9±4.5	30.1±5.9	59.5±8.6	52.4±11.9	59.4±5.2	50.8±6.1	28.6±3.5	309.9±21.7
	51-60	23.0±5.2	24.6±6.8	60.4±7.3	58.5±12.4	58.3±4.9	52.0±5.7	25.2±5.4	302.2±19.0
Statistical analysis		F=17.03,**p=.000**	F=5.783,**p=.001**	F=1.024,p=.382	F=2.799,**p=.040**	F=.592,p=.620	F=1.073,p=.361	F=8.946,**p=.000**	F=1.673,p=.173
Gender	Woman	28.3±4.4	29.4±6.4	60.4±7.8	52.7±11.3	59.6±5.3	50.7±5.7	29.0±3.9	310.4±19.8
	Man	26.8±5.4	26.8±6.7	60.5±7.9	54.3±13.9	58.5±5.9	49.8±6.8	26.5±4.4	303.5±21.3
Statistical analysis		T=2.075,**p=.041**	T=2.836,**p=.005**	T=.169,p=.866	T=.972,p=.332	T=1.397,p=.163	T=0.972,p=.332	T=4.569,**p=.000**	T=2.454,**p=.015**
Marital status	Single	28.6±4.2	28.5±6.3	61.5±8.3	52.3±11.8	59.5±5.4	50.2±6.5	28.5±4.1	309.4±20.8
	Married	27.7±4.8	29.0±6.7	60.0±7.6	53.4±12.0	59.3±5.5	50.6±5.7	28.4±4.1	308.7±20.1
Statistical analysis		T=1.385,p=.167	T=.616,p=.538	T=1.522,p=.130	T=.696,p=.487	T=.238,p=.812	T=.0.69,p=.487	T=.201,p=.841	T=.262,p=.793
Education status	High school	27.8±4.8	28.6±7.8	61.3±8.7	55.0±10.2	59.1±5.4	52.2±5.2	29.3±3.7	313.5±21.8
	Bachelor's degree	28.0±4.5	29.0±6.3	60.1±7.4	52.8±12.2	58.9±5.5	50.0±..5.8	28.6±3.9	307.8±19.3
	Postgraduate	28.0±4.9	28.5±6.8	60.7±8.3	53.1±11.9	60.1±5.4	51.0±6.3	28.1±4.6	309.9±21.6
Statistical analysis		F=.023,p=.978	F=.261,p=.770	F=.371,p=.691	F=.336,p=.715	F=1.511,p=.222	F=1.950,p=.144	F=1.050,p=.351	F=.975,p=.379
Job	Nurse	28.3±4.5	29.4±6.4	60.37.8±	52.4±11.8	59.5±5.3	50.6±5.7	29.1±3.7	310.0±19.5
	Doctor	26.9±5.1	26.3±6.8	60.7±8.1	55.6±12.2	58.6±5.9	50.2±6.8	25.8±4.5	304.4±22.8
Statistical analysis		T=2.106,**p=.036**	T=3.317,**p=.001**	T=.297,p=.767	T=1.847,p=.066	T=1.227,p=.221	T=1.847,p=.066	T=5.913,**p=.000**	T=1.955,p=.052
The working year in the profession	0-10 years	28.7±3.7	28.9±6.6	61.1±7.4	52.4±12.4	59.4±5.9	50.1±6.0	28.8±4.0	309.7±19.8
	11-20 years	28.3±4.7	29.1±6.1	60.4±8.5	51.9±10.3	59.7±5.0	50.5±6.0	29.3±3.3	309.6±20.8
	21-30 years	27.9±5.0	29.2±6.6	58.8±7.9	55.1±11.9	58.8±5.3	50.6±5.8	27.6±4.0	308.2±21.5
	31-40 years	21.5±4.9	25.2±7.7	61.5±6.7	56.3±13.8	59.7±3.8	53.1±5.3	25.0±6.4	302.6±16.4
Statistical analysis		F=14.258,**p=.000**	F=1.994,p=.115	F=1.494,p=.216	F=1.535,p=.205	F=.387,p=.762	F=1.535,p=.205	F=7.109,**p=.000**	F=.714,p=.544
Working unit	COVID service and COVID intensive care unit	29.1±4.3	28.7±6.4	54.7±8.6	63.0±11.7	59.8±4.7	49.4±5.2	29.0±3.5	314.0±22.9
	Service and intensive care unit	28.4±4.4	29.2±6.5	60.5±7.7	61.7±12.3	59.5±5.3	50.3±6.0	28.6±4.1	318.5±28.8
	Emergency	28.9±4.0	28.8±5.6	62.2±7.6	59.5±11.5	59.0±6.2	50.5±5.4	28.3±4.0	317.4±26.4
	Operating	26.0±5.0	27.6±6.9	60.6±10.4	57.0±8.8	60.4±6.3	53.2±4.9	29.3±4.0	314.3±27.5

