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INVESTIGATION OF OCCUPATIONAL HEALTH AND SAFETY PRACTICE PERCEPTIONS OF MEDICAL REPRESENTATIVES OPERATING IN THE PHARMACEUTICAL PROMOTION INDUSTRY

İLAÇ TANITIM SEKTÖRÜNDE FAALİYET GÖSTEREN TIBBİ MÜMESSİLLERİN İŞ SAĞLIĞI VE GÜVENLİĞİ UYGULAMA ALGILARININ İNCELENMESİ

ABSTRACT

The pharmaceutical industry is one of the most critical sectors of the economy with its production and trade capacity. It has become an industrial area supported by many countries. There are high-number studies on a budget and patents are obtained. Medical representatives who sell the product in the pharmaceutical market have a great influence on the sale of medicine with their activation in the promotion and launch of the new product. The main factor in increasing sales in the pharmaceutical industry is the capabilities of the medical representatives and their ability to provide trust-based dialogues in communication. Therefore, being a high level of trust satisfaction in medical representatives in the field of work is important in terms of ensuring the launch of the drug. Occupational health and safety services must be provided by the employer during the promotion of medicines and the work of medical representatives. During the execution of the work, medical representatives are exposed to various risk factors such as stress, mobbing, work anxiety, filling the quota, and many hospital and doctor visits.

In this study, we tried to examine the factors that depend on the perception levels of medical representatives operating in the pharmaceutical promotion sector towards occupational health and safety practices. By applying a questionnaire to medical representatives, the answers given to the questionnaire were analyzed with the program "IBM SPSS Statistics 25.0" and the value of "Cronbach Alpha (α)" was found to be 0.784. The fact that the α value is in the range of $0.6 < \alpha < 0.8$ indicates that the study is reliable. We determined that the representatives who participated in the study were male, between the ages of 30-39, married, bachelor's degree, working in the pharmaceutical industry, and the vast majority of them had basic OHS training. We determined that their practice perception of OHS depends on the desire to leave employment due to the increase in the service period, and not on factors such as gender, marital status, and monthly income. We determined that medical representatives are mostly exposed to psychosocial and biological risk factors and that it is a difficult profession.

Keywords: Medical representatives, Occupational Health and Safety, OHS Practices, İstanbul.

ÖZET

İlaç sektörü üretim ve ticaret kapasitesi ile ekonominin en kritik sektörlerinden birisidir. Birçok ülke aracılığı ile de desteklenen endüstri alanı haline gelmiştir. Bütçe olarak yüksek rakamlı çalışmalar bulunmakta ve patentler alınmaktadır. İlaç pazarında ürünün satışını yapan tıbbi mümessiller, yeni ürünün tanıtımında ve piyasaya sürülmesi aşamasında faaliyete geçmesi ile ilaç satışında büyük etkileri vardır. İlaç sektöründe satışı yükselten ana faktör, tıbbi mümessillerin yetenekleri ve iletişimdeki güven

dayanaklı diyaloglar sağlamasıdır. Bundan dolayı tıbbi mümessillerde iş alanındaki güven tatminin yüksek düzeyde olması ilacın lansmanını sağlaması bakımından önemlidir. Tıbbi mümessillerin ilaç tanıtımı ve işini yapması sırasında işveren tarafından iş sağlığı ve güvenliği hizmetlerinin sağlanması gerekmektedir. Tıbbi mümesssiller, işin yürütümü sırasında stres, mobbing, iş kaygısı, kotayı doldurma, birçok hastane ve doktor ziyaretleri sırasında çeşitli risk etmenlerine maruz kalmaktadır. Bu çalışmada, ilaç tanıtım sektöründe faaliyet gösteren tıbbi mümessillerin iş sağlığı ve güvenliği uygulamalarına yönelik algı düzeylerinin bağlı olduğu etkenleri incelemeye çalıştık. Tıbbı mümesillere anket uygulaması yaparak ankete verilen cevaplar "IBM SPSS Statistics 25.0" programı ile analiz edilmiş ve "Cronbach Alpha (α)" değeri 0.784 bulunmuştur. α değerinin 0.6< α <0,8 aralığında olması çalışmanın güvenilir olduğunu göstermektedir. Çalışma katılan mümesillerin erkek, 30-39 yaş aralığında, evli, lisans mezunu, ilaç sektöründe çalışan, büyük çoğunluğu temel İSG eğitimi almış olanların çoğunlukta olduğunu belirledik. İSG uygulamala algılarının hizmet yılı artışına bağlı olarak işten ayrılma isteğine bağlı olduğunu, cinsiyet, medeni durum, aylık geliri gibi etkenlere bağlı olmadığını belirledik. Tıbbı mümesillerin en çok piskososyal ve biyolojik risk etmenlerine maruz kaldığını ve zor bir meslek olduğunu tespit ettik.
Anahtar Kelimeler: Tıbbi mümessiller, İş Sağlığı ve Güvenliği, İSG Uygulamaları, İstanbul

