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RESEARCH ARTICLE

THE USE OF PERSONAL PROTECTIVE EQUIPMENT IN HEALTHCARE SERVICES AND DIFFICULTIES EXPERIENCED BY PHARMACY EMPLOYEES DURING THE COVID-19 PANDEMIC

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ABSTRACT

In this study, the use of personal protective equipment (PPE) by pharmacy employees (responsible manager pharmacist, second pharmacist, trainee pharmacist, pharmacy technician and pharmacy apprentice), working in the community pharmacies, while offering their daily service during the COVID-19 pandemic and the difficulties experienced by them due to the use of these equipment were evaluated. The study was conducted with 405 employees working in the community pharmacies located in a metropolitan area. A survey consisting of 44 descriptive questions was prepared by the researchers. The survey was applied face-to-face by taking the necessary measures for COVID-19. All analyses were conducted using SPSS (version 22). It was found that 94.07% of the community pharmacy employees were wearing only surgical mask, 3.95% were wearing only N95 mask, and 1.98% were using both masks. The participants were using at least one protective equipment for an average of 9.6 hours a day and an average of 5.9 days a week. In addition, approximately 98.52% of the participants considered that the size of PPE they used was appropriate, 86.42% believed that PPE was protective against COVID-19 and 86.91% believed that PPE prevented the risk of infection. On the other hand, the participants replaced the mask 3 times a day on average. And 62.47% stated that the mask did not affect their working skills. 26.42% of those who stated that the mask had an effect on skills believed that it negatively affected their speech skills. It was concluded that the use of PPE did not cause negative symptoms such as headache, asthma, depression, anxiety, skin problems, motivation loss, and stress among pharmacy employees and they adjusted to working with these equipment.

Keywords: *COVID-19, community pharmacy, pharmacy employee, personal protective equipment, healthcare service*

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ARAŞTIRMA MAKALESİ

COVID-19 PANDEMİSİNDE ECZANE ÇALIŞANLARININ SAĞLIK HİZMETİ SUNUMLARINDA KİŞİSEL KORUYUCU EKİPMAN KULLANIMLARI VE YAŞADIKLARI ZORLUKLAR

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ÖZ

Bu çalışmada, COVID-19 döneminde serbest eczanelerde çalışan personelin (mesul müdür eczacı, ikinci eczacı, stajyer eczacı, eczane teknikeri ve eczane çırağı) günlük hizmet sunumu sırasında kişisel koruyucu ekipman kullanımları ve bu ekipmanlarla çalışırken karşılaştıkları zorluklar değerlendirilmiştir. Çalışma metropol bir bölgede bulunan ve serbest eczanelerde çalışan 405 personele uygulanmıştır. 44 tanımlayıcı soruyu içeren anket araştırmacılar tarafından oluşturulmuştur. Anket COVID-19'a yönelik gerekli önlemler alınarak, yüz yüze uygulanmıştır. Tüm analizler SPSS (version 22) kullanılarak yapılmıştır. Serbest eczane çalışanlarının %94,07'sinin yalnızca cerrahi maske, %3,95'inin yalnızca N95 maske ve %1,98'inin ise her iki maskeyi de kullandıkları tespit edilmiştir. Katılımcılar en az bir koruyucu ekipmanı günde ortalama 9,6 saat, haftada ise ortalama 5.9 gün kullanmaktadırlar. Ayrıca, katılımcıların neredeyse %98.52'si kullandıkları kişisel koruyucu ekipmanın boyutunu uygun bulurken, %86.42'si bu ekipmanın COVID-19'a karşı koruyucu olduğunu ve % 86,91'i de bulaşma riskini engellediğini düşünmektedir. Diğer taraftan, katılımcılar maskeyi ortalama günde 3 kez yenilemektedirler ve %62,47'si maskenin çalışma becerilerini etkilemediğini belirtmiştir. Maskenin becerilere etkisi olduğunu ifade edenlerin %26,42'si ise, konuşma yeteneklerini olumsuz etkilediğini düşünmektedir. Ayrıca, kullanılan kişisel koruyucu ekipmanın eczane personelinde baş ağrısı, astım, depresyon, anksiyete, cilt problemleri, motivasyon kaybı, stres gibi olumsuz semptomlara neden olmadığı ve personelin bu ekipmanlarla çalışmaya alıştığı sonucuna varılmıştır.

Anahtar Kelimeler: *COVID-19, serbest eczane, eczane personeli, kişisel koruyucu ekipman, sağlık hizmeti*

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I. INTRODUCTION

The countries of the world have put numerous emergency measure plans into action to bring the pandemic under control for almost two years after having found themselves up against severe acute respiratory syndrome coronavirus 2 (SARS CoV-2) (Xiao and Torok, 2020). The most striking measure taken against novel coronavirus disease (COVID-19) is that many countries have wanted to prevent the spreading of the disease through partially or completely lock down because doing this also means putting a halt on their many economic and social activities (Silva et al., 2020).