	theater								
	Other units	28.0±4.6	28.2±7.3	60.0±7.5	60.2±11.9	59.1±5.3	50.9±6.3	28.1±4.4	313.5±25.9
Statistical analysis		F=2.769,**p=.028**	F=.399,p=.809	F=2.363,p=.053	F=.766,p=.548	F=.266,p=.900	F=.709,p=.586	F=.389,p=.816	F=.512,p=.727
The status of having an active duty in treatment/care	Yes	28.6±4.4	28.6±6.6	60.6±7.9	53.3±12.1	59.4±5.5	50.6±5.9	28.5±3.8	309.9±20.2
	No	26.3±5.0	29.3±6.6	59.9±7.5	52.3±11.2	59.3±5.2	50.4±6.1	28.4±4.8	306.1±20.3
Statistical analysis		T=3.921,**p=.000**	T=.805,p=.421	T=.698,p=.486	T=.655,p=.513	T=.108,p=.914	T=.655,p=.307	T=.254,p=.799	T=1.413,p=.159
The status of actively working during the pandemic period	Yes	28.9±4.3	29.0±6.3	60.5±8.2	53.3±12.4	59.9±5.1	50.6±5.6	28.7±3.9	311.3±19.7
	Partially	26.9±4.8	27.6±6.7	60.0±6.4	53.3±9.8	58.2±6.3	49.8±6.3	27.9±4.0	304.0±20.2
	No	25.1±4.6	29.5±7.5	60.5±7.9	51.6±12.2	58.5±5.4	51.1±7.0	28.3±5.2	304.8±21.6
Statistical analysis		F=15.710,**p=.000**	F=1.339,p=.264	F=0.120,p=.887	F=0.374,p=.688	F=2.750,p=.066	F=.374,p=.688	F=.853,p=.427	F=4.179 ,**p=.016**
The perceived your risk status during the pandemic	High grade	29.6±3.7	30.4±6.0	60.6±8.3	52.6±11.6	60.2±5.4	50.6±6.2	28.9±3.7	313.3±20.6
	Moderate grade	26.7±4.5	26.9±6.6	60.1±7.3	54.2±11.9	58.4±5.2	50.5±5.4	28.0±4.2	305.1±17.9
	Low-grade	23.1±5.5	27.9±7.9	60.7±6.7	50.7±14.0	58.4±6.2	50.1±6.5	27.9±5.6	299.0±22.3
Statistical analysis		F=34.425,**p=.000**	F=10.582,**p=.000**	F=.159,p=.853	F=1.207,p=.301	F=4.616,**p=.011**	F=1.207,p=.301	F=2.191,p=.114	F=9.310,**p=.000**
The risk status of the working unit in terms of pandemic	High grade	29.7±4.0	29.9±6.1	61.1±8.4	52.6±12.3	60.3±5.2	50.9±6.2	29.0±3.7	313.8±19.8
	Moderate grade	27.4±4.0	28.2±6.5	59.8±7.4	53.0±10.8	58.4±5.7	49.8±5.6	28.2±4.0	305.2±20.1
	Low-grade	23.4±5.5	26.8±7.9	59.4±6.6	55.0±13.8	58.8±4.9	51.4±5.9	27.2±5.7	302.3±19.0
Statistical analysis		F=34.749,**p=.000**	F=4.120,**p=.017**	F=1.258,p=.286	F=.613,p=.542	F=4.646,**p=.010**	F=0.613,p=.542	F=3.146,**p=.044**	F=8.622,**p=.000**
Chronic disease	Yes	27.7±5.0	28.9±7.1	59.0±8.6	52.6±12.4	59.4±5.1	51.0±6.2	28.4±4.5	307.4±20.4
	No	28.1±4.5	28.8±6.4	61.0±7.4	53.2±11.7	59.3±5.6	50.3±5.8	28.5±4.0	309.5±20.3
Statistical analysis		T=.628, p=.531	T=.190 ,p=.849	T=1.840,p=.068	T=.392,p=.695	T=.061 ,p=.951	T=.392,p=.695	T=.205 ,p=.837	T=.811, p=.418
Disability	Yes	25.3±5.1	28.1±5.8	58.8±9.6	51.6±9.8	56.8±5.2	52.1±6.2	25.6±5.8	298.3±15.4
	No	28.1±4.6	28.8±6.6	60.5±7.8	53.1±12.0	59.4±5.4	50.5±5.9	28.6±4.0	309.3±20.4
Statistical analysis		T=1.880,p=.061	T=.375,p=.708	T=.676,p=.500	T=.407,p=.684	T=1.523,p=.129	T=.407,p=.684	T=2.267,**p=.024**	T=1.689,p=.092
Smoking	Yes	28.9±4.7	30.2±6.8	59.9±8.5	51.7±13.1	60.0±4.8	50.3±6.4	28.5±4.2	309.8±21.2
	No	27.6±4.6	28.3±6.4	60.6±7.5	53.6±11.4	59.1±5.7	50.6±5.8	28.5±4.1	308.6±20.0
Statistical analysis		T=2.214,**p=.028**	T=2.221,**p=.027**	T=.721,p=.471	T=1.215,p=.225	T=1.412,p=.160	T=1.215,p=.225	T=.023,p=.982	T=.472 ,p=.637
Minimum Score		**12.0±4.6**	**9.0±6.6**	**40.0±7.8**	**19.0±11.9**	**39.0±5.4**	**28.0±5.9**	**15.0±4.1**	**245.0±20.3**
Maximum score		**35.0±4.6**	**40.0±6.6**	**75.0±7.8**	**93.0±11.9**	**65.0±5.4**	**60.0±5.9**	**35.0±4.1**	**361.0±20.3**
Average score		**28.0±4.6**	**28.8±6.6**	**60.4±7.8**	**53.1±11.9**	**59.3±5.4**	**50.5±5.9**	**28.5±4.1**	**308.9±20.3**