1. INTRODUCTION

With the important developments in the industry, the process of the factory has begun, and dangers and risks arising from the newly used production methods, materials and processes have started to emerge. With the increase in the dangers and risks that the employees will be exposed to, the need to provide occupational health and safety services has emerged. Occupational health and safety is not a concept applied to take precautions against work accidents, but a whole of proactive approaches that aim to protect the safety of the enterprise, the continuity of production, and the health of the employee (Cerev, 2018; Bilir & Yıldız, 2013: 5).

Looking at the historical development process of occupational health and safety, the first studies in the field of OHS in 2600s BC were carried out by Imhotep. The importance of work on occupational health and safety began to be understood with the detection of many fatal work accidents and occupational diseases originating from the musculoskeletal system during the construction of the Egyptian pyramids. Written works containing the first protective approaches on OHS date back to the time of the Greek philosopher Heredot. Heredot stated that the consumption of high-calorie foods by the employees will increase their work performance. Nicander, on the other hand, pioneered the development of occupational health and safety by stating that employees should be protected against factors that cause illness in the work environment. Plini has stated the first suggestion about personal protective equipment. He stated that a mask should be used against inhalation of harmful factors (Tatlıcan & Çögenli, 2020: 3; Yiğit, 2011: 7). The Italian physician, who has made the greatest contribution to the development of occupational health and safety and is known as the father of OHS, has written the provincial occupational diseases book "De Morbis Artificum Diatriba" is Dr. Berdino is Ramazzini (Çiçek & Öçal, 2016: 8; Gerek, 2008:3).

Historical development of occupational health and safety in our country the employees were tried to be protected with the "Dilaver Pasha Regulation", which is the first written legislation published in 1865 during the Ottoman period. Proactive approaches to be taken against work accidents have been expressed. It is a study done for those working in Ereğli and coal fields (Akbulut, 1996: 20). The first legislation enacted in 1869 stating that the employee who had a fatal or immortal work accident or his/her family should be paid compensation is the Maadin Regulation. In this legislation, it was obligatory to have an occupational physician and possession of medicine (Horozoğlu, 2017: 4; Makal, 1997: 213).

In the Republic period; Labor Law No. 3008 that is the first law entered into force in 1937. The purpose of the Labor Law No. 3008 is to protect the health of the employee (Horozoğlu, 2017: 4; Güzel & Okur, 1999: 31). In the developing process, Labor Law No. 1475 was published in 1971. The Labor Law No. 1475 has been adapted to the conditions of the period in which it was applied. In time, Law No. 1475 had failed to meet the expectations, and during the European Union negotiation process, Labor Law No. 4857 was published in 2003, and besides many provisions regarding OHS were mentioned. Many innovations have been introduced in the field of OHS (Terzioğlu & Aksungur, 2019: 8). Finally, on 30 June 2012 the Occupational Health and Safety Law No. 6331 was published in the official gazette and entered into force (Horozoğlu, 2017: 4).

According to the statement prepared and presented jointly by the International Labour Organization (ILO) and the World Health Organization (WHO) occupational health and safety is defined as "a whole of scientific and systematic studies based on proactive approaches that provide a complete mental, social and physical state of well-being for employees in the workplace, sustain this situation, and aim to protect employees against dangers and risks in the workplace", (Üngüren & Koç, 2015; Çınar & Gündoğdu,

2019: 2). It provides a better working environment by minimizing occupational health and safety hazards. As a result, it ensures that job satisfaction is kept at the highest level by ensuring healthy and safe working of employees. Job satisfaction is affected by physical, biological and psychosocial risk factors (Çınar & Gündoğdu, 2019: 3).