Healthcare service sectors have had to cope with an unprecedented high demand during the pandemic (Costa Dias, 2020). Community pharmacies have been important health stations which have not stopped their activities during this period and they have become the first place that patients would go to during this battle (Cadogan and Hughes, 2020; World Health Organization, 2020a). This is because during the pandemic, pharmacy employees have continued to provide important services in supplying medicine to patients through different communication techniques such as face-to-face, phone, and e-mail as well as identifying suspected COVID-19 patients and informing people about the disease (Carpenter et al., 2020). In this context, protecting the pharmacy employees effectively against COVID-19 is crucial in terms of safety of both the employees and those (patients and patient relatives) who want to take drugs from pharmacies (Dawoud, 2020).

Although the first way to maintain security of both sides in the community pharmacies is to maintain social distancing, this measure cannot be implemented in every pharmacy (Bahlol and Dewey, 2020). The second important measure is the use of PPE by healthcare professionals and it is easier to implement this measure (Hasan et al., 2021). There has been no medicine for COVID-19 yet; therefore, PPE can be regarded as one of the most important non-pharmacological measures. Although several countries have started vaccination studies, their effect on the pandemic depends on how quickly they are approved, manufactured, and delivered; and how many people get vaccinated (World Health Organization, 2020b). This also indicates that the world won't be entirely pandemic-free in a short time (Lawton, 2020; Mandavilli, 2020). Therefore, PPE would continue to be an essential part of the working life for a while even if the vaccination studies have started.

The shortage of PPE around the world should not be ignored, as well (Carpenter et al., 2020; Mandrola, 2020). The limited number of PPEs has featured the necessity of effectively use of this equipment by healthcare professionals, and also preventing the waste of the medical equipment (Chow et al., 2020; Umazume et al., 2020). Due to the shortage of PPE, these such protective equipment is used repetitively in some countries and sometimes, the healthcare personnel, who have to but cannot use such protective equipment due to the shortage of PPE, may have to work with equipment that does not serve for its purpose (Nyashanu et al., 2020).

Even if the correct and safe PPE is supplied, it can be quite hard and back-breaking to work with such equipment for a long time (Liu et al., 2020, Chiang et al., 2020). This is because the long-term use of PPE is likely lead to many negative conditions such as skin injuries, shortness of breath, stress (Fiori et al., 2020; Yıldız et al., 2021), headache (Ong et al., 2020), fatigue (Chiang et al., 2020, Fiori et al., 2020) or movement restrictions (Yánez Benítez et al., 2020) in healthcare professionals such as physician and nurse.

Although the use of PPE is vital during the pandemic, its effects on pharmacy employees are not known exactly (Zaidi and Hasan, 2021) and there is a need for further studies to fill this knowledge gap. Accurately determining the experiences of healthcare professionals working with PPE in pharmacies during the fight against COVID-19 is also a priority for providing a quality service (Hoti et al., 2020). In other words, it is important to determine the difficulties experienced by pharmacy employees as a result of extended use of PPE in order to increase their performances and productivities by taking the necessary measures

In this study, the use of PPE by pharmacy employees working in the community pharmacies during the COVID-19 pandemic and possible negative symptoms to be experienced by them due to use of these equipment were investigated. The experiences of pharmacists (responsible manager pharmacist, second pharmacist, trainee pharmacist who are included in "Regulation on Pharmacists and Pharmacies" published in the Official Gazette numbered 28970) and other pharmacy employees (pharmacy technician and pharmacy apprentice who are included in "Law on the Practice of Medicine and Medical Sciences" published in the Official Gazette numbered 863) working in the community pharmacies concerning the equipment they preferred to use more during their work were summarized (Republic of Turkey Presidency Legislation Information System, 2021a; Republic of Turkey Presidency Legislation Information System, 2021b). In this context, the purpose of the study is to examine the use of protective equipment by the community pharmacy employees, while providing healthcare service during the COVID-19 pandemic and to analyze and discuss the difficulties caused by these equipment. Protective equipment, which is thought to be associated with various physical findings within the scope of the study, can prevent the transmission risk of the virus during breathing, through body fluids, or by using jointly materials. The reason why four PPE (mask, goggles, glove and face shields) was taken as a basis is that the Ministry of Health of the country where the study was conducted defines the points to be taken into consideration for the employees in pharmacies as mouth, nose, eye and hand hygiene (Republic of Turkey Ministry of Health, 2020a). Agalar and Engin (2020) also define PPE as hand hygiene, gown, mask, goggles and face shield. On the other hand, in the study questions were generally asked only for the medical mask. This is because the Ministry of Health of the related country recommends using the N95 mask only during the aerosol generating procedures and medical mask in other cases (Republic of Turkey Ministry of Health, 2020b).