When the descriptive features and the total mean scores of IPCS were compared; the nurses' IPCS score was found to be significantly higher ($p<0.05$) (Table 3).

Table 3. Comparison of the health professionals 's introductory features and the mean scores of the isolation precautions compliance scale (IPCS) ($p<0.05$)

Introductory Features		**The Isolation Precautions Compliance Scale (IPCS) (X±SD)**	**Statistical analysis**
Age	20-30	56.7±3.4	Kw=5.169, p=.160
	31-40	57.6±5.6	
	41-50	57.2±3.9	
	51-60	55.6±2.3	
Gender	Woman	57.0±4.0	U=6923.5, p=.066
	Man	56.8±4.9	
Marital status	Single	57.2±4.1	U=9567.5, p=.686
	Married	56.9±4.3	
Education status	High school	58.0±5.3	Kw =1.998, p=.368
	Bachelor's degree	56.8±3.9	
	Postgraduate	57.1±4.5	
Job	Nurse	57.2±4.4	U=5995.5, **p=.012**
	Doctor	55.9±3.0	
The working year in the profession	0-10 years	57.1±4.3	Kw =5.445, p=.142
	11-20 years	57.4±5.0	
	21-30 years	56.8±3.2	
	31-40 years	55.0±2.7	
Working unit	COVID service and COVID intensive care unit	55.5±5.1	Kw =.909, p=.459
	Service and intensive care unit	57.1±4.1	
	Emergency	56.9±3.9	
	Operating theater	58.7±7.2	
	Other units	56.7±4.1	
The status of having an active duty in treatment/care	Yes	57.0±4.2	U=8712.0, p=.513
	No	56.9±4.3	
The status of actively working during the pandemic period	Yes	57.2±4.3	Kw =3.375, p=.185
	Partially	56.5±3.9	
	No	56.7±4.6	
The perceived your risk status during the pandemic	High grade	57.1±4.4	Kw =1.222, p=.543
	Moderate grade	56.7±3.7	
	Low-grade	57.6±5.4	
The risk status of the working unit in terms of pandemic	High grade	57.4±4.5	Kw =4.458, p=.108
	Moderate grade	56.5±3.9	
	Low-grade	56.8±4.4	
Chronic disease	Yes	56.6±4.0	U=8855.0, p=.254
	No	57.1±4.3	
Disability	Yes	56.5±2.8	U=1410.5, p=.760
	No	57.0±4.3	
Smoking	Yes	57.8±5.1	U=8441.0, p=.122
	No	56.7±3.8	
Minimum Score Obtained from the Scale		**45.0±4.2**	
Maximum Score Obtained from the Scale		**74.0±4.2**	
Average Total Score Obtained from the Scale		**57.0±4.2**	

In the study, there is significant corelation whit the perception of susceptibility; moderate in the positive direction between the perception of severity; weak in the positive direction between COVID-19 perception survey total score, cues to action factors and health motivation; very weak in the positive direction between the total score of IPCS; weak in negative direction between the perception of barriers ($p<0.001$) (Table 4).