There is always a connection between the work environment the employee is in and the factor that affects him. The work environment affects the health of the employee, and the health of the employee also affects the work environment and the business quality. One of the dangers and risks that may affect employees in the pharmaceutical sector where there are medical representative employees is the physical risk factor. In addition to this risk factor, it may also encounter biological, chemical, psychosocial, and ergonomic risk factors. Chemicals in the pharmaceutical industry vary according to the properties of the chemical and drugs that the workers are exposed to and the time they are exposed to these chemicals (Parlar, 2008; Yörükoğlu, Sayıner & Akalın, 2005). Noise, which is one of the physical risk factors, spreads in waves in the working environment and becomes a disturbing risk factor for the working personnel. This factor should be adjusted according to the environment in which people are located and job satisfaction should not be impaired, the level that should be for human health is 80-85 dB (A) (Akarsu & Günel, 2016; Ağuş & Akbel, 2020). In the work environment, the humidity in the air affects the performance of the employees. Since the body cannot expel the temperature and excess moisture in the working environment through sweating, the body temperature cannot be balanced. The decrease in the humidity in the air irritates the windpipe and coughing and directly affects the employee's labor productivity (İncir, 1980; Demirci & Armağan, 2015).

Biological risk factors in our business life are microorganisms and human parasites that cause infection, allergy, or poisoning. If the necessary precautions are not taken for medical and laboratory workers and other health care workers, they are more likely to get infectious diseases in terms of microorganisms. Biological risk factors experienced by employees have historically been diagnosed in the first health care workers. For many years, more than one health care worker lost their lives by getting sick because of biological risk factors during treatment. Patients and various departments of hospitals contain biological risk factors (Solmaz & Solmaz, 2017).

Employees are negatively affected by factors such as job problems, dissatisfaction, and role ambiguity, as they spend a large part of their life in the workplace or execution of the work, and as a result, they reflect these effects on their social life and family life. Especially, job satisfaction of medical representatives can show positive developments with solutions such as prevention of problems such as job delays, having a healthy social life, identifying problems, ensuring innovation and changes (Davis & Newstroom, 1989: 36). With the increase in the employee's job satisfaction, the performance increases, the trust in the job increases, a sense of belonging to the enterprise and the job consists, the goal and goals of the enterprise are adopted and the determination to work in that direction increases (Oralhan & İbili, 2019).

As in every line of business, one of the factors affecting the mood of medical representatives is the psychosocial risk factor. Community mental health centers, which intervened against the negative effects of psychosocial risk factors on human thinking, aim to protect the rights and safety of every employee or to minimize the psychological situations that may occur so that they do not reflect on their work and health. During working, medical representatives are exposed to risk factors such as anxiety about rushing the job, overloading of work, time pressure, and mobbing (Şimşek & Doğan, 2019).

Burnout; is the psychosocial risk factor that negatively affects the work-life of the employee in terms of individual and organizational. As expressed as the depletion of energy in terms of physical and mental of the employee, it is seen in various ways as fatigue and insensitivity to the environment in the person. Burnout affects medical representative employees in the pharmaceutical industry as well as in other sectors. The employee who is at risk of burnout syndrome should be identified early without wasting time and necessary studies should be carried out. Thus, they fulfill their duties by ensuring coordination with customers without a possible decrease in service quality (Pehlivanoğlu & Civelek, 2019: Arı & Bal, 2008:131).

In changing environmental conditions, while the efforts of representatives to gain superiority over each other create differentiation and change, causing their relations with each other not to be better distinguished. Individuals who work under these conditions will either not be able to overcome difficulties and will have burnout syndrome by difficulty in business life, or they will be satisfied in business life by overcoming difficulties (Kaygın & Naktiyok, 2012:100).

Medical representation is a difficult profession due to the demands of pharmaceutical companies such as wanting medical representatives to introduce a certain number of drugs, being always clean, well-groomed, and stylish, and having to persuade doctors during drug promotion (Özçelikay, 2002).

This study, is aimed to determine the OHS practice perceptions in the profession of medical representatives. Under this main purpose, the following hypotheses have been determined.

H1- Depending on the gender of the medical representatives, the differences are seen in the OHS practice perceptions in their profession.

H2- Depending on the age of the medical representatives, the differences are seen in the OHS practice perceptions in their profession.

H3- Depending on the marital status of the medical representatives, the differences are seen in the OHS practice perceptions in their profession.

H4- Depending on the monthly income of medical representatives, the differences are seen in the OHS practice perception in their profession.

H5- Depending on the service period of medical representatives in the pharmaceutical industry, the differences are seen in the OHS practice perception in their profession.

H6- Depending on the total service period of medical representatives, the differences are seen in their OHS practice perceptions in their profession.

H7- Depending on the number of companies medical representatives work with, the differences are seen in their OHS practice perceptions in their profession.

H8- Depending on the type of company medical representatives work with, the differences are seen in their OHS practice perceptions in their profession.

H9- Depending on the education level of medical representatives, the differences are seen in their OHS practice perceptions in their profession.

H10- According to the participation of medical representatives in training development programs, the differences are seen in the OHS practice perceptions in their profession.