II. LITERATURE REVIEW

2.1. The Use of PPE by Pharmacy Employees During the COVID-19 Pandemic

When a limited number of studies conducted about the use of PPE during the COVID-19 pandemic were examined, the studies have revealed that a great majority of the pharmacy employees paid attention to the use of PPE. Zaidi and Hasan (2021) determined in their study that while 72% of the pharmacists wore N95 masks, 28% wore protective gloves and gown along with these masks. In a cross-sectional study conducted by Hoti et al. (2020) on pharmacists working actively in Kosova, they that most of the pharmacists took preventive measures and mostly used gloves, hand sanitizers and masks, respectively. A cross-sectional study conducted with community pharmacists in Egypt revealed 92% of the participants were using face shields (Bahlol and Dewey, 2021).

On the other hand, some studies have reported that pharmacy employees do not care about the use of PPE. In a study conducted by Khojah (2020) with the pharmacy employees in Madinah, Saudi Arabia, it was concluded that all participants were not wearing face shields and gloves and had inadequate knowledge about the preventive measures against pandemic. In the study conducted by Kara et al. (2020) with the pharmacy employees in Turkey, they determined that 72.6% of the participants did not wear mask and this was associated with the lack of confirmed COVID-19 cases in the country during the study period.

Another group of studies did not apply any survey to the pharmacy employees and were based on the data obtained from the literature. In their study, Hasan et al. (2021) investigated the suggestions of 15 countries selected from five continents (Asia, Europe, Oceania, North America and Africa) about the use of PPE in the community pharmacies. In that study, they determined that the countries made different suggestions for pharmacy employees. Dzingirai et al. (2020) reported in their study that upon the increase in COVID-19 cases in Zimbabwe, community pharmacists had high probability to be infected with the virus at workplace and emphasized that the governments should provide them a PPE kit including gloves, masks and gowns/aprons to reduce this risk. In their article, Perveen et al., (2020) pointed out that community pharmacy employees did not need to use PPE and recommended the use of medical masks.

2.2. Use of PPE and the Symptoms Experienced by Healthcare Professionals During the COVID-19 Pandemic

It is known before the COVID-19 pandemic that the use of PPE causes users to experience physical difficulties and thus movement restrictions since it puts additional strain on the body (Smith, 2011). The main view of the researchers in that period was that the use of PPE in the workplace was uncomfortable (Baduge et al., 2018; Top et al., 2016). Similarly, it was emphasized that extended use (such as 8-12 hours) of PPE especially in health sector due to the COVID-19 pandemic may lead to symptoms of significant discomfort (Steinberg et al., 2020). It is not clear which symptoms are seen in pharmacy employees during the COVID-19 pandemic due to extended use of PPE. A limited number of studies on this subject have generally examined the effects of COVID-19 on the healthcare professionals other than pharmacy employees (Batra et al., 2020; Liu et al., 2020; Yánez Benítez et al., 2020).

Some of the above-mentioned studies have suggested that extended use of PPE during the COVID-19 pandemic causes healthcare professionals to suffer from headaches. In a study conducted with nurses, doctors, and paramedical staff, it was confirmed that the use of PPE caused healthcare professionals to have headache (Ong et al., 2020). Likewise, in a study conducted on doctors, nurses, allied healthcare workers, administrators, clerical staff and maintenance workers, the most common symptom was found to be headache (Chew et al., 2020). Another study revealed that frontline healthcare professionals were likely to have headache due to the use of N95 mask (Bharatendu et al., 2020). Especially masks can cause healthcare professionals to suffer from shortness of breath. It can also lead their bodies to receive insufficient amount of oxygen (Liu et al., 2020; Roberge et al., 2010; Zhang et al., 2020).

Some other researchers have argued that the use of PPE might lead healthcare professionals to suffer from skin diseases. Extended use of PPE is an important risk factor for reactions that may develop on the skins of healthcare professionals due to excessive sweating, moisture and friction (Di Altobrando et al., 2020; Lee and Goh, 2020; Lin et al., 2020; Pei et al., 2020). Especially, extended use of N95 masks and goggles may cause skin diseases (Elston, 2020). In a study conducted by Lan et al., (2020) with first-line health care workers, they determined that the use of PPE in the workplace increased the occupational skin diseases. In the study conducted by Shanshal et al., (2020) with the healthcare professionals working in emergency departments, inpatient wards, and outpatient clinics, they found an increase in the occupational skin diseases due to extended use of PPE.

