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Have We Got Used to It Despite the Challenges? Mask Usage Habits and Usage Difficulties During Covid-19 Pandemic

Zorluklarına Rağmen Alışabildik Mi? Covid-19 Pandemisinde Maske Kullanım Alışkanlıkları ve Kullanım Zorlukları

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Abstract

Aim: In this study; It is aimed to identify the use of masks, which has become mandatory due to the Covid-19 epidemic since March 2020, the habits of individuals living in Turkey and the difficulties they face during the use of masks.

Material and Method: The study was performed as an questionnaire research with multiple -choice determinative questions, 1524 volunteers were randomized on the questionnaire platform. The data obtained were expressed in percentiles and inferences proportional to the purpose were obtained.

Results: Ninety percentage of participants use the surgical mask, 31.4% of them have double masks and 46.3% need to change masks within the day. The ratio of participants warn those who do not wear a mask was found as 67.2%. We asked about the reason of mask usage and got "always" feedback from 75.9% of the respondents for the statement that; "I use the mask to protect my health". Similarly, 76.2% said "always" to the statement "I use the mask to protect the health of the people around me". Finally, 48% of the participants stated that the radical extension of the Covid-19 epidemic process increased their sensitivity to mask use, and 34.3% stated that they could continue to use masks after the pandemic process is over.

Conclusion: With this study, it was concluded that there is a high probability of encountering various problems in the use of masks and despite these problems that may negatively affect daily life, individuals show sensitivity in using masks in order to protect their health and those around them.

Keywords: Covid-19, pandemics, masks

Öz

Amaç: Bu çalışmada; Mart 2020'den itibaren Covid-19 salgını nedeniyle zorunlu hale gelen maske kullanımının, Türkiye'de yaşayan bireylerin maske alışkanlıkları ve maske kullanımı sırasında karşılaştıkları güçlüklerinin tespit edilmesi amaçlanmaktadır.

Gereç ve Yöntem: Çalışma, çoktan seçmeli belirleyici sorular içeren bir anket araştırması olarak gerçekleştirildi, anket platformunda 1524 gönüllü rastgele seçildi. Elde edilen veriler yüzdelik dilimler halinde ifade edilerek amaca orantılı çıkarımlar elde edilmiştir.

Bulgular: Katılımcıların %90'ı cerrahi maske kullanmakta, %31,4'ü çift maskeli ve %46,3'ü gün içinde maske değiştirme ihtiyacı duymaktadır. Maske takmayanları uyaranların oranı %67,2 olarak bulundu. Maske kullanım nedenini sorduğumuzda ankete katılanların %75,9'undan "Sağlığımı korumak için maske kullanıyorum"a "her zaman" geri bildirimini aldık. Benzer şekilde, "Maskeyi çevremdeki insanların sağlığını korumak için kullanırım" ifadesine de katılımcıların %76,2'si "her zaman" cevabını vermiştir. Son olarak, katılımcıların %48'i Covid-19 salgın sürecinin radikal uzantısının maske kullanımına karşı duyarlılıklarını artırdığını, %34,3'ü pandemi süreci bittikten sonra da maske kullanmaya devam edebileceklerini belirtti.

Sonuç: Bu çalışma ile maske kullanımında çeşitli sorunlarla karşılaşma olasılığının yüksek olduğu ve günlük yaşamı olumsuz etkileyebilecek bu sorunlara rağmen bireylerin sağlıklarını ve çevrelerini korumak için maske kullanımında hassasiyet gösterdikleri sonucuna varılmıştır.

Anahtar Kelimeler: Maske, Covid-19, pandemi

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INTRODUCTION

The SARS-CoV-2 virus, which is also defined as COVID-19 in the literature, is a virus that emerged in Wuhan, China in the last quarter of 2019 and spread by affecting many countries virally in a short time. In the ongoing process, Covid-19 was declared as a global emergency by World Health Organization on January 30, 2020 (1). After the first Covid-19 case statements from China, especially Wuhan, the first cases began to appear in Europe. With this rapid spread, a state of emergency was declared in Spain on 14 March and the authorities announced that the necessary measures will be taken (2). On March 11, 2020, the first COVID-19 case in Turkey was announced by the Ministry of Health (3).