H11- According to the OHS training status of medical representatives, the differences are seen in the OHS practice perceptions in their profession.

H12- Depending on medical representatives' find adequately the taken OHS measures during the pandemic process, the differences are seen in OHS practice perceptions.

H13- According to the situation of having a work accident or occupational disease, the differences are seen in OHS practice perceptions of medical representatives.

H14- As the service period of medical representatives increases, the differences are seen in their OHS practice perceptions depending on the desire to leave the profession.

H15- Depending on being caught in Covid-19 of medical representatives, the differences are seen in OHS practice perceptions.

H16- Depending on the identification of Covid-19 as an occupational disease or work accident by medical representatives, the differences are seen in OHS practice perceptions.

2. METHOD

2.1. Universe and Sample

The universe of the research consists of medical representatives working in Istanbul. The sample of the study consists of 70 medical representatives who participated in the questionnaire. The research was carried out assuming that the medical representative employees responded to the questionnaire items of their own free will and objectively.

2.2. Data Collection Tool

Google form (questionnaire) method was used in the research. The prepared Google form consists of 2 parts. A Google form with a total of 37 questions was created that includes 16 questions were created to obtain the demographic and basic OHS opinions of medical representatives in the first part and 21

questions to determine the differences in OHS practice perceptions of healthcare workers in the second part. In the second part of the survey method, the "5-point Likert Scale" was used. The answers given to the Likert scale were coded as "1: Absolutely no, 2: No, 3: Maybe, 4: Yes, and 5: Absolutely yes" and analyzes were made accordingly.

3. FINDINGS

The answers given to the survey questions were analyzed with the program "IBM SPSS Statistics 25.0" and the "Cronbach Alpha (α)" value was found to be 0.784. The fact that the α value is in the range of $0.6 < \alpha < 0{,}8$ indicates that the study is reliable. The frequency and percentage values for the demographic data of medical representatives have been found and tabularized. In order to test the accuracy of the 16 hypotheses created, t-test, Anova test, Kruskal Wallis test was performed and the results obtained were interpreted. It was seen that the data obtained as a result of the study were consistent with each other. In the study, $p < 0.05$ means a significant difference

3.1. Findings Regarding Demographic Information

The demographic characteristics of medical representatives are given in a tabular form. According to the table, 41 of the medical representatives are male and 29 are female. Among the medical representatives, 17 people are in the 20-29 age group, 35 people are in the 30-39 age group, and 18 people are in the 40-49 age group. Among the questionnaire participants, 42 people are married, 26 people are single, and 2 people are divorced. 3 of the medical representatives are high school graduates, 7 are associate degree, 46 are bachelor's degree, 12 are master's degree and 2 are doctoral degree graduate. 48 of the employees received training on drugs and 20 people on cosmetics in the recent year. While 57 of the medical representatives received OHS training, 13 of them did not receive OHS training. 24 of the respondents have a monthly income of 3000-4000 TL, 23 of them 4000-5000 TL, 12 of them 5000-6000 TL, and 11 of them 6000-7000 TL monthly income. 26 medical representatives perform this task for 0-5 years, 8 people for 6-10 years, 24 for 11-15 years, 6 for 16-20 years and 6 for 20 years or more. Among the respondents, 17 people have a service period for 0-5 years, 10 people for 6-10 years, 24 people for 11-15 years, 10 people for 16-20 years, and 9 people for 20 years or more. 10 medical representatives stated that the measures taken during the pandemic process were sufficient, and 60 medical representatives stated that the measures were insufficient. While 9 people participating in the study had a work accident or occupational disease, 61 people haven't had a work accident or occupational disease. 48 of the medical representatives stated that as the service period increases, the idea of quitting the job has occurred, while 22 people stated that such an idea hasn't occurred. While 13 people participating in the study had Covid-19, 57 people haven't had Covid-19. 36 people worked in 0-2 companies, 4 people worked in 3-5 companies, and 30 people worked in 6 or more companies. 58 of the medical representatives are local, 11 are foreign and 1 work in joint venture companies.

Table 1. Table of Demographic Data of Medical Representatives

Gender	**N**	**%**
Male	41	58,6
Female	29	41,4
Age	**N**	**%**
20-29	17	24,3
30-39	35	50,0
40-49	18	25,7
Marital Status	**N**	**%**
Married	42	60,0
Single	26	37,1
Divorced	2	2,9
Educational level	**N**	**%**
High school	3	4,3
Associate degree	7	10,0
Bachelor's degree	46	65,7
Master's degree	12	17,1
Doctoral degree	2	2,9
Education Topics Received	**N**	**%**
Drug	48	68,6
Cosmetic	20	28,6
Getting OHS Training	**N**	**%**
Yes	57	81,4
No	13	18,6

Table 1. Table of Demographic Data of Medical Representatives (*Cont*.)

