CHANGE OF DIFFERENT APPROACHES TO COMPLAINTS ABOUT THE USE OF PROTECTIVE MASKS FOR MEDICAL PERSONNEL DURING THE PANDEMIC PERIOD ACCORDING TO THE DURATION OF USE OF THE MASK

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ABSTRACT

During the pandemic period, medical personnel, in particular, are forced to use masks for longer to protect them from the Covid-19 virus, known by its most common name. The aim of this study was to explain what complaints health professionals had when using these protective masks throughout the day and the relationship between these negative results and mask use times. To this end, first, the negative consequences they experienced by referring to the mask they used the most were classified by clustering analysis. Accordingly, the first of the three different groups that emerged has no complaints. The second group includes physiological, physical or health complaints. The third group consists of external appearance, motion discomfort, economic or psychological complaints. Mask usage times were evaluated in 5 different time zones, the lowest 0-3 hours and the highest 16-19 hours. In the analysis of variance applied, it was found that a significant difference in a certain direction occurred between these three different groups of complaints due to different periods of use of protective masks.

Key words: protective masks, pandemic, complaints, medical personnel, duration of use

PANDEMİ DÖNEMİNDE SAĞLIK PERSONELİ İÇİN KORUYUCU MASKE KULLANIMINA İLİŞKİN FARKLI ŞİKÂYET YAKLAŞIMLARININ MASKE KULLANIM SÜRESİNE GÖRE DEĞİŞİMİ

ÖZET

Pandemi döneminde, özellikle sağlık personeli, en yaygın adıyla bilinen Covid-19 virüsünden korunmak için maskeleri daha uzun süre kullanmak zorunda kalmaktadır. Bu çalışmanın amacı, sağlık profesyonellerinin bu koruyucu maskeleri gün boyunca kullanırken ne gibi şikayetleri olduğunu ve bu olumsuz sonuçlar ile maske kullanım süreleri arasındaki ilişkiyi açıklamaktır. Bu amaçla, ilk olarak, en çok kullandıkları maskeyi referans alarak yaşadıkları olumsuz sonuçlar kümeleme analizi ile sınıflandırılmıştır. Buna göre, ortaya çıkan üç farklı grubun ilkinin hiçbir şikayeti yoktur. İkinci grup fizyolojik, fiziksel veya sağlık şikayetlerini içerir. Üçüncü grup dış görünüş, ekonomik, hareket rahatsızlığı veya psikolojik şikayetlerden oluşur. Maske kullanım süreleri 5 farklı saat diliminde, en düşük 0-3 saat ve en yüksek 16-19 saat olarak değerlendirildi. Uygulanan varyans analizinde, koruyucu maskelerin farklı kullanım sürelerine bağlı olarak bu üç farklı şikayet grubu arasında belirli bir yönde anlamlı bir fark oluştuğu bulunmuştur.

Anahtar kelimeler: koruyucu maskeler, pandemi, şikayetler, sağlık personeli, kullanım süresi

INTRODUCTION

The use of personal protective equipment has been essential for the vital safety of people against the Corana virus epidemic that has affected almost every continent. In such a pathogenic environment, where the virus is transmitted by various means and a very high case of death occurs, a large number

of health care workers actively continue their work (Ha, 2020). Health care workers use personal protective equipment not only for themselves, but also for their colleagues, their families and the patients they have to treat, in a sense to protect social health. In this case, which requires high care and attention, various ways have been proposed for Infection Prevention and control, such as hand hygiene, putting social distancing, the use of wearing facial masks, safety glasses and/or visors, protective clothing, and respirators (or breathing apparatus).

In hospitals, two types of masks are used as personal protective equipment. If the surgical mask, one of them, is worn by health care workers at a distance of 1 m to the patient, it effectively protects the person from droplet transmission. Its protection against the virus has been estimated at about 80%. Other types of masks are called "filtering facepieces respirators". These masks are high performance filtering masks (eg. N95 or FFP2 or FFP3 standard or equivalent). Filtration is carried out by the combination of a polypropylene microfibers and an electrostatic charge network. Such masks must be properly tested before each use; at least the user confirm a seal before entering the aerosol-containing area (Cook, 2020; Azap and Erdinç, 2020).