Viruses spread from infected patients to healthy individuals, and this spread can be caused by droplets that taken by individuals during inhalation or by contamination of the eye and nasal mucosa (4). Although meaningful results for foodborne contamination are not available in the literature, some studies have emphasized that contaminated foods may pose a risk (5).

In researches that aimed to prevent the spread of the virus; Hand and respiratory hygiene, practice of social distance and the usage of mask have suggested on the grounds that spread can be prevented (5). It has also been reported that the usage of a multi-layer mask is a more effective method of protection from viruses than a single-layer mask (6).

There are studies applied on healthcare professionals in Turkey in order to determine habits about the usage of masks, which have important effects in preventing the viral transmission (7). In the United States, modeling studies have been carried out with some predictive data in order to predict the mask use habits of the people (8). As can be understood from the examples of the two studies, it is important to determine the mask usage habits of individuals and to get reactions about this issue to increase the usage of mask concretely. The aim of this study is in similar directions, to determine the mask useage habits and the problems encountered during mask usage in individuals living in the Republic of Turkey.

MATERIAL AND METHOD

Study sample; consists of individuals aged 18 and over, without a history of major psychosocial illness. (In the study, the lower limit is under 18 years of age and the upper limit was not set, but the upper limit due to the inability to obtain data for individuals aged 70 and over is considered to be 70 years in this study.) The online survey forms were shared with 1524 participants determined in this context between January 16 and February 16. The questionnaire forms prepared to collect data consist of two parts. The first part contains nine questions about the sociodemographic information of the participants. The second part consists of twenty questions that will be evaluated within the scope of mask usage habits and difficulties (Ethics committee approval number: E-46418926-050.01.04--5426).

Percentage, mean and standard deviation were used in descriptive statistics. Chi-square test was used in comparative analysis. A p value less than 0.05 was considered statistically significant.

RESULTS

Totally 1524 participants were included into thge study, with the ratio of 60.2% of women. The average age of the participants was found to be 23.8 (± 7.893) years. Other sociodemographic information of the participants is shown in **Table 1**.

Table 1. Demographic and general information data of the study

		N	%
Gender	Female	918	60.2
	Male	606	39.8
Age	18-24 years old	1171	76.8
	25-39 years old	243	15.9
	40-70 years old	110	7.3
Education Status	High school and below	152	15
	University	1372	85
Mask Type	Surgical	1371	90
	N95	37	2.4
	Washable/homemade	74	4.9
	Another	42	2.7
Mask supply location	Pharmacy	521	34.2
	Market	596	39.1
	Internet	219	14.4
	Homemade	22	1.4
	Another	166	10.9
Priority order when buying masks	Approval status from the ministry of health	494	32.4
	3 Floors	604	39.6
	Be cheap	196	12.9
	Another	230	15.1
Use of double masks	Yes	1046	31.4
	No	478	68.6
Changing masks during the day	Yes	819	46.3
	No	705	53.7
Using the mask so that the mouth and nose are completely covered	Yes	60	96.1
	No	1464	3.9
The feeling of warning people who do not wear a mask	Yes	263	67.2
	No	1024	17.3
	It does not matter	237	15.6

When the findings are evaluated in terms of gender and age;

In the study, a significant correlation was found between gender and double mask use status, changing the mask during the day and warning when seeing people who do not wear masks ($p < 0.05$). In addition, no significant correlation was found between gender and wearing the mask with the mouth and nose closed ($p > 0.05$). When age and double mask use were examined, a significant relationship could be established between changing the mask during the day and alerting people who did not wear a mask ($p < 0.05$), while

no significant relationship was found between gender and wearing the mask with the mouth and nose closed completely (p <0.05). > 0.05) (**Table 2**).

Table 2. Mask usage habits in terms of gender

		Female		Male		P value
		N	%	N	%	
Use of double masks	Yes	354	38.6	124	20.5	p<0.05
	No	564	61.4	482	79.5	
Changing masks during the day	Yes	257	48.8	257	42.4	p<0.05
	No	470	51.2	349	57.6	
Using the mask so that the mouth and nose are completely covered	Yes	883	96.2	581	95.1	p>0.05
	No	35	3.8	25	4.1	
The feeling of warning people who do not wear a mask	Yes	669	72.9	355	58.6	p<0.05
	No	137	14.9	126	20.8	
	It does not matter	112	12.2	112	12.2	

Within the scope of the study, a significant relationship was found between gender-age and the reason for using masks (p <0.05) (**Table 3**).