Income rate	**N**	**%**
3000-4000	24	34,3
4000-5000	23	32,9
5000-6000	12	17,1
6000-7000	11	15,7
Service Period	**N**	**%**
0-5	26	37,1
6-10	8	11,4
11-15	24	34,3
16-20	6	8,6
20 and more	6	8,6
Total Service Period	**N**	**%**
0-5	17	24,3
6-10	10	14,3
11-15	24	34,3
16-20	10	14,3
20 and more	9	12,9
Taken During The Pandemic Process Adequacy of the Measures	**N**	**%**
Yes	10	14,3
No	60	85,7
Having a work accident or occupational disease	**N**	**%**
Yes	9	12,9
No	61	87,1
Thought of Leaving Profession	**N**	**%**
Yes	48	68,6
No	22	31,4
Having Covid 19	**N**	**%**
Yes	13	18,6
No	57	81,4
Covid-19 is occupational disease or work accident	**N**	**%**

The homogeneity of the group variances was analyzed without deciding on the type of analysis to be applied in order to determine whether some conditions such as medical representatives' gender, OHS training, being adequate of OHS measures taken during the pandemic process, having a work accident or occupational disease, willingness to leave the profession as service period increases, having Covid-19, defining Covid-19 as a work accident or occupational disease created a difference in their perceptions. All question group variances p> .05 were determined and homogeneous distribution was provided. Therefore, a t-test analysis has been done.

Table 2: T-Test Analysis Results

Gender	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Male	41	3,61	,45	68	,726	0,470*
Female	29	3,54	,38			
Receiving Basic Ohs training	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Yes	57	3,60	,43	68	,606	0,547*
No	13	3,52	,37			
Getting OHS training during the pandemic process	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Yes	10	3,57	,34	68	,067	0,947*
No	60	3,58	,43			
Having a work accident or occupational disease	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Yes	9	3,8	,48	68	1,826	0,072*
No	61	3,55	,40			
willingness to leave the profession as service period increases	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Yes	48	3,65	,352	68	2,260	**0,027***
No	22	3,42	,51			
Having Covid 19	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Yes	13	3,5	,28	68	,746	0,458*
No	57	3,60	,45			
Identifying Covid-19	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Work accident	29	3,67	,36	68	1,213	0,229*
Occupational disease	40	3,55	,40			
Subject of education received in one year	**N**	**X̄**	**SS**	**Sd**	**t**	**P**
Drug	48	3,52	,42	66	-1,977	0,052*
Cosmetic	20	3,74	,40			

As a result of the t-test conducted to determine whether there is a difference in the OHS practice perception in the profession of medical representatives depending on their gender, t (68) =, 726; p = 0.470 was obtained. It was determined that the representatives with p> 0.05 did not cause any difference in the OHS practice perception in their profession depending on their gender, and the H1 hypothesis was rejected.

As a result of the t-test performed to determine whether there is a difference in OHS practice perceptions of medical representatives in their profession depending on their basic OHS training status, t (68) =, 606; p = 0.547 was obtained. It was determined that representatives with p> 0.05 did not cause a difference in their occupational OHS practice perceptions depending on their basic OHS training status, and the H11 hypothesis was rejected.

T (68) =,067; p= 0,947 was obtained as a result of the t-test to determine whether there is a difference in the perceptions of OHS practise in the profession of medical representatives depending on the state of getting OHS training during the pandemic process. It was determined that representatives with p> 0.05 did not cause a difference in their OHS practice perceptions in their profession depending on their OHS training during the pandemic process, and the H12 hypothesis was rejected.

As a result of the t-test performed to determine whether there is a difference in the OHS practice perceptions in the profession of the participants depending on the status of having a work accident or occupational disease, t (68) = 1,826; p = 0.0727 was obtained. It was determined that the representatives with p> 0.05 did not cause a difference in their OHS practice perceptions in their profession depending on the situation of having a work accident or occupational disease, and the H13 hypothesis was rejected.

T (68) =2,260; p= 0,027 was obtained as a result of the t-test performed to determine whether the desire to leave the job occurred as the service period increased in the OHS practice perceptions in the profession of the representatives. It was determined that as the service periods of the representatives with p <0.05 increase, they cause a difference in the OHS practice perceptions in their profession depending on whether the desire to leave the job or not and the H14 hypothesis was accepted. Those who want to leave their job due to the increase in service period have more OHS practice perceptions in their profession (X = 3.65) than those who do not want to leave their job (X = 3.42).