There is significant correlation whit the perception of severity; high in negatively direction between the perception of barriers; middle in the positive direction between the cues to action factors; weak in positive direction between health motivation, COVID-19 perception questionnaire total score and IPCS total score ($p<0.001$) (Table 4).

There is positive and significant correlation whit the perception of benefit; very weak between cues to action factors; weak between the health motivation and the total score of IPCS; middle between average self-efficacy score; a high level between the total score of the COVID-19 perception questionnaire ($p<0.001$) (Table 4).

There is significant correlation whit the perception of barriers; very weak in negative direction between IPCS; weak in the negative direction between health motivation; moderate in negative direction between the cues to action factors; weak in positive direction between the COVID-19 perception questionnaire total score and self-efficacy ($p<0.05$) (Table 4).

There is positive and significant correlation whit health motivation; weak between the total score of IPCS; moderate between self-efficacy and cues to action factors; high-level between the COVID-19 perception questionnaire total score ($p<0.001$) (Table 4).

There is positive and significant correlation whit the self-efficacy; weak between cues to action factors and the total score of IPCS; high between the total score of the COVID-19 perception questionnaire ($p<0.01$) (Table 4).

There is positive and significant correlation whit cues to action factors; weak between the total score of IPC; moderate between the COVID-19 perception questionnaire total score ($p<0.01$) (Table 4).

There is a weak and positive correlation between the COVID-19 perception questionnaire total score and the IPCS total score ($p<0.01$) (Table 4).

Table 4. Correlation analysis between the COVID-19 perception questionnaire total score average and sub-dimension mean score and the average score of the isolation precautions compliance scale (IPCS) ($p<0.05$)

	Perceived Susceptibility	**Perceived Severity**	**Perceived Benefits**	**Perceived Barrier**	**Health-Motivation**	**Self-Efficacy**	**Cues To Action**	**COVID-19 Perception Questionnaire Total Score Average**
Perceived Severity	r=.507 **p=.000**	-	-		-	-	-	-
Perceived Benefits	r=.011 p=.852	r=-.023 p=.681	-		-	-	-	-
Perceived Barrier	r=-.350 **p=.000**	r=-.600 **p=.000**	r=.033 p=.559					
Health-Motivation	r =.258 **p=.000**	r =.316 **p=.000**	r =.299 **p=.000**	r=-.211 **p=.000**	-	-	-	-
Self-Efficacy	r=-.083 p=.145	r=-.084 p=.142	r=0,428 **p=.000**	r=.212 **p=.000**	r=.430 **p=.000**	-	-	-
Cues To Action	r=.335 **p=.000**	r=.503 **p=.000**	r=.148 **p=.009**	r=-.427 **p=.000**	r=.402 **p=.000**	r=.203 **p=.000**	-	-

COVID-19 Perception Questionnaire Total Score Average	r =.307 **p=.000**	r=.244 **p=.000**	r=.638 **p=.000**	r=.243 **p=.000**	r=.632 **p=.000**	r=.695 **p=.000**	r=.420 **p=.000**	-
IPCS	r=.160 **p=.000**	r=.201 **p=.000**	r=.227 **p=.000**	r=-.115 **p=.043**	r=.237 **p=.000**	r=.282 **p=.000**	r=.289 **p=.000**	r=.313 **p=.000**

In the study, susceptibility, severity and perception of benefit, health motivation, self-efficacy, cues to action factors and COVID-19 perception survey total score average "above average"; barriers perception mean score was found to be "below the average" (Table 2). The mean total score of IPCS was also found to be "above the average" (Table 3).

4. DISCUSSION

In the COVID-19 pandemic, protecting the health professionals from contamination during care and treatment has become the priority of all countries. The literature has already revealed that the knowledge, attitude, and behaviors of nurses on COVID-19 infection, are at a quite good level regarding patients showing symptomatic signs, but inadequate when it comes to patients showing asymptomatic signs and there is a need for education on pandemic (12,13). However, no study was found evaluating within the scope of the Health Belief Model (HBM) the COVID-19 perceptions of health professionals, nurses in particular, and their compliance with isolation precautions.

In this study, **perceived susceptibility** of the health professionals about COVID-19 was found to be "above average". Although the use of personal protective equipment (PPE) depends on many factors, it is positively associated with compliance and relatively high perceived risk (14). Therefore, high perceived susceptibility will positively affect the compliance of the health professional with pandemic and infection prevention methods. In a study evaluating the compliance with the use of PPE, health professionals' compliance with PPE was found to be low and this was found to be due to the absence of PPE, discomfort during use, and the lack of education (14).