Table 3. Reasons to use masks in terms of gender

		Female		Male		P value
		N	%	N	%	
I use the mask to protect my own health	Never	30	3.3	28	4.6	p<0.05
	Sometimes	33	3.6	50	8.3	
	Usually	95	10.3	132	21.8	
	Always	760	82.8	396	65.3	
I use the mask to protect the health of the people around me	Never	32	3.5	21	3.5	p<0.05
	Sometimes	36	3.9	44	7.3	
	Usually	107	11.7	122	20.1	
	Always	743	80.9	419	69.1	
I use the mask because it is mandatory	Never	227	24.7	148	24.4	p<0.05
	Sometimes	176	19.2	126	20.8	
	Usually	122	13.3	114	18.8	
	Always	393	42.8	218	36	

While a significant correlation was found between gender and difficulty in breathing, nasal flushing while wearing a mask, and being disturbed by the smell of the mask (p <0.05), no significant correlation was found between gender and ear pain when wearing a mask (p> 0.05).

No significant correlation was found between age and difficulty in breathing, nasal flushing while wearing a mask, being uncomfortable with the smell of the mask, and ear pain while wearing a mask (p> 0.05) (**Table 4**).

Finally, evaluation of the relationship between mask wearing difficulties and mask type;

While there was no significant relationship between the mask type used while wearing a mask, difficulty in breathing, discomfort in the mask odor and pain in the ear (p> 0.05), a significant relationship was found between the type of mask used and nasal flushing. (p <0.05) (**Table 5**).

Table 4. Difficulties in using masks in terms of gender

		Female		Male		P value
		N	%	N	%	
Difficulty breathing while wearing a mask	Yes	678	73.9	393	64.9	p<0.05
	No	240	26.1	213	35.1	
Nasal flushing when wearing a mask	Yes	346	37.7	176	29	p<0.05
	No	572	62.3	430	71	
Being uncomfortable with the smell of the mask	Yes	559	60.9	322	53.1	p<0.05
	No	359	39.1	284	46.9	
Ear pain when wearing a mask	Yes	552	60.1	368	60.7	p>0.05
	No	366	39.9	238	39.3	

Table 5. Difficulties of using the mask according to the mask type

		Yes		No		P value
		N	%	N	%	
Difficulty breathing while wearing a mask	Surgical mask	950	69.3	421	30.7	p>0.05
	N95	29	78.4	8	21.6	
	Homemade/washable	57	77	17	23	
	Another	35	83.3	7	16.7	
Nasal flushing when wearing a mask	Surgical mask	449	32.7	922	67.3	p<0.05
	N95	18	48.6	19	51.4	
	Homemade/washable	35	47.3	39	52.7	
	Another	20	47.6	22	52.4	
Being uncomfortable with the smell of the mask	Surgical mask	790	57.6	581	42.4	p>0.05
	N95	18	48.6	19	51.4	
	Homemade/washable	49	66.2	25	33.8	
	Another	24	57.1	18	42.9	
Ear pain when wearing a mask	Surgical mask	820	59.8	551	40.2	p>0.05
	N95	22	59.5	15	40.5	
	Homemade/washable	45	60.8	29	39.2	
	Another	33	78.6	9	21.4	

DISCUSSION

Masks provide protection for their users only when used correctly (9). Kim MC et al. conducted a study to investigate the filtering properties of masks and found that surgical masks inhibited less viral particles than N95 masks and their equivalents (10). On the other hand, no determination has been made about why individuals turn to surgical masks.

It has been confirmed by research that masks provide the prescribed protection together with physical distance and hygiene (11). Olgun et al., by scanning 27 articles on the use of masks, suggesting to consider the differences according to the usage environments and the people intended to use the masks, suggesting that the protection levels of the masks; N95 and similar (like FFP2, FFP 3) masks > surgical/medical masks > non-medical (such as polypropylene, cotton, polyester, silk) masks. Most of the participants in our study stated that they used surgical masks. As the reason for this result obtained in the research; Surgical masks are thought to be cheaper and more readily available. In addition, it may be that the ministry and WHO encourage the use of surgical masks outside of risk groups.

In the study conducted by Jacek and, in a population including 2135 students, it was found that the mask type that caused the most irritation in the nose (especially considering itching) was N95 + fpp. (12). Supporting the study, it was determined that the mask type that causes the most irritation in the nose is N95 in our study. In summary, in both studies, it was determined that N95 type masks cause more irritation in the nose compared to other masks.