The issue of what masks should be used to avoid contracting the virus during health setting service is a contentious topic that still requires multifaceted research (Azap and Erdinç, 2020). That's not the point of the current research, but instead is to try to understand other problems that medical staff face while carrying masks on their faces to protect themselves from the virus during long working hours. For example, in his study, Kantor (2020) mentioned the risk of skin irritation that can occur when masks are used long-term due to the pandemic case by health workers. In another study, He et al. (2021) reported some common opinions among people who were against the use of masks in their studies are following as: the lack of effectiveness of the mask, physical discomfort, and adverse effects, and being inappropriate or unnecessary for some reasons. There is widespread misinformation about the lack of effectiveness of the use of face masks. Most people believe that wearing a mask is not as effective as it's claimed, or not always effective (i.e., if it is not worn properly), or that there are other better alternatives (i.e. putiing social distance). In addition, the most common concerns are related to physical discomfort and adverse effects. These included breathing difficulties and causing sweaty face and foggy glasses or skin ailments (e.g. rash and acne) or damaging the immune system. Some users opposed wearing masks because they believed it is not effective as it's claimed for preventing the spread of the virus or not always effective (i.e., if it is not worn properly), or that there are other better alternatives (i.e., unnecessary outdoors or when social distancing is). It is also interesting to note that while political beliefs are thought to be the key reason for some people who are against mask wearing (such as controlling or manipulating people's behavior by keeping them at home). Further, for some others, wearing mask is associated with the negative connotations such as being oddlooking, "unAmerican," criminal resembling, or reflective of panic and fear. Last, there are those who refuse to wear masks because Coronovirus still does not consider it a serious threat.

Types of masks

The mask is a means of protection that prevents the entry of harmful things into the respiratory system by sealing the mouth and nose. Because their size is less than 0.1 microns, there are masks that prevent the passage of gas, smoke, steam and fog that do not qualify as particles. In addition, in general, there are protective masks with mechanical, i.e. physical, filters that can hold or prevent dust, particles, aeresol, droplets, bacteria and viruses that have a size of 0.1-5 microns (one thousandth of a millimeter). The more advanced ones are the completely closed masks with fresh air reinforcement (Toktaş, 2020).

Masks are named FFP1, FFP2, FFP3 according to the European Union standards which is with the standard name and number of EN 149 and N143 for dust and particles. Again, masks with the standard name and number NIOSH 42 CFR 84, which comply with us standards, are called N95, N99 and N100. Masks that comply with Chinese standards GB2626-2006 are called KN/KP90, KN/KP95 and KN/KP100. The Harmonized Turkish standard on this issue is TS EN 149 + A1, July 2010 (Toktaş, 2020).

Particle masks that protect against solid (dust) and liquid aerosols or droplets, their filtration capacities (%) and the particle size (microns) they can hold are as follows, respectively. Speaking for European

standard masks, 80% and at least 0.6 Micron is for FFP1; 94% and 0.3 micron or more is for FFP2; 99% and 0.1 micron or above is for FFP3. Of the masks in America standard, the filter efficiency for N95 is 95%, and other properties are the same as FFP1. It is the equivalent of the other, N95 FFP2. And the other, the N100 mask, has a filter efficiency of 99.97%, equivalent to FFP3. Similarly, the filter efficiency of masks in Chinese standards is 90% for KN/KP90, 95% for KN/KP95 and 99.97% for KN/KP100 (Toktaş, 2020).

Masks are classified as" surgical mask "and" respiratory mask " in two ways. Surgical masks are designed to be used so that the infected or sick person does not carry the virus to the healthy person by means of transmission, such as aerosols and droplets, through coughing and sneezing. Contrary to popular belief, it is a one-sided protector, meaning that in order to protect a healthy person from a sick person, it is necessary for those who are actually sick to use this mask. (Küçük and Aral, 2020). But since it is unpredictable who is carrying the virus or not, it is recommended that everyone wear it. As Toktaş (2020) expresses, it is loosely fitted, covering the nose and mouth. These masks' effectiveness can hold particles larger than 0.5 microns in the environment by 75-80%.

Another type of mask, respiratory masks are protective masks that fit more tightly to the face. There are disposable, half-face or full-face designs and versions with and without valves of this mask, which protect the wearer if worn appropriately. Breathing masks with valves are more convenient to use, preventing moisture accumulation, which allows faster and easier transmission of air. But it is only suitable for the use of healthy people, since if sick people use it, the infection will spread, as the valve will open when breathing, coughing or sneezing will enter the air without filtering. Breathing masks with valves are especially useful in high-grade filters that require more force to exhale (N100/ FFP3) (Küçük and Aral, 2020).