T (68) =, 746 p = 0.458 was obtained as a result of the t-test performed to determine whether there is a difference in the OHS practice perceptions of the participants in their profession depending on the status of having Covid-19. It was determined that the representatives with p> 0.05 did not cause any difference in OHS practice perceptions in their profession depending on the status of having Covid-19, and the H15 hypothesis was rejected.

T (68) = 1.213 p = 0.229 was obtained as a result of the t-test performed to determine whether there is a difference in the OHS practice perceptions in the occupations of the participants in the study, depending on defining Covid-19 as work accident or occupational disease. It was determined that the representatives with p> 0.05 defined Covid-19 as a work accident or occupational disease and obtained that it did not cause any differences in the OHS application perceptions in their profession, and the H16 hypothesis was rejected.

As a result of the t-test performed to determine whether there is a difference in the OHS practice perceptions in the profession of medical representatives depending on the education they have received in a year, t (66) =-1.977; p = 0.052 was obtained. It was determined that the representatives with p> 0.05 did not cause any difference in the OHS practice perceptions in their profession depending on their gender and the H10 hypothesis was rejected.

Homogeneity test was performed before deciding on the types of analysis to be performed to determine whether there is a difference in the OHS practice perceptions of medical representatives in their profession depending on their age, marital status, monthly income, service period as representative, total service period, number of companies, type of company, education level. The Anova test was applied for the variables obtained from the homogeneity test p>, 05, and the Kruskal Wallis analysis was applied for the variables obtained p <, 05.

Table 3. Anova Test Analysis Results Depending on Age

Age		N	X̄	Ss
20-29		17	3,49	,37
30-39		35	3,64	,41
40-49		18	3,54	,49
Total		70	3,58	,42
Age	**KT**	**sd**	**KO**	**F**	**P**
Between groups	,309	2	,154	,874	,422*
Within groups	11,836	67	,177		
Total	12,145	69			

The result of the test performed to determine whether the age ranges of medical representatives cause a difference in the OHS practice perceptions in their profession, F = (2.67) = 0.874; p = 0.422 was obtained. Since p>.05, it was determined that the age ranges of the employees did not cause any differences in OHS practice perceptions in their profession. Therefore, the H2 hypothesis was rejected.

Table 4. Analysis Results of Anova Test Based on Marital Status

Marital status		N	X̄	Ss
Married		42	3,58	,42
Single		26	3,61	,43
Divorced		2	3,26	,17
Total		70	3,58	,42
Marital status	**KT**	**sd**	**KO**	**F**	**P**
Between groups	,220	2	,110	,619	,542*
Within groups	11,925	67	,178		
Total	12,145	69			

The result of the test performed to determine whether the marital status of medical representatives causes a difference in their OHS practice perceptions in their profession, F = (2.67) = 0.619; p = 0.542 was obtained. Since p> .05, it has been determined that the marital status of the employees does not cause any difference in their occupational OHS practice perceptions. Therefore, the H3 hypothesis was rejected.

Table 5. Anova Test Analysis Results Based on Monthly Income

Monthly income		N	X̄	Ss
3000-4000 TL		24	3,52	,36
4000-5000 TL		23	3,61	,48
5000-6000 TL		12	3,70	,31
6000-7000 TL		11	3,51	,52
Total		70	3,58	,42
Monthly income	**KT**	**Sd**	**KO**	**F**	**P**
Between groups	,312	3	,104	,580	,630*
Within groups	11,833	66	,179		
Total	12,145	69			

The result of the test performed to determine whether the monthly income of the participants in the study causes a difference in their OHS practice perceptions in their profession, F = (3,66) = 0,580; p = 0.630 was obtained. Since p> .05, it has been determined that the monthly income of the employees does not cause a difference in their occupational OHS practice perceptions. Therefore, the H4 hypothesis was rejected.

Table 6. Anova Test Analysis Results Depending on The Type of Company

Firm type		N	X̄	Ss
Local		58	3,56	,45
Foreign		11	3,65	,25
Joint venture		1	3,90	.
Total		70	3,58	,42
Firm type	**KT**	**sd**	**KO**	**F**	**p**
Between groups	,186	2	,093	,522	,596*
Within groups	11,958	67	,178		
Total	12,145	69			

As a result of the test conducted to determine whether the representatives cause a difference in their OHS practice perception in their profession according to the type of company they work with, F = (2,67) = 0,522; p = 0.596 was obtained. Since p> .05, it has been determined that the representatives do not

cause any difference in the OHS practice perception in their profession according to the type of company they work with. Therefore, the H8 hypothesis was rejected.