In addition, when healthcare professionals do not use adequately and properly PPE in the fight against COVID-19, their psychological problems such as helplessness, depression, stress, anxiety, anger, fear, and motivation loss increase (Elbay et al., 2020; Shaukat et al., 2020). The use of appropriate PPE by healthcare professionals in their workplace can help them to feel more safe and thus to cope with negative moods such as depression, stress, anxiety, and motivation loss. Likewise, Zheng et al. (2020) revealed that regular and appropriate use of PPE decreased depression, stress and anxiety in healthcare professionals. In a study conducted by Rodriguez et al. (2020) with emergency medicine physicians, they emphasized that healthcare professionals should use PPE increasingly to alleviate the stress and anxiety of healthcare professionals.

III. METHODS

The participants were composed of the pharmacy employees working in the community pharmacies serving with two or more personnel before and during the pandemic. All pharmacies included in this study are located in the city center and on the street. The survey was applied to pharmacists and their employees working in community pharmacies located in a metropolitan area. Working hours when there was no curfew during the pandemic period were included in the study. A total of 2647 pharmacists work in the region where the survey was applied and this figure includes the number of auxiliary employees working in the pharmacies (Turkish Statistical Institute, 2020). Since it was not possible to reach the whole population in the study, the sample was selected through random sampling method. The sample size was calculated using a sample size calculator (Creative Research Systems, 2020). According to the

number of registered employees working in pharmacies in the study region in 2018, the sample size was calculated as 93 at the confidence level of 95% and the confidence interval of 10%. For this reason, 405 participants is a sufficient number. All pharmacy employees included in the study were divided into three groups; pharmacists, pharmacy technicians and pharmacy apprentices. The administrative structure in pharmacies (legal distinctions such as responsible manager pharmacist, second pharmacist, trainee pharmacist) is evaluated within the scope of the task. Therefore, people having four educational levels are entitled to work in a pharmacy: graduate, bachelor's degree, associate degree and high school. Pharmacy apprentices who graduate from high school receive pharmacy education through certificate programs.

It took approximately 10 minutes to complete the survey, including the informed consent. The surveys were anonymous. No monetary incentives or specific feedback was given to the participants since they participated in the study. The survey was administered in September 2020.

The survey used for collecting the data was designed by the researchers. It consisted of 5 sections and a total of 44 questions about descriptive characteristics. The first section included six demographic questions about the age, gender, marital status, educational background, occupation and professional experience, which was a sign of professional formation, of the participants. In the second section, the participants were asked a question about which one(s) of mask (N95 and/or medical mask), goggles, glove and face shields they used while providing health service in the pharmacies during the pandemic so that they took preventive and control precautions for spreading of the COVID-19. Then, two questions were asked about how many hours a day and a week they worked with at least one of these PPEs. In the third section of the survey, there were three questions about whether PPE used by the community pharmacy employees was appropriate for providing healthcare service. In the fourth section, community pharmacy employees were asked to mark a single PPE (medical mask, gloves, goggles, face shields) that they used the most. Four questions were then asked them to determine how many times they replaced the reported equipment a day and the most common difficulty (vision, hearing, speech, movement) they experienced while using it. In the last section, the participants were asked twenty eight questions about the symptoms (headache, asthma, depression, anxiety, skin rashes, motivation loss, stress) developing depending on any of these protective equipment (mask, goggles, glove and face shields).

The data were analyzed using the Statistical Package for Social Sciences (SPSS) (Version 22). Distribution tests (Skewness), variance, frequency, mean, min-max and standard deviation were used to find out whether or not the data were suitable for necessary statistical analysis to achieve the purpose of the study. Besides descriptive statistics, non-parametric tests were preferred to determine the effect of independent variables on dependent variables since the data distribution did not meet the multivariate normality assumption (Asymp. Sig.;$p<0.05$) and the group variances were not homogeneous.

The independent variables used in the study were age, gender, marital status, educational background, professional experience, type of protective equipment, usage time of PPE, days of use, replacement frequency, and ergonomic suitability. The dependent variables were possible symptoms in the users (headache, asthma, depression, anxiety, skin problems, motivation loss, and stress) as well as the problems experienced in vision, hearing, speech, movement and skills.

All procedures performed in studies involving human participants were realized in accordance with the ethical standards of the institutional and/or national research committee and the Declaration of Helsinki and its later amendments or comparable ethical standards. The study was approved by the non-invasive ethics committee of Hacettepe University (approval number 2020/14-31). In addition, the study was approved by the Ministry of Health of the country where the study was conducted (2020-07-27T10_59_05).

IV. RESULTS

The survey was applied to 405 community pharmacy employees, who were over 18 years of age since they are legally considered as adults. Table 1 summarizes demographic characteristics of the participants.

Table 1. Descriptive Characteristics of the Survey Respondents.