There are also half-face masks that have only chemical filters or filter both chemical and particulate. These masks provide higher protection compared to all other masks that we are talking about in terms of sealing rates, mask effectiveness, and retention rates to lower particles (Toktas, 2020). In this study, complaints of health workers based on mask usage time were evaluated for the most commonly used FFP1, FFP2, FFP3, N95 and N99 masks in our country.

METHOD

In this study, the online survey was designed through google survey to access health care workers ' assessments of some possible negatives that may occur during mask use. For these reviews, the mask they most often use is referenced. Complaints expressed in different ways are grouped according to the similarities between them based on the data obtained by using clustering analysis. Taking into account the duration of mask use, it was investigated whether there was a significant difference between different complaint groups by using one-way Anova. The IBM SPSS 20 program was used for data analysis.

In the next section, you can find the characteristics of the sample extracted from the data obtained from 352 health workers. Research participants were identified by the variables gender, age, occupation, marital status, Working year, monthly income level and educational level, which were categorically measured.

Sample Characteristics

Table 1 summarizes the sample characteristics statistics. In this study, a sample of 208 women and 144 men was available. The age variable is defined in 6 categories. The frequencies corresponding to the age ranges are given in parentheses: 19-24 years (48 persons), 25-31 (79), 32-37 (65), 38-43 (62), 44-49 (59), 50-55 (22) and 56 or above (17). The level of education is presented in four different categories and is reported by their frequency: i.high-school (25 persons), ii.university (248), iii.bachelors ' degree (47), iv.doctorate degree (32). A study of marital status found that the majority were married (231 people were married, 121 were single). The frequency data obtained in the six categories defined when asked about the working year is as follows: 0-5 years (99), 6-10 (53), 11-15 (64), 16-20 (49), 21-25 (42) and 26 and above (45). The monthly income level is defined in 7 categories, with endpoints of TL 2825 or lower and TL 10,000 or higher. The densest distribution is available from TL 4001 to TL 6000 (180 persons). The frequency values obtained for their

occupations were reported as follows: nurse (101 people), health worker (99), dentist (32), medical secretary (31), administrative staff (26), specialist physician (12), general practitioner (8), and while 32 people marked other.

Table 1. Sample Analysis Report

Gender		Frequency	Percent	**Age (years)**		Frequency	Percent	**Occupation**		Frequency	Percent
Valid	Female	208	8,4	Valid	19-24	48	1,9	Valid		2112	85,7
	Male	144	5,8		25-31	79	3,2		Other	43	1,7
	Total	352	14,3		32-37	65	2,6		Dentist	32	1,3
Missing	System	2112	85,7		38-43	62	2,5		Nurse	101	4,1
Total		2464	100,0		44-49	59	2,4		Administrative staff	26	1,1
Marital status		Frequency	Percent		50-55	22	,9		General pratitioner	8	,3
Valid	Married	231	9,4		56 or above	17	,7		Health worker	99	4,0
	Single	121	4,9		Total	352	14,3		Medical secretary	31	1,3
	Total	352	14,3	Missing	System	2112	85,7		Specialist physician	12	,5
Missing	System	2112	85,7	Total		2464	100,0	Total		2464	100,0
Total		2464	100,0								
Total operating year		Frequency	Percent	**Monthly income level (TL)**		Frequency	Percent	**Education Level**		Frequency	Percent
Valid	0-5	99	4,0	Valid	2.825 or less	23	,9	Valid	High school	25	1,0
	6-10	53	2,2		2.826-4.000	46	1,9		University	248	10,1
	11-15	64	2,6		4.001-5.000	84	3,4		Bachelors' degree	47	1,9
	16-20	49	2,0		5001-6000	96	3,9		Doctorate degree	32	1,3
	21-25	42	1,7		6001-7000	35	1,4		Total	352	14,3
	26/above	45	1,8		7001-8000	22	,9	Missing	System	2112	85,7
	Total	352	14,3		10.001 or above	46	1,9	Total		2464	100,0
Missing	System	2112	85,7		Total	352	14,3				
Total		2464	100,0	Missing	System	2112	85,7				
				Total		2464	100,0				

Measures

A preliminary survey of 29 people listed 17 possible negative situations that people may face during daily mask use and asked for assessments. Two of the unsanctioned were eliminated, and the remaining 15 mask use complaint elements were included in the main survey (you can see in Table 2).