Table 7. Anova Test Analysis Results Based on The Number of Companies Worked

Number of companies worked with		N	X̄	Ss
0-2		36	3,66	,45
3-5		4	3,61	,35
6 and more		30	3,48	,38
Total		70	3,58	,42

Number of companies worked with	KT	Sd	KO	F	P
Between groups	,546	2	,273	1,578	,214*
Within groups	11,598	67	,173		
Total	12,145	69			

The result of the test was conducted to determine whether the representatives cause a difference in the OHS practice perceptions in their professions according to the number of companies they work with, F = (2,67) = 1,578; p = 0.214 was obtained. Since p> .05, it has been determined that representatives do not cause any difference in their occupational OHS practice perceptions depending on the number of companies they work with. Therefore, the H7 hypothesis was rejected.

Table 8: Kruskal Wallis Test Analysis Results

Education Level		*N*	*Mean Rank*	*sd*	X^2	*P*
OHS practice perceptions in their professions	High school	3	17,50	4	4,601	,331*
	Associate degree	7	37,57			
	Bachelor's degree	46	34,18			
	Master's degree	12	41,54			
	Doctoral degree	2	49,25			
Total service period		**N**	**Mean Rank**	**sd**	**X^2**	**P**
OHS practice perceptions in their profession	0-5 year	17	29,50	4	4,154	,386*
	6-10 year	10	38,10			
	11-15 year	24	40,79			
	16-20 year	10	29,55			
	20 year and more	9	36,44			
Service period as representative		**N**	**Mean rank**	**sd**	**X^2**	**P**
OHS practice perceptions in their profession	0-5 year	26	32,92	4	1,237	,872*
	6-10 year	8	38,25			
	11-15 year	24	37,69			
	16-20 year	6	31,25			
	20 year and more	6	38,50			

As a result of the Kruskal-Wallis analysis conducted to determine the difference in OHS practice perceptions in their profession according to the education levels of the representatives, x2 (4, n = 170) = 4.601 p = .331 was obtained. H9 hypothesis was rejected because of p> 0.05. It has been determined that there is no difference in the OHS practice perceptions in their profession depending on the education levels of the employees.

As a result of the Kruskal-Wallis analysis performed to determine the difference in the OHS practice perceptions in their profession depending on the total service period of the study participants, x2 (4, n = 70) = 4.154, p = .386 was obtained. Because Of p> 0.05 H6 hypothesis was rejected. It was determined that there was no difference in the OHS application perceptions in the profession depending on the total service period of the employees.

As a representative, as a result of the Kruskal-Wallis analysis performed to determine differences in the OHS practice perceptions in their profession depending on the years of employment, x2 (4, n = 70) = 1,237, p = .872 was obtained. Because of p> 0.05, the H5 hypothesis was rejected. It has been determined that there is no difference in the OHS practice perceptions in their profession depending on the years of employment as representatives.

After coding the answers given by medical representatives to the questionnaire consisting of 21 questions, the number of people who answered each question (N), the average of the answers (AVG), the standard deviation (SD), and the meanings of the results related to the average were determined and transformed into a table.

Table 9: Analysis Table of the Questions Measuring the Perception Level of Occupational Health and Safety of Medical Representatives