Since the beginning of the process, training was informed about the pandemic, as stated in another study conducted in Turkey (15), at the hospital where the study was carried out. The hospital management made strategic decisions together with infection control committee and occupational health and security unit in order to prevent contagion, mask and visor production was made within the hospital and staff were encouraged to PPE use. All these decisions and precautions are thought to increase the health professional's susceptibility to the pandemic.

Health professionals' **perception of severity** about the pandemic was found to be "above average". Lack of PPE and poor quality equipment was a serious concern for health professionals and managers during the early stages of the pandemic. Some health professionals worried about infecting themselves or their families. While the need felt by the health professionals to protect themselves and their families show the perceived severity in relation to the pandemic, it motivated them to comply with the infection prevention and control guidelines (16). Also, workplace culture may affect the compliance of health professionals with infection prevention and control guidelines (16). In the hospital where the study was carried out, beginning from the first periods of the pandemic, efforts were made to eliminate the PPE shortage, and masks were produced within the hospital. Health professionals living at the same houses with individuals having a chronic disease were encouraged to stay at a guest-house. Besides, among the staff, those who had a chronic disease, who were pregnant or using their breastfeeding leave were given administrative leave. Also, a pandemic board was formed. Through this board, close follow-ups of the health

professionals who were infected or had contact with an infected patient were made. All these studies are thought to increase the perceived seriousness.

As a result of this study, **benefit perception** of the health professionals was found to be "above average". It is of vital importance to inform the staff about infection prevention and control guidelines (16). This informing increases the health professional's perception of benefit while preventing contagion. A study conducted in Pakistan has shown that compliance with PPE use is generally low among health professionals, and this is due to the lack of PPE, the discomfort of PPE use, and lack of education (14). Another study called attention to health professionals' lack of education regarding COVID-19 infection and the use of PPE (16). Whereas a study reported that through education, proper use of PPE, and patient isolation zero contagion occurred to health professionals (16). And in the hospital where the study was conducted, training and briefing sessions were held by the infection control committee and occupational health and safety unit regarding COVID-19 infection, isolation, hygiene, and PPE. These endeavors are thought to increase the staff's perceived benefits.

In the study, health professionals' **perceived barriers** regarding compliance with the COVID-19 infection was found to be "below average". The low level of environment and work barriers and the PPE presence are important predictors of compliance (14). In common respiratory infectious diseases like COVID-19, it is even more important for health professionals to follow infection prevention and control guidelines. These precautions include the use of personal protective equipment such as masks, visors, gloves, and gowns; separation of patients with respiratory infections from others; hygiene rules, and social distance. These strategies can be difficult to conform and time-consuming in practice. For this reason, authorities and health facilities should support health professionals in the best way (16). Adequate materials and suitable conditions for use are important for them to comply with infection prevention and control methods. At the hospital where the study was conducted, attempts have been made by the management to solve the lack of material and no shortage of material has occurred since the first case. Also, with the transformation of the hospital into a pandemic hospital, arrangements were made to facilitate the compliance of the staff with infection prevention and control methods. Besides, training sessions to facilitate compliance with infection prevention and control methods continued to be held. All these arrangements are thought to reduce the staff's perceived barriers.

In this study, **health-motivation** of the health professionals was found to be "above average". The management of the outbreak is a more challenging process for health professionals. In this process, the staff's nutrition, sleep, and stress management are as important as compliance with infection prevention and control methods. All of these affect health-motivation during the pandemic. The implementation of flexible working hours, along with other arrangements and training sessions positively affected the process management of the health professionals and increased their health-motivation.

In the present study, **self-efficacy** of the health professionals was found to be "above average". It is thought that the training sessions held and the arrangements made in the hospital where the study is conducted increased the self-efficacy of the health professionals.

As a result of the study, **cues to action** mean scores of the health professionals were found to be "above average". The rapid and easy spread of the outbreak resulting in deaths, as well as the media and workplace culture have increased the health professionals' perception of COVID-19. All these are thought to have mobilized the health professionals towards compliance with infection prevention and control precautions.

In the present study, significant differences were found between age and several subdimensions, which are perceived susceptibility, perceived severity, perceived barriers, and cues to action. The perceived susceptibility and perceived severity mean scores of the staff within the

"41-50" age range are relatively high, and the perceived barriers mean score is relatively high within the "51-60" age range. Increased age is associated with a worse outcome in a viral disease (17). This is thought likely to increase the perceived susceptibility, perceived severity and perceived barriers. The cues to action mean score is at its highest in the "31-40" age range. In addition to intense professional responsibilities, the "31-40" age group experiences a life period during which other responsibilities, such as parenting and elderly care are also intense. Sharing the same house with individuals in risk groups, this age group is thought to have a relatively high cue to action scores due to the effort for preventing the contagion.