Table 2. Complaints about table mask use

CMPLNT0: I didn't feel any side effects.
CMPLNT1: I can't wash my face comfortably.
CMPLNT2: It gives me a headache.
CMPLNT3: It makes me thirsty.
CMPLNT4: I can't get any air. (It makes you want to breathe deeply.)
CMPLNT5: It gives me allergies.
CMPLNT6: It makes me sweat.
CMPLNT7: Makes it more warmth.
CMPLNT8: I'm having trouble taking off the mask and putting it on.
CMPLNT9: It's hard for people around me to recognize me when I'm masked.
CMPLNT10: I feel ugly in a mask.
CMPLNT11: Expensive (its price is high for me)
CMPLNT12: It damages my face (for example, crushing the back of the ear)
CMPLNT13: it is mandatory to wear and there is a penalty if removing. So I feel pressure.
CMPLNT14: It blocks my field of view when I walk and poses a risk of accidents. (fall, impact, etc.)

In the process of collecting data through an online survey, health workers who participated in our research were given these 15 side effects or negative evaluation substances that they may encounter when using a mask to protect against the virus in a pandemic. These were called complaints about mask use, and for the mask they most often used, their degree of participation in each was measured with a likert type scale, which has the endpoints were 1 (disagree at all) and 5 (completely agree).

A categorical scale was used to measure the duration of mask use by health workers. Asked how many hours they used masks on average, i. 0-3 hours, ii. 4-7 hours, iii. 8-11 hours, iv. 12-15 hours and v. 16-19 hours, five answer options were defined.

ANALYSIS AND RESULTS

Clustering Analysis

Data was collected from a total of 352 people via an online survey method throughout a period of about one month between 10 February and 5 March, 2021. According to the data obtained, a number of negative perceptions or complaints listed can be seen close to each other in some way and collected under a specific group. As expressed by Çokluk et al. (2010), the goal of clustering analysis is to reveal the similarities of units (or variables) and classify them according to these similarities and create discrete categories. Hierarchical clustering analysis is appropriate, as we do not initially know how many groups are present in the dataset we are studying (Anderberg, 1973). Hierarchical clustering analysis is the process of combining clusters one after another, and once one group is combined with another, it cannot be separated in later steps (Fırat, 1995; Çakmak et al., 2015). One of the methods of hierarchical clustering analysis, the Ward Method (Çakmak et al., 2015), which ensures that variance within clusters remains minimal, is one of the most widely used. The results of hierarchical techniques indicated by tree diagrams are called dendograms (Lorr, 1983).

According to the results of hierarchical clustering analysis, 15 separate negative thoughts about mask use were divided into three groups according to the degree of proximity (see Figure 1). As can be seen, the dendrogram that occurs when the Ward technique is used in clustering analysis shows that two clusters are formed at the highest level. But the phrase corresponding to CMPLNT0 “I didn't feel any side effects."and its inclusion in a set with other variables is not theoretically plausible. Because all other variables express any side effects related to mask use. So instead of the top level in the dendogram, its bottom level was taken into account. The three clusters that emerged at this level were

found to be more theoretically significant. Where the CMPLNT0 variable creates a cluster on its own (Cluster 1), the codes CMPLNT1,2 ,3, 4, 6 ,7 and 12 variables were included in the second set (Cluster II). In the third set, the remaining variables are collected: CMPLNT5,8,9,10,11,13 and 14 (Cluster III). The first cluster does not express any complaints. The second cluster contains physiological, physical, or health complaints. The third cluster consists of external appearance, economic, movement discomfort, or psychological complaints.