QUESTIONS	N	AVG	SD	Conclusion
1. Do you think that enough Occupational Health and Safety Services are received by the employer according to the OHS Law No. 6331?	69	2,68	,93	Maybe
2. Do you think that you have received adequate OHS Training about the psychosocial risk factors that you may experience related to the job you work?	69	2,58	,85	Maybe
3. Do you think that having to fulfill your responsibilities while doing your monthly work causes you stress?	69	4,09	,98	Yes
4. Have you heard words like burnout syndrome, role ambiguity, mobbing, karoshi before? Was it explained to you during the occupational health and safety training?	69	3,28	1,14	Maybe
5. As a medical representative, do you do other things that aren't in your job description apart from promoting medicine?	69	3,65	1,17	Yes
6. Do you think you have been subjected to psychological violence while giving advertising to doctors and pharmacists?	69	3,64	,98	Yes
7. Does it cause your interest in your profession to decrease when doctors make other requests from you during introducing drugs?	69	4,06	,89	Yes
8. Do you think that you are carrying more than your capacity, considering the transportation, workload, the number of institutions and doctors that must be visited?	69	4,30	,75	Definitely yes
9. Do you think you cannot fulfill your responsibilities towards your family because of your workload?	69	3,78	1,08	Yes
10. Does seeing frequent employee changes or job postings at the company you work for cause your sense of belonging to decrease?	69	4,06	,86	Yes
11. Do you think that conditions such as the climatic conditions of your region and the monthly quota cause you to have health problems?	69	3,78	,98	Yes
12. Do you think you are experiencing stress and anxiety due to reasons such as continuing to visit institutions and doctors during the pandemic process and decreasing drug sales rates?	69	4,51	,66	Definitely yes
13. Do you think you resorted to unethical actions during the promotion and sale of drugs?	69	2,56	1,09	Maybe
14. Do you know your legal rights and responsibilities according to the 4857 numbered Labor Law?	69	3,04	,95	Maybe
15. Do you think it is important to receive Basic Occupational Health and Safety Training before starting work during the recruitment process?	69	4,14	,79	Definitely yes
16. Do you know your duties and obligations according to the Occupational Health and Safety Law No. 6331?	69	3,12	1,01	Maybe
17. Do you think that you have received enough education against the dangers and risks that you may encounter in your profession?	69	2,68	1,01	Maybe
18. Do you think that occupational accidents and diseases will decrease by giving the necessary importance to occupational health and safety?	69	3,87	,78	Yes
19. Do you worry about losing your job when you cannot meet the sales quota that you need to meet monthly / periodically?	69	4,42	,86	Definitely yes
20. Have you experienced any physical or verbal violence during a visit to the doctors and services you went to promote medication?	69	3,30	1,02	Maybe
21. Do you think that your desire to smoke has increased over time in the face of the problems you experience due to the increase in working time at the company?	69	3,77	1,29	Yes

4. CONCLUSION

When we examine the demographic data of the participants who participated in the study we conducted to examine the occupational health and safety practices of medical representatives operating in the pharmaceutical promotion sector; we determined that the majority of the representatives are male, between the ages of 30-39, married, bachelor's degree, working in the pharmaceutical industry, most of them have basic OHS training, earning a wage between 3000-4000 TL, working as a representative for 0-5 years, with a total service period of 11-15 years. Representatives think that the protective measures taken during the pandemic period are insufficient. The rate of having work accidents and occupational diseases and the rate of catching the Covid-19 virus is low. They think that Covid-19 should be considered as an occupational disease. When we examine the number of companies that the representatives work with, we see that the company working as a representative has changed little as a result of working in the company between 0-2, and they are satisfied with the company they work with. Making a contract while starting to be a representative may also be a factor in the emergence of the result in this way. Most of the representatives participating in the questionnaire work in local pharmaceutical companies.

We have determined that the perceived level of occupational health and safety practices of medical representatives operating in the pharmaceutical promotion sector depends on the desire to leave the job due to the increase in the year of service. It was determined that the OHS practice perceptions of those who want to leave their jobs due to the increase in their years of service (X = 3.65) are higher than those who do not want to leave their duties (X = 3.42). Apart from this, it has been determined that gender, basic OHS training, work accident or occupational disease, having Covid-19, the definition of Covid-19 as work accident and occupational disease, age, marital status, monthly income, type of company, number of company, education level, total service period did not affect the level of OHS practices perception of medical representatives.

When we examine the questions measuring the perceptions of occupational health and safety practice, we arrived at some conclusions that medical representatives are under the influence of physical, biological, and psychosocial risk factors in terms of occupational health and safety, want to smoke because of intensive tempo, they have to do in other jobs other than their main duties, it is a tiring and backbreaking profession, the interest in their professions decreases because of the different demands of healthcare professionals, they have to do work above their capacity, they are anxious because of seeing staff announcements continuously, their health deteriorates while doing their profession, they are worried about the stress of reaching the quota during the pandemic period, and their desire to smoke has increased. For all these reasons, we have determined that medical representation is a difficult profession and it does not provide a healthy and safe working environment for employees in terms of occupational health and safety. According to the World Health Organization, the workplace that provides the full well-being of employees in terms of mental, social, and physical is healthy.

In the study conducted by Göktaş-Kulualp and his friend (2019), according to the result of being the difference in ethical behavior depending on the income level of the medical representatives and the ethical result of this study, we determined that they have employed unethical methods because of job loss anxiety during drug promotion and marketing (Göktaş-Kulualp & Yiğit, 2019). In the study conducted by Bilgin and Küçükhazar (2018), they stated that there were unethical behaviors, attitudes, and practices in health institutions during drug promotion (Bilgin & Küçükhizar, 2018).

The pharmaceutical industry has a very effective position in terms of the economy. When we take into account Covid-19 vaccine production activities with the pandemic, pharmaceutical promotion personnel working in pharmaceutical companies have a great responsibility in terms of production, supply chain, and promotion of the vaccine.

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