There are significant difference was found between gender and the perception of sensitivity, the perception of seriousness, the activating factors and the total score of the COVID-19 questionnaire, and the mean scores of women were higher. In the study of Powell-Jackson and et al. (2020), female health professionals were found to have had relatively high compliance with hand hygiene (18).

In the study, nurses' perception of sensitivity, perception of seriousness, and action factors mean score was significantly higher than that of physicians. In SARS cases detected in Singapore, 49 out of 84 cases were nurses and 13 were physicians (19).

This result shows that nurses, who have to be with patients more, are at higher risk. The fact that the perception of nurses is relatively high is an expected result, given that they are more active in the care and spend more time with the patient.

Significant differences were found between the working year in the profession and both perceived susceptibility and cues to action. Those who have "0-10" years of experience in the profession have higher perceived susceptibility, and those who have "11-20" years of experience have relatively high cues to action mean scores. In the early stages of professional life, susceptibility to diseases is thought to increase due to uncertainty and lack of experience. Taking action is thought to increase with the increase of professional experience and accumulation of knowledge. Moreover, the cues to action mean score of this age range is considered to be relatively high since the "11-20" years in the profession is the most active period of working life.

A significant difference was found between the working unit of the health professionals and their perceived susceptibility. The perceived susceptibility scores of the health professionals working in the COVID-19 ward or intensive care unit were found to be relatively high. The emergency unit staff comes immediately after these two. In the pandemic period, health professionals were often exposed to high viral loads in the emergency or intensive care unit (20). Health professionals working in these units were more frequently infected (21). Since they are in contact with COVID-19 patients more, the infection risk of the health professionals working in these units is thought to increase, and accordingly their perceived susceptibility increases as well.

The mean perceived susceptibility scores of those who take an active part in treatment/care and work actively during the pandemic are high. Actively involving in the treatment and care increases the risk of infection. Therefore, the perceived susceptibility of the health professional actively involved in treatment/care increases. On the other hand, the total score of the COVID-19 Perception Questionnaire of the health professionals actively involved in the process is also high. Directly experiencing in the field what the pandemic brings about is thought to increase the health professional's perception of the process.

As a result of the study, of those who perceive their risk status as high and those who describe the risk status of their working unit as high, the health-motivation score and the COVID-19 Perception Questionnaire total score, as well as the perceived susceptibility and perceived severity scores were found to be relatively high. The results show that the increase of personal or environmental risk increased the health professional's perceived susceptibility and perceived

severity regarding COVID-19. While COVID-19 perceptions of high-risk individuals increase, their motivation for healthily executing the process also increases. In addition, it is seen that the average score of action factors is high for those who describe the risk level of the unit they work as high.

In the study, the mean cues to action factors score of those without disability was found to be significantly higher. According to the results of the study, having a disability is thought likely to cause problems in taking action.

As a result of the study, smokers' perceived susceptibility and perceived severity regarding COVID-19 were found to be high. People who smoke have a higher risk of respiratory diseases, cancer, and coronary disease. COVID-19 infection affects the upper respiratory tract and causes severe shortness of breath. The perceived susceptibility and perceived severity of such individuals are thought to have arisen for that reason. These smoking individuals who have a high perceived susceptibility and perceived severity should be encouraged and guided to quit smoking.

In the present study, the mean score of the Isolation Precautions Compliance Scale (IPCS) of the health professionals was found to be “above average”. The Isolation Precautions Compliance Scale (IPCS) total mean score of the health professionals in other studies conducted in the Turkish Republic of Northern Cyprus (TRNC) and Turkey was found to be "above average” (22-26). Health professionals' compliance with isolation is important in terms of infection prevention and control precautions. For this reason, in-service training sessions for infection protection are regularly organized in our hospital for the health professionals both before and after the outbreak. These training sessions are thought to increase the compliance of health professionals with isolation precautions.

In the study, nurses' mean IPCS scores were found to be significantly higher than doctors. In the study of Ulupınar and Tayran (2011), the mean IPCS score of the nurses was found to be relatively high as well (11). A nurse, who is responsible for the care of her patients, is always in contact with them. They are the first to respond to the needs of the patient. That increases the risk of nurses getting infected, hence it may be a compelling factor for the nurse to comply with the isolation precautions. Also, the most questioned person is the nurse if the patient gets infected. Because the person who has the most frequent contact with the patient is the nurse. From this point of view, the compliance of nurses with the isolation precautions is expected to be high. Besides, in-service training is very important in nursing and these training sessions are held regularly. We think that all these factors have increased the compliance of nurses.