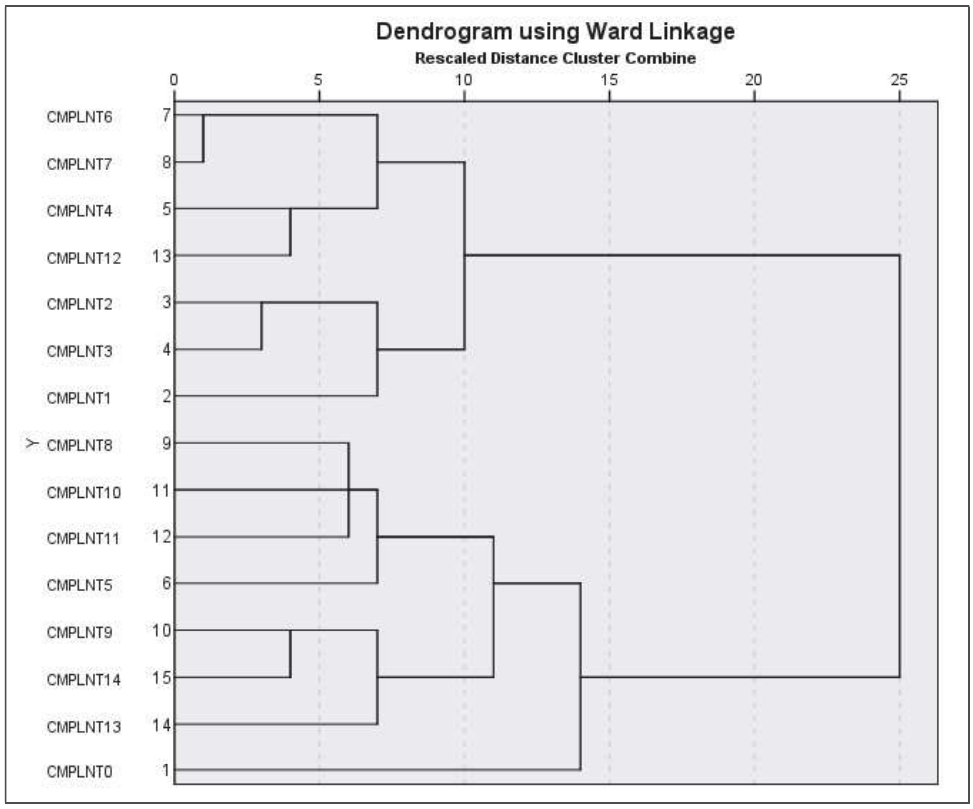

Figure I. Dendrogram using Ward Linkage

Method: Ward linkage

Squared Euclidean Distance used

N: Case number= 352

One-way Anova Analysis

Different complaints (variables) about the use of masks in three separate sets identified showed proximity within themselves, while each cluster (certain types of complaints) was perceived differently from the other cluster (other types of complaints). Accordingly, data about the types of complaints (variables) that are primarily included in the same set were collected and included in its own category. In the second and third sets, there were seven separate types of complaints (variables), but when the first set was a single variable (CMPLNT0), the data was created by repeating itself and producing a number of observations equivalent to the other two sets with seven variables. In this case, as can be seen in Table 3, observations were obtained for each complaint set or category by multiplying the number of observations (352) by the number of variables (7) (N=2464).

Depending on the duration of use of the mask, it was possible that the degree of complaint related to the use of the mask would differ. Complaints included in the same category were determined based on Cluster analysis (Cluster I, II and III). Separately for each of the three separate complaint categories with a one-way analysis of variance, we tested whether complaint assessments differed significantly as the duration of mask use changed. Our group variable in variance analysis is mask usage times. Mask

usage times were evaluated in 5 groups: 0-3 hours (I), 4-7 hours (ii), 8-11 hours (iii), 12-15 hours (iv) and 16-19 hours (v). In order to equalize the number of units contained in the groups, units from other groups were randomly drawn as much as the number that was at least. Accordingly, the average, standard deviation and other statistical information for groups describing different mask use times consisting of 259 people are shown in Table 3.

Table 3. Descriptive statistics for complaint assessments for groups determined by mask usage time

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	95% Confidence Interval for Mean		
						Lower Bound	Upper Bound	Minimum	Maximum
Cluster I	0-3	259	3,29	1,43	,089	3,12	3,47	1	5
	4-7	259	3,15	1,29	,080	2,99	3,30	1	5
	8-11	259	3,34	1,44	,090	3,16	3,52	1	5
	12-15	259	2,83	1,51	,094	2,65	3,02	1	5
	16-19	259	2,46	1,59	,099	2,26	2,65	1	5
	Total	1295	3,01	1,49	,041	2,93	3,10	1	5
Cluster II	0-3	259	3,37	1,48	,092	3,19	3,55	1	5
	4-7	259	3,20	1,41	,087	3,03	3,38	1	5
	8-11	259	3,30	1,49	,092	3,12	3,48	1	5
	12-15	259	3,74	1,43	,089	3,56	3,91	1	5
	16-19	259	3,83	1,36	,084	3,67	4,00	1	5
	Total	1295	3,49	1,45	,040	3,41	3,57	1	5
Cluster III	0-3	259	2,36	1,42	,088	2,19	2,54	1	5
	4-7	259	2,61	1,44	,089	2,43	2,79	1	5
	8-11	259	2,57	1,41	,088	2,39	2,74	1	5
	12-15	259	2,61	1,53	,095	2,43	2,80	1	5
	16-19	259	2,71	1,47	,091	2,53	2,89	1	5
	Total	1295	2,57	1,46	,041	2,49	2,65	1	5