Characteristics	Variables	Min	Max	Mean	f (n=405)	%
Educational Background	High School				96	23.70
	Associate degree				129	31.85
	Bachelor's degree				118	29.14
	Graduate Degree				62	15.31
	Faculty of Pharmacy				20	32.26
	Other Faculties				42	67.74
Gender	Female				238	58.77
	Male				167	41.23
Marital Status	Single				180	44.44
	Married				225	55.56
Position	Pharmacist				138	34.08
	Pharmacy Technician				216	53.33
	Pharmacy Apprentice				51	12.59
Professional Experience	0-5 years				113	27.90
	6-10 years				157	38.77
	≥11years				135	33.33
Age	≥18	19	69		33.28±9.29	
TOTAL					405	

Based on Table 1, most of the participants had bachelor's (29.14%) and associate degree (31.85%). 58.77% of the pharmacy employees were female, 41.23% were male and most of them were married (55.56%). 34.08% of the participants were the pharmacists who graduated from the faculty of pharmacy and a great part of them were the pharmacy technicians (53.33%). In addition, a great part of the employees (38.8%) had a professional experience of 6-10 years. The age range of the participants was 19 - 69 years and the mean age was 33.28 years (±9.29).

In the second part of the study, it was investigated which one(s) of personal protective equipment the participants used while providing health service in the pharmacies during the pandemic so that they took preventive and control precautions for spreading of the COVID-19 (see Table 2).

Table 2. PPE Types Used by Community Pharmacy Employees during Their Working.

PPE types	Yes/No	f (n=405)	%
Masks	Yes	405	100
	No	0	0
Only N95	Yes	16	3.95
Only surgical mask	Yes	381	94.07
Both	Yes	8	1.98
Goggles	Yes	82	20.25
	No	323	79.75
Glove	Yes	136	33.58
	No	269	66.42
Face shield	Yes	111	27.41
	No	294	72.59

As seen in Table 2, it was determined that all the participants were wearing masks. 94.07% of them stated that they were wearing only surgical mask, 3.95% only N95 mask and 1.98% both masks. The pharmacy employees mostly used gloves (33.58%) after the mask. While the rate of those using face shields was 27.41%, the least used PPE was goggles (20.25%).

Additionally, the pharmacy employees were asked how many hours a day and a week they worked with at least one PPE. It was remarkable that the pharmacy employees used at least one protective equipment for an average of 9.6 hours a day and an average of 5.9 days a week (Table 3).

Table 3. Use Frequency of PPE

Use of PPE	Min	Max	Mean	Std. Deviation
Average working hours per day with PPE	4.0	12.0	9.6	1.5
Average working days per week with PPE	1	7	5.9	0.5

In the third section of the study, the pharmacy employees were asked whether or not the PPE they use while working in the pharmacies was suitable for delivering healthcare service (see Table 4). Almost all of the participants (98.52%) considered that the PPE they used was appropriate. In addition, 86.42% of the community pharmacy employees believed that PPE was protective against COVID-19 and 86.91% believed that it did not increase the risk of infection.

Table 4. The Suitability of The PPE Used by Community Pharmacy Employees to Their Working Life

Suitability of the PPE	Yes/No	f (n=405)	%
Do you think that the size of the PPE used is appropriate?	Yes	399	98.52
	No	6	1.48
Do you think that PPE you use is protective in working life?	Yes	350	86.42
	No	55	13.58
Do you think that PPE you use increases the risk of infection?	Yes	53	13.09
	No	352	86.91

In the fourth section of the study, the participants were asked to state a single PPE they used the most. The pharmacy employees were then asked to state how many times they replaced this PPE per day, whether or not they experienced any skill problem while using it, and if they did, in which skill they experienced problems mostly. As seen in Table 5, all the participants selected mask as the most frequently used PPE and they stated that they replaced the mask averagely 3 times a day. Moreover, while 62.47% of the participants believed that the mask did not affect their working skills, 37.53%

believed that they experienced difficulties since the use of mask affected their skills. 26.42% of them stated that they had difficulty in speaking.

Table 5. Detection of the Mostly Used PPE, the Number of Daily Replacement and the Most Common Difficulty Experienced During Its Use

		Min	Max	Mean	Std. Deviation	f (n=405)	%
Mostly used PPE	Mask					405	100
The effect of the mask on skills	Does not prevent					253	62.47
	Prevents					152	37.53
Moving	Prevents					12	2.96
Seeing	Prevents					25	6,17
Hearing	Prevents					8	1.98
Speaking	Prevents					107	26.42
Daily replacement number of the mask		1	10	3.0	1.4		

In the last section of the study, the symptoms thought to develop due to any protective equipment used by community pharmacy employees in their workplace were investigated. In this context, when the Wald statistics in logistic regression model prepared (see Table 6) to reveal the group of independent variables that will explain the headache dependent variable were examined, the independent variable of educational background was found to be significant in those with high school (β=0.17), associate (β=0.03) and bachelor's (β=0.35) degrees. Having a bachelor's degree increased the headache symptom 0.35 times. Also, the variable of occupation in the model increased risk 2.95 times in the dependent variable of headache. In the same table, pharmacy employees replaced their masks minimum 1 and maximum 10 times (±3) in a day.