Between perception of benefit and perceived susceptibility, severity and barriers in the study; A significant relationship was found between self-efficacy and all scores except susceptibility and severity perception. The relationship between the perception of barriers and the perception of susceptibility, the perception of severity, the health motivation and the cues to action factors score is negative; The relationship between self-efficacy and the total score of the COVID-19 perception survey is positive. In the study, a positive relationship was found between the IPCS and the total and sub-dimension mean scores of the COVID-19 questionnaire, excluding the perception of barriers. A negative correlation was found with the mean score of the perception of barriers. Although the increase in the perception of barriers increases the total score of the COVID-19 perception survey and the self-efficacy score; susceptibility perception, severity perception, health motivation and cues to action factors negatively affect the mean score. In addition, the increase in the perception of barriers reduces compliance with isolation measures.

In the study, it was determined that the increase in the perceptions based on the Health Belief Model, excluding the perception of barriers, will also increase the compliance of the health workers with the isolation measures.

5. CONCLUSIONS

As a result of study, perceptions of health professionals regarding COVID-19 and their compliance with isolation precautions were found above average. This study revealed that nurses' COVID-19 perceptions and compliance with isolation precautions are relatively high to than physicians.

This study is thought to be important because it is the first study during the pandemic in which health professionals are evaluated with the Health Belief Model. The results of the research show within the scope of the Health Belief Model that the perceptions of health professionals regarding the COVID-19 pandemic increase their compliance with isolation precautions. More studies are needed to evaluate the perceptions of health professionals and their compliance with isolation precautions.

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Conflict of interests

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REFERENCES

1.World Health Organization. (2020). WHO Director- General's opening remarks at the media briefing on COVID-19 - 11 March 2020. Geneva, Switzerland: World Health Organization; 2020. [Cited 28 May 2020]. Available from URL: https://www.who.int/dg/speeches/detail/whodirector-general-s-opening-remarks-at-the-mediabriefing- on-covid-19—11-march-2020.

2.COVID -19 Turkey Web Portal. Situation in the World. (2020). Ankara, Turkey: COVID -19 Turkey Web Portal; 2020. [Cited 27 December 2021.] Available from URL: https://covid19.tubitak.gov.tr/dunyada-durum

3.Digital Transformation Office of The Presidency of The Republic Of Turkey. (2021). Coronavirus COVID-19 World Map. [Cited 27 December 2021.] Available from URL: https://corona.cbddo.gov.tr/

4.Cirrincione, L., Plescia, F., Ledda, C., Rapisarda, V., Martorana, D., Moldovan, R.E., … Cannizaro, E. (2020). COVID-19 pandemic: prevention and protection measures to be adopted at the workplace.*Sustainability*, 12(9),3603.https://doi.org/10.3390/su12093603

5.Liu, Z., Zhang, Y., Wang, X., Zhang, D., Diao, D., Chandramohan, K., & Booth, C. M. (2020). Recommendations for Surgery During the Novel Coronavirus (COVID-19) Epidemic. The Indian journal of surgery, 1–5. Advance online publication. https://doi.org/10.1007/s12262-020-02173-3

6.Bostan, S., Akbolat, M., Kaya, A., Ozata, M., & Gunes, D. (2020). Assessments of anxiety levels and working conditions of health employees working in COVID -19 pandemic hospitals. *Electron J Gen Me,*17(5):EM246. www.doi.org/10.29333/ejgm/8228

7.Atkinson, P., French, J., Lang, E., McColl, T., & Mazurik, L. (2020). Just the Facts: Protecting frontline clinicians during the COVID-19 pandemic. *CJEM*, *22*(4), 435–439. https://doi.org/10.1017/cem.2020.359

8.Jin, Y. H., Huang, Q., Wang, Y. Y., Zeng, X. T., Luo, L. S., Pan, Z. Y., ... & Wang, X. H. (2020). Perceived infection transmission routes, infection control practices, psychosocial changes, and management of COVID-19 infected healthcare workers in a tertiary acute care hospital in Wuhan: a cross-sectional survey. Military Medical Research, 7(24), 1-13. https://doi.org/10.1186/s40779-020-00254-8

9.Gözüm, S., Karayurt, O., & Aydin, I. (2004). The results of Turkish adaptations of champion's health belief model scale at breast cancer screening. *Journal of Research and Development in Nursing*, 1, 71-85.