Levene statistical test was applied to test the homogeneity of variance, an assumption on which variance analysis is based (see Table 4). Accordingly, in separate analyses for three different complaint categories, variance homogeneity in terms of mask usage time was provided only for Cluster III (p=.304) but could not be verified for Cluster I and II (p=.000). Because it does not provide variance homogeneity, the Games-Howell test is suitable when performing post hoc analysis for Cluster I and II categories.

Table 4. Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Cluster I	7,51	4	1290	,000
Cluster II	3,52	4	1290	,007
Cluster III	1,21	4	1290	,304

Looking at the Anova report in Table 5, it seems that there are no significant differences in the degree of complaints between groups divided by Cluster III mask usage time (p=.089). It is the opposite for Cluster I and II (p=.000).

Table 5. ANOVA Statistics

		Sum of Squares	df	Mean Square	F	Sig.
Cluster I	Between Groups	140,31	4	35,08	16,54	,000
	Within Groups	2736,41	1290	2,12		
	Total	2876,72	1294			
Cluster II	Between Groups	80,90	4	20,22	9,83	,000
	Within Groups	2652,69	1290	2,06		
	Total	2733,59	1294			
Cluster III	Between Groups	17,12	4	4,28	2,02	,089
	Within Groups	2733,74	1290	2,12		
	Total	2750,85	1294			

The post hoc analysis report, which is applied separately for both Cluster I and Cluster II categories, is presented in Table 6 to understand which groups differ in complaint evaluations. Significance at 0.05 was taken into account. Accordingly, according to the results obtained for Cluster I, there was no significant difference in the degree of complaint between groups 0-3 (i), 4-7 (ii) and 8-11 (iii), which express the duration of mask use in hours. However, 0-3 (i) and 8-11 (iii) differ significantly from 12-15 (iv) and 16-19 (v) time zones, which refer to higher usage time. The 16-19 (v) time zone, which refers to the longest mask usage time, differs significantly in terms of complaint ratings in all other time zones. Looking at the results for Cluster II, all other meaningful meaningless results were the same, but two different results were recorded. The duration of mask use defined by the 4-7 (ii) time zone also differs significantly from the complaint assessment obtained for the 12-15 (iv) time zone. Another difference is that the complaint evaluations obtained for mask use with the 12-15 (iv) time zone do not differ from those obtained for the 16-19 (v) time zone.

Table 6. Post Hoc Tests : Multiple Comparisons using Games-Howell

Dependent Variable	(I) HOUR	(J) HOUR	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	95% Confidence Interval
						Lower Bound	Upper Bound
Cluster I	0-3	4-7	,147	,119	,735	-,18	,47
		8-11	-,046	,126	,996	-,39	,30
		12-15	,459*	,129	,004	,11	,81*
		16-19	,834*	,133	,000	,47	1,20*
	4-7	0-3	-,147	,119	,735	-,47	,18
		8-11	-,193	,120	,494	-,52	,14
		12-15	,313	,123	,085	-,03	,65
		16-19	,687*	,127	,000	,34	1,04*
	8-11	0-3	,046	,126	,996	-,30	,39
		4-7	,193	,120	,494	-,14	,52
		12-15	,506*	,130	,001	,15	,86*
		16-19	,880*	,133	,000	,51	1,25*
	12-15	**0-3**	-,459*	,129	,004	-,81	-,11*
		4-7	-,313	,123	,085	-,65	,03
		8-11	-,506*	,130	,001	-,86	-,15*
		16-19	,375*	,136	,049	,00	,75*
	16-19	**0-3**	-,834*	,133	,000	-1,20	-,47*
		4-7	-,687*	,127	,000	-1,04	-,34*
		8-11	-,880*	,133	,000	-1,25	-,51*