Table 6. Independent Variables Affecting the Dependent Variable of Headache

Variables		Stand. β	S.E.	Wald	df	p	β
Age	≥18	0.01	0.02	0.07	1.00	0.79	1.01
	Female	-0.01	0.02	0.00	1.00	0.95	1.02
Gender	Male	-0.20	0.28	0.00	1.00	0.94	0.98
Marital	Married	0.18	0.40	0.00	1.00	1.00	1.53
Status	Single	0.19	0.40	0.00	1.00	1.00	1.59
	High School	-1.80	0.53	11.53	1.00	0.00	0.17
Educational	Associate degree	-3.42	0.60	32.45	1.00	0.00	0.03
Background	Bachelor's degree	-1.04	0.38	7.46	1.00	0.01	0.35
	Graduate Degree	-1.21	0.42	5.72	2.00	0.06	1.31
	Pharmacist	0.67	0.21	1.03	1.00	0.68	1.33
Position	Pharmacy Technician	0.42	0.56	0.57	1.00	0.45	1.53
	Pharmacy Apprentice	1.08	0.51	4.51	1.00	0.03	2.95
Professional Experience	For 1-5 years	-2.21	0.40	0.00	1.00	1.00	0.00
	For 6-10 years	0.22	0.46	0.23	1.00	0.63	1.25
	For 11 and above	0.38	0.39	0.96	1.00	0.33	1.46
	Hours of Use	0.13	0.10	1.73	1.00	0.19	1.13
Others	Replacement Time	0.09	0.09	1.04	1.00	0.31	1.10
	Size	1.63	0.93	3.09	1.00	0.08	5.08
Constant		-2.28	0.40	0.00	1.00	1.00	0.00

Variable(s) entered: Age, Gender, Marital Status, Educational Background, Position, Professional Experiences, Others (Hours of Use, Replacement Time, Size). Nagelkerke R Square=0.205

When Wald statistics were examined in the logistic regression model (Table 7) prepared to reveal the group of independent variables which will explain the depression dependent variable from the symptoms seen depending on the use of protective equipment in pharmacy employees, it was pointed out that the hours of the use of protective equipment were significant (β=11.01) in the model. As the duration of the equipment use increased, the depression risk tended to increase about 11 times.

On the other hand, it was found that the correlation between the independent variables and asthma, anxiety, skin problems, motivation loss, stress and the most frequently experienced difficulties from the other dependent variables included in the study was not significant in any regression model.

Table 7. Independent Variables Affecting the Depression Dependent Variable

Variables		β	Stand. S.E.	Wald	df	p	β
Age	≥18	-0.14	0.13	1.32	1.00	0.25	0.87
Gender	Female	0.06	0.595	0.01	1.00	0.92	1.06
	Male	-1.06	1.082	0.96	1.00	0.33	0.35
Marital Status	Married	-1.06	1.08	0.96	1.00	0.33	0.35
	Single	-4.76	0.40	0.00	1.00	1.00	0.01
Educational Background	High School	-5.95	0.40	0.00	1.00	1.00	0.00
	Associate degree	-1.81	2.06	0.77	1.00	0.38	0.16
	Bachelor's degree	-2.18	2.87	0.00	1.00	0.99	0.00
	Graduate Degree	-2.56	1.84	1.93	1.00	0.16	0.08
Position	Pharmacist	1.63	0.40	0.00	1.00	0.87	0.06
	Pharmacy Technician	1.85	0.42	0.00	1.00	1.00	0.10
	Pharmacy Apprentice	1.75	0.42	0.00	1.00	1.00	0.40
Professional Experience	For 1-5 years	-1.17	0.40	0.00	1.00	1.00	0.00
	For 6-10 years	0.18	2.08	0.01	1.00	0.93	1.20
	For 11 and above	2.09	1.61	1.69	1.00	0.19	8.08
Others	Hours of Use	2.40	0.94	6.50	1.00	0.01	11.01
	Replacement Time	-0.39	0.41	0.87	1.00	0.35	0.68
	Size	-9.02	0.98	0.00	1.00	1.00	0.00
Constant		-2.63	0.41	0.00	1.00	1.00	0.00

Variable(s): Age, Gender, Marital Status, Educational Background, Others (Position, Professional Experience, Hours of Use, Replacement Time, Size). Nagelkerke R Square=0.490

V. DISCUSSION AND CONCLUSION

In this study, the use of protective equipment by the healthcare professionals working in the community pharmacies during the COVID-19 pandemic and the difficulties experienced by them due to the use of these equipment were investigated.