10.Tuncay Yılmaz, S., Demirhan, İ., Şahin, S., & Kaplan S. (2019). An example of Health Belief Model: tobacco addiction in pregnant woman. Turkish Journal of Health Sciences and Research, 2(1):38-46. https://dergipark.org.tr/en/pub/tusbad/issue/47087/564848

11.Ulupınar, S., & Tayran, N. (2011). Bir ölçek geliştirme çalışması: İzolasyon önlemlerine uyum ölçeğinin geçerlik ve güvenirliği. Florence Nightingale Journal of Nursing, 19(2), 89-98. https://dergipark.org.tr/en/pub/fnjn/issue/9004/112194

12.Nemati, M., Ebrahimi, B., & Nemati, F. (2020). Assessment of Iranian nurses' knowledge and anxiety toward COVID-19 during the current outbreak in Iran. Arch Clin Infect Dis, 15(COVID-19), e102848. doi: 10.5812/archcid.102848

13.Naderi, M., Maleki, S., Najafi, F., Farhadi, K., Fakhri, M., & Hosseini, F. (2020). Knowledge, attitude and behavior of health care workers in the prevention of COVID -19. PREPRINT (Version 1) available at Research Square, 1-17. https://doi.org/10.21203/rs.3.rs-23113/v1
14.Chughtai, A.A., & Khan, W. (2020). Use of personal protective equipment to protect against respiratory infections in Pakistan: A systematic review. *Journal of infection and public health*, *13*(3), 385–390. https://doi.org/10.1016/j.jiph.2020.02.032
15.Eriş, H., Ayhan, Z. (2020). COVID-19 perceptions and attitudes of health workers in Turkey. Journal of critical reviews, 7(12):1142-1150. http://dx.doi.org/10.31838/jcr.07.12.200
16.Houghton, C., Meskell, P., Delaney, H., Smalle, M., Glenton, C., Booth, A., Chan, X., … Biesty, L. M. (2020). Barriers and facilitators to healthcare workers' adherence with infection prevention and control (IPC) guidelines for respiratory infectious diseases: a rapid qualitative evidence synthesis. *The Cochrane database of systematic reviews*, *4*(4), CD013582. https://doi.org/10.1002/14651858.CD013582
17.Jankowski, J., Davies, A., English, P. M., Friedman, E., McKeown, H., Rao, M., ... & Strain, W. D. (2020). Risk stratification for healthcare workers during COVID-19 pandemic: using demographics, co-morbid disease and clinical domain in order to assign clinical duties. *MedRxiv*.
18.Powell-Jackson, T., King, J. J., Makungu, C., Spieker, N., Woodd, S., Risha, P., & Goodman, C. (2020). Infection prevention and control compliance in Tanzanian outpatient facilities: a cross-sectional study with implications for the control of COVID-19. The Lancet Global Health, 8(6), e780-e789. https://doi.org/10.1016/S2214-109X(20)30222-9
19.Eyigun, C.P. (2004). A new threat to health care workers: SARS. *Journal of Hospital Infections,* 8(2):196-203.
20.Odor, P. M., Neun, M., Bampoe, S., Clark, S., Heaton, D., Hoogenboom, E. M., ... & Kamming, D. (2020). Anaesthesia and COVID-19: infection control. British journal of anaesthesia, 125(1), 16-24. https://doi.org/10.1016/j.bja.2020.03.025
21.Ak G. Coronavirus Disease 2019 (COVID-19) and the Lung: What Pulmonologists Need to Know -27 April 2020. (2020). Istanbul, Turkey: Turkey Respiratory Research Association; 2020. [Cited 28 May 2020.] Available from URL: http://solunum.org.tr/News.aspx?newsId=50.
22.Tanyeri, K. (2018). Determination of Compliance of Nurses to Isolation Measures in Prevention of Hospital Infections [Master Thesis]. [Nicosia, Turkish Republic of Northern Cyprus]: Near East University, Institue of Health Sciences.
23.Erden, S., Bayrak Kahraman, B., & Bulut, H. (2015). Evaluation of compliance of physicians and nurses with isolation precautions in intensive care units. *Gümüşhane University Journal of Health Sciences*, *4*(3), 388-398.
24.Dogu, O., & Tiryaki, O. (2017). Job satisfaction relationship between use of gloves attitude and compliance with isolation precautions of nurses intensive care. *J Intensive Care Nursing*, *21*(1), 16-21.
25.Demir, Z. (2014). Evaluation of the compliance of nurses and physicians working with children with isolation precautions [Master Thesis]. [Mersin, Turkey]: Mersin University, Institue of Health Sciences.
26.Yılmaz, H.A. (2019). Evaluation of compliance of health care workers with isolation measures [Master Thesis]. [Izmir, Turkey]: Aegean University, Institue of Health Sciences.