Morishima and Kichida, in their study in Japan in 2009, 2012 and 2015; Similar questionnaires were applied to determine the rate of mask use, purpose of use, and problems reported while wearing masks. According to the results obtained, while the reason for using masks was to protect men from the flu in 2009, it turned into the prevention of colds in 2012 and 2015. Considering the common problems in male individuals; Moisture in the mask, condensation in the glasses and difficulty in breathing are in the first three places. The reason for using masks in women was to prevent colds. Considering the common problems, the first three reasons for female individuals are the same as for male individuals, and makeup deterioration due to masks during the day has also been identified as a problem (13). In this study, the most common problems on the basis of male individuals are; Difficulty in breathing, pain in the ear, discomfort from the smell of the mask and redness of the nose. Considering the most common problems in the use of masks in women, respectively; Difficulty in breathing, discomfort from the smell of the mask, pain in the ears and redness in the nose were determined.

Çağdaş and Emre; In their research on healthcare professionals, they examined the rate of earache as a result of the use of masks in two groups. During the use of masks, ear pain in the first group (healthcare professionals group using surgical masks) was measured twice as 60 and 180 minutes. 29.6% in the measurement made after 60 minutes; In the measurement made after 180 minutes, 39.5% complaints of ear pain were detected. In the second group (healthcare workers using ffp N95 type mask) when the same measurement was made, it was 41.9% after 60 minutes; After 180 minutes, 51.9% of ear pain complaints were found (7). Same problem in this article; dealing with earache and complaints; 59.8% in surgical mask, 59.5% in N95 type mask and 60.9% in homemade mask. If we look at the studies from a common point, it is thought that the reason why healthcare workers experience lower levels of ear pain is due to the use of masks at normal times outside the pandemic process due to professional requirements. But; In this study, while the rates of ear pain caused by the use of N95 and surgical masks (surgical mask 59.8% N95 59.5% homemade 60%) were close to each other, it was higher in healthcare workers (60min 41.9% 180min 51.9%). Despite the complaints of healthcare professionals, it can be concluded that the habit of using masks is more correct. In the study included in this article, a significant relationship was found between the mask type and the occurrence of nasal redness while using a mask. The relationship between the mask type and nasal flushing when using a mask is that 32.7% of the use of surgical mask and 48.6% of the use of a N95 mask are complaints. In the study conducted on healthcare workers, it was found that in the first group, 22 (27.2%) people had 60th minute, 32 (39.5%) had 180th minute; In the second group, 14 (45.1%) people felt discomfort at the 60th minute and 20 (64.5%) at the 180th minute, and there was no significant correlation between the masks until the 60th minute, while a correlation was found at the 180th minute. In both studies, the higher rate of N95 mask users may indicate that those who use N95 masks used masks for a longer time and more accurately (by fully covering the mouth and nose). On the other hand, in our research, "Do you cover your nose while using a mask?" 92% of the answer given to the question weakens the thesis that individuals do not use masks correctly and for a long time as much as healthcare workers.

CONCLUSION

In order to reach concrete results in the studies on masks in the literature, there are limited data with laboratory studies without including user opinions. In this study, it is aimed to create a data by evaluating the difficulties experienced by individuals during mask use, based on gender and mask types. In this study, in which mask usage habits were examined, a significant difference was observed between male and female populations in the difficulties encountered in using masks, but no significant difference was observed in terms of age. No concrete link was found between the type of mask and the problems encountered while using the mask.

Since it is known that breathing is the most important transmission route of the disease in the Covid-19 process, the use of masks significantly reduces the risk of transmission. With the use of masks being so important, it was concluded in this study that despite all the difficulties, individuals use masks to protect both their own health and the health of those around them. It is foreseen that it is not known exactly when the pandemic process will end and the use of masks will become even more important in the next new normal world order. For this reason, it is thought that it is very important for individuals to use masks more comfortably by solving the problems experienced during mask use. From this point of view, with this study, inferential conclusions about mask usage habits and difficulties were reached and data was created for the literature.

ETHICAL DECLARATIONS

Ethics Committee Approval: This study was approved by the Health Sciences University Hamidiye Scientific Research Ethics Committee (Date: 15.01.2021, Decision No: E-46418926-050.01.04--5426).

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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