It was observed that medical mask was the PPE mostly preferred by the participants while working. This was an expected result. This is because there is an obligation to wear a mask in all open and closed areas other than residential areas in the related country and if it is not used, penalties are imposed (Republic of Turkey Ankara Governorship, 2020). It is thought that the public service announcements, commercial films and social video broadcasts published by the government about the importance of wearing a mask are effective for all the participants to wear mask and to consider it non-negligible (Republic of Turkey Ministry of Health, 2020c). The World Health Organisation also approves that the use of the medical mask is an important tool that prevents the spreading of the pandemic (World Health Organization, 2020c). Moreover, it was determined that the pharmacy employees replaced their masks three times a day on average. This number is quite high. Although the studies (Chow et al., 2020; Cohen and van der Meulen Rodgers, 2020; Hirschmann et al., 2020;) generally have highlighted the shortages

and supply difficulties of PPE, the study results suggest that pharmacy employees may access the mask more easily, which is a quite pleasing result. In addition, the pharmacy employees replaced their masks approximately every three hours since, the general structure of the mask is suitable for averagely three-hours and it starts to cause discomfort for the user at the end of this period due to various reasons. In the study conducted by Barbosa and Graziano (2006) before the COVID-19 pandemic, they demonstrated that the effectiveness of the surgical masks decreased after four hours. Another study revealed that working with the same mask for more than six hours may not be effective against COVID-19 (Sahoo et al., 2020). Centers for Disease Control and Prevention (2020) has emphasized that maximum use time of the masks can be varied based on personal conditions such as eating, making their toilet, and thinking that it is contaminated and therefore, it is difficult to state a specific time for replacing masks. When these results are considered, it can be recommended for pharmacy owners to ask all pharmacy employees to replace their masks every three hours to work effectively and efficiently or ask them to remove their mask for a while by giving them a break every three hours.

In the literature, it is emphasized that the use of PPE generally affects the skills of healthcare staffs and reduces their productivity (Batra et al., 2020; Liu et al., 2020). However, the pharmacy employees in this study stated that the masks generally did not prevent their skills in their work-place. This was a very satisfactory result. On the other hand, most of those who believed that the use of mask prevented their skills stated that their speech skills were prevented. This result is compatible with the literature. A study conducted with surgeons and surgical trainees revealed that extended use of PPE caused healthcare professionals to experience movement restriction and communication impairment and to content with what they see (Saeed et al., 2020). In another study conducted with surgeons, it was reported that the use of PPE negatively affected communication (Yánez Benítez et al., 2020). Likewise, in a study conducted by Paudyal et al., (2020) with 22 pharmacists from 16 European countries, they stated that use of PPE caused pharmacy staff to have communication problems while taking care of patients. The use of mask adversely affects speech skills and this is a very important problem for pharmacy employees since miscommunication with the patient can impair the trust in the pharmacy employees or may cause the patient to be misinformed. Pharmacy employees can make sure patients understand what they say by informing them and then asking them questions so that such communication problems can be minimized. Additionally, the pharmacy employees can write the important part of their words on a piece of paper or make custom made pictogram. In this way, they can confirm that they have established a correct communication by using the visual skills of the customers.

When there was no curfew, in the study region, the working hours of community pharmacies are 08:30 – 19:00 on weekdays and 09.30-19.00 on Saturdays (Ankara Pharmacist Chamber, 2020). In the study, it was remarkable that, community pharmacy employees used at least one PPE (medical mask, gloves, goggles and face shields) for an average of 9.6 hours a day and an average of 5.9 days a week. This result showed that the participants used protective equipment all day long, except for 1 hour on weekdays. Additionally, this result suggests that pharmacy employees do not use PPE for only 1 hour a day (when they take a break or have a meal). This showed that pharmacists acted consciously and followed the country's rules for face masks (Republic of Turkey Ankara Governorship, 2020). On the other hand, it can be suggested for responsible manager pharmacists to arrange break times during which their employees do not wear masks so that they can work more effectively and efficiently.