		12-15	-,375*	,136	,049	-,75	,00*
Cluster II	0-3	4-7	,166	,127	,687	-,18	,51
		8-11	,073	,131	,980	-,28	,43
		12-15	-,367*	,128	,035	-,72	-,02*
		16-19	-,463*	,125	,002	-,81	-,12*
	4-7	0-3	-,166	,127	,687	-,51	,18
		8-11	-,093	,127	,950	-,44	,26
		12-15	-,533*	,125	,000	-,87	-,19*
		16-19	-,629*	,121	,000	-,96	-,30*
	8-11	0-3	-,073	,131	,980	-,43	,28
		4-7	,093	,127	,950	-,26	,44
		12-15	-,440*	,128	,006	-,79	-,09*
		16-19	-,537*	,125	,000	-,88	-,19*
	12-15	**0-3**	,367*	,128	,035	,02	,72*
		4-7	,533	,125	,000	,19	,87
		8-11	,440	,128	,006	,09	,79
		16-19	-,097*	,123	,934	-,43	,24*
	16-19	**0-3**	,463*	,125	,002	,12	,81*
		4-7	,629	,121	,000	,30	,96
		8-11	,537	,125	,000	,19	,88
		12-15	,097	,123	,934	-,24	,43

*. The mean difference is significant at the 0.05 level

DISCUSSION

Health workers ' evaluations of possible negative situations they may encounter during the time they used a face mask to protect against the virus during the pandemic process were the subject of this study. Different types of negatives can be mentioned, and some can be perceived as close or similar to each other. Aside from never complaining, fourteen different negative situations were identified. In these, damage to the face can be perceived more as a physical risk. Conditions such as headache, facial hygiene can be seen as conditions that negatively affect health. Problems such as thirst, deep breathing, sweating, excessive temperature can be considered more physiological complaints. Health workers perceived all negative results related to physical comfort, physiological or health as more relevant to each other.

In other cases, the difficulty of removing the mask and wearing it and the movement restriction caused by closing the field of view can create motion discomfort. Being unrecognizable while wearing the mask, feeling ugly, or having allergic marks on the face may have had a negative effect on the person's perception of how they look from the outside. Perception and feelings about his appearance and comfort in motion may be seen and perceived similar in terms of the social meaning that a person loads into the mask. In addition, an economic outcome such as cost, and psychological stress caused by the necessity to wear a mask have both been associated with the social perceptions of health workers. Here, as a result of the fact that the expected negative perceptions of economic and psychological origin are essentially based on very strong attitudes, it is possible that they have been seen to be related to different types of social image and social comfort. Therefore, health professionals perceived the external appearance, motion discomfort, economic or psychological complaints as more relevant to each other. At the same time, they were perceived as different from physical comfort, physiological or health-related complaints that were evaluated similiarly.

As the duration of mask use gradually increased, the change in the degree of complaint of health workers about mask use was evaluated for each different complaint approach. The duration of the mask use does not change people's complaints associated with external appearance, motion discomfort, spending or/and psychological state. But there is a significant increase in complaints about

physical comfort, physiological or health, depending on the duration of mask use. In this case, there is no significant difference between complaint evaluations when the mask is used for up to 11 hours. But when the duration of mask use exceeds 11 or 16 hours, it is understood that there is a significant increase in complaints from health professionals in general compared to the situation when less time is used, and they feel more intense side effects related to mask use. When complaints about physical comfort, physiological or health are taken into account, these complaints increase when the mask is used over an 11-hour period. But when the duration of mask use increases to 19 hours after 11 hours, physical, physiological and health risk assessments remain stable.

CONCLUSION

People wear the mask to protect from the Covid-19 virus, which threatens their health or even their lives. No matter what the results associated with a particular product use, are positive or negative, are generally based on physical, performance, health, financial, psychological, or social. There is no doubt that our health-related expectations will be more pronounced during the pandemic process we are in. Because of this, the duration of mask use for health workers when they wear the mask is more strongly associated with health, physical and physiological expectations. It should be considered on how to eliminate such negatives that may occur when using a mask. Masks' production should also be considered in this aspect and developed if necessary. For the well-being of health workers who work long hours and waive their own living standards for people, the risks felt based on the use of masks should be reduced. In this research, doctors in particular could not be reached among health care workers. In order to take into account this important constraint and understand their requirements for mask use, they should be included in sampling in subsequent studies, if possible.

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