It is the responsibility of healthcare staff to select proper one among PPE having different sizes and qualities based on the person and the work (World Health Organization, 2020d). When the community pharmacy employees were asked whether or not PPEs are suitable for delivering healthcare service, they considered the sizes of the PPE used appropriate. Although numerous studies have highlighted the shortage of PPE, (Chow et al., 2020; Cohen and van der Meulen Rodgers; Hirschmann et al., 2020; Nyashanu et al., 2020) this study revealed that the pharmacy employees was able to get the PPE appropriate for them. In this context, it can be asserted based on this result that the sizes of PPE produced during the COVID-19 pandemic are appropriate. In addition, pharmacies operating in Turkey and many other countries have an important place in the sale and supply of protective equipment (masks, protective glasses, gloves, etc.). They played an important role in the supply of pharmaceuticals as well as various medical and non-medical materials both during the pandemic period and under normal conditions. They

have also played an active role in offering product variety in different size or quality and alternative materials (masks, gloves, disinfectants, etc.), especially during the last pandemic period when wearing a mask is mandatory.

Another finding of the study indicated that community pharmacy employees believed that the use of PPE was protective against COVID-19 and did not increase the infection risk. These two results were compatible with the literature. This is because it has been emphasized many times that PPE is effective against COVID-19 and especially healthcare professionals should use it in order to ensure safety (Al Edwan, 2020; Barratt et al., 2020; World Health Organization, 2020e).

According to another result, no correlation was found between the independent variables and the variables of asthma, anxiety, skin problems, motivation loss, stress and the mostly experienced difficulties. This is a very interesting result. Other studies have emphasized that extended use of PPE is generally effective on motivation loss (Elbay et al., 2020; Shaukat et al., 2020), headache (Bharatendu et al., 2020; Chew et al., 2020; Ong et al., 2020), fatigue (Chiang et al., 2020, Fiori et al., 2020), skin problems (Di Altobrando et al., 2020; Lee and Goh, 2020; Lin et al., 2020; Pei et al., 2020), anxiety (Elbay et al., 2020; Shaukat et al., 2020; Zheng et al., 2020) and shortness of breath and stress (Fiori et al., 2020; Liu et al., 2020; Yıldız et al., 2021). This result suggested that pharmacy employees adjusted working with the PPE and considered this equipment quite normal as a piece of their clothes

Furthermore there was a significant correlation between the headache of the community pharmacy employees and their education background and position. According to this result, the headaches of pharmacists who had a bachelor's degree was more severe than the other community pharmacy employees. The increasing responsibilities of pharmacists during this period may have caused them to suffer from headache more. Erku et al., (2021) pointed out that he responsibility of community pharmacists has increased during the COVID-19 pandemic. Most pharmacists, who have investigated different methods during this period to protect both themselves and their employees against the disease, have sought different strategies such as delivering drugs at homes or in the cars in order to reduce the face-to-face conservations (Herzik and Bethishou, 2021; Lim et al., 2021). However, it should be remembered that pharmacists' headache syndrome can also develop even when there is no pandemic; therefore, there is a need of repeating studies even in periods without masks in order to directly associate the result with the use of mask.

Another result of the study indicated that extended use of PPE led the pharmacy employees to experience depression more. This is an expected result. In addition to negative psychological effects of working during the pandemic, the obligation of healthcare personnel to work with the equipment for a long time is also very disturbing and backbreaking (Chiang et al., 2020; Liu et al., 2020; Steinberg et al., 2020). Additionally, it is dangerous to use PPE for a longer time than its normal use (Iheduru-Anderson, 2021). For this reason, it can be recommended for pharmacy owners to organize shift working hours for their employees and allow their employees to remove their PPEs by providing them an appropriate environment during their breaks.

Although there are studies on the use of PPE and the difficulties experienced by healthcare personnel during the COVID-19 pandemic, this study focusing on the community pharmacy employees are the first attempt to the best of one's knowledge. For this reason, this study informs community pharmacy owners and their employees, who have to work with PPE during the pandemic, on more effective use of PPE and in which situations these equipment cause difficulties.

VI. LIMITATIONS AND FURTHER RESEARCH

The study has some limitations. Since COVID-19 is a new virus, the survey questions were prepared based on only its known characteristics. Different physical and psychological difficulties experienced by healthcare workers due to the use of PPE can also be assessed as new information about the virus becomes available. The researchers waited outside of the pharmacy during application of the survey due to the pandemic; therefore, the participants could not ask their questions at that time. This can be seen

as a limitation. Since there may be confounding factors that can change the direction and strength of this relationship in scientific research, especially in studies taking where physical findings and cause-effect relationships into consideration; similar studies should be conducted prospectively with control groups. In future studies, the survey can be applied to the pharmacy employees in the hospitals and these two groups can be compared. It is recommended to repeat similar studies in different countries because there may be differences from country to country in the use of PPE in pharmacies (Agalar and Engin, 2020). Therefore, future studies can give more valid results with cross-cultural analysis by investigating these different PPEs.

Ethical Committee Approval: The study was approved by the non-invasive ethics committee of Hacettepe University (approval number 2020/14-31). In addition, the study was approved by the Ministry of Health of the country where the study was conducted (2020-07-27T10_59_05).

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