

## TRAINING AND SOCİO-ECONOMİCAL STATUS OF ORTHOPEDİC MEDİCAL COMPANY STAFF

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### ORTOPEDİK MEDİKAL FİRMA ÇALIŞANLARININ EĞİTİM VE SOSYOEKONOMİK DURUMU

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#### ABSTRACT

**Objective:** By participating in most orthopedic surgery, the positions, trainings and demographic features of Orthopedic Implant Providers, which helps physician in the specifications and practices of the implants was investigated.

**Material and Methods:** In the study, 90 Orthopedic Implant Providers (Medics) included in Turkey's different regions. Age, education, working times and socioeconomic situations were questioned.

**Findings:** In this study, the average age of employees was 31.4 years (19-48 years) and the average vocational time was 9.7 years (1-25 years). When the educational status of employees were examined; high school graduates were 70%, middle school graduates were 12.2%, and college and / or faculty graduates were 17.8%. It has been observed that 70% of Orthopedic Implant Providers have not received any courses and training related to health apart from that they have certified with electronic examination from the Ministry of Health.

**Conclusion:** It is a fact that everyone who participate to a surgical operation is both legally and socially responsible to the operated patient. However, it is very difficult to expect for high level responsibility for ethic and health and health care that works with the certificate that has not received an education in the field of health or with the certificate earned by health-related electronic examination We believe that stakeholders providing health care in this regard should establish a standard of work on this group in terms of patient, physician and public wellbeing.

Keywords: Health; Orthopedics; Implant providers; Technician.

## ÖZET

**Amaç:** Ortopedik ameliyatların çoğuna katılarak implantların teknik özellikleri ve uygulamaları konusunda hekime yardımcı olan Ortopedik İmplant Sağlayıcıları'nın sağlık hizmetlerindeki konumları, eğitimleri ve demografik özellikleri araştırıldı.

**Gereç ve Yöntem:** Türkiye'nin farklı bölgelerinden 90 Ortopedik implant sağlayıcı (medikalci) çalışmaya dahil edildi. Yaş, eğitim, çalışma süreleri ve sosyoekonomik durumları sorgulandı.

**Bulgular:** Ortalama yaşları 31,4 y (19-48 y), meslekteki çalışma süreleri 9,7 yıl (1-25 yıl) idi. %70 lise, %12,2 orta öğretim ve %17,8 lisans mezunuydu ortopedik implant sağlayıcılarının %70'nin e- sınavla sahip oldukları sertifika dışında, sağlıkla ilgili başka bir kurs veya eğitim almadıkları görüldü. Ortopedik implant sağlayıcıların %70'inin sağlık bakanlığından elektronik sınavla sertifikalandırdıkları için sağlıkla ilgili herhangi bir kurs ve eğitim almadığı görülmüştür.

**Sonuç:** Cerrahi operasyona katılan herkesin hem yasal hem de sosyal olarak ameliyat olan hastadan sorumlu olduğu bir gerçektir. Bununla birlikte, sağlık alanında bir eğitim almayan veya sağlıkla ilgili elektronik sınavla kazanılan sertifika ile çalışan bir guruptan etik ve sağlık için yüksek seviye sorumluluğu beklemek çok zordur. Bu konuda sağlık hizmeti veren paydaşların, bu grup üzerinde hasta, hekim ve kamu refahı açısından bir çalışma standardı kurması gerektiğine inanıyoruz.

**Anahtar Kelimeler:** Sağlık; Ortopedi; İmplant sağlayıcı; Teknisyen.

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## Introduction

Surgical implant materials are used in some operations of many branches, such as Neurosurgery, Plastic Surgery, General Surgery and particularly Orthopedics and Traumatology. The implant materials necessary for those operations are brought to hospital by suppliers, supplying materials, and they are presented, after the necessary sterilization process, to the doctor by the firm technicians themselves in the operating room by joining the operation. Two most important features which the personnel, working in the operating rooms considered to be the most confidential place in the health, should have are the protection of patient privacy and obeying sterilization rules for health of the patient. Those suppliers that supply implant materials can accompany every stage of the patient, who shall undergo an operation, from his/her arrival at the operating room to leaving it. The fact that those people, who have such an important position, are well-equipped, meet the sterilization conditions and obey the ethics is extremely important both for health of the patient and legally.

In the present study, it is aimed to research demographic features of medical technicians who work at the suppliers of health-related materials.

## Material and Method

The Ethics Committee of The Adiyaman University approved the study (Project identification code 2018/8-6). Age, duration of work at occupation, educational background, training and courses they received related to health, economic and social security were asked, which belonged to 90 firm employees, who work at 25 different medical firms in 14 different provinces of Turkey and joined the operations.

## Result

As a result of the research carried out, 90 orthopedic firm employees were included into the study, who work at different firms in 14 different provinces of Turkey and work actively by joining the operations themselves. The average age was determined 31.4 years (19-48) and duration of work at occupation was determined as 9.7 years (1-25). Their average monthly earnings were 3000 Turkish liras. It was seen that the rate of the ones who worked for less than 5 years was 36.6% and every firm gave support to operations with approximately 3.6 employees. When educational backgrounds of orthopedic firm employees are examined, it was observed that high-school graduate was 70%. 2 persons of them graduated medical vocational high school (3.18% of high school). Secondary school graduate was 12.2%. College graduate and/or bachelor was 17.8%. Except 6.25% (1 person) of bachelor or college graduates, all of the rest were observed to receive education at the departments irrelevant to health. 70% of those employees were observed to receive their certificate of work by taking an electronic exam of the ministry of health and not to receive any course and training related to health, except this. (Table-1)

## Discussion

In the operating rooms, the operations are carried out by a team consisting of surgeon, anesthetist, nurse, anesthetic technician, auxiliary health personnel and surgical technicians. Some implant materials are needed for operations at some branches, such as Orthopedics, Neurosurgery, Plastic Surgery and General Surgery. Those implant materials are provided by the supplier health medical firms that sell implant materials to the health institutions. The duties of those business firms are to bring the implant to the hospital, deliver the implant to sterilization unit and provide surgeon with technical support in applying the material during the operation. This duty is performed by the ones qualified as clinical support personnel, according to the Regulation on Sale, Advertising and Promotion of Medical Devices, which was published in the Official Gazette no 29001 dated 15 May 2014. In this regulation, it is a requirement for the firm officials to be at least associate degree graduate in the fields of health and engineering and to be successful at the exam, held over the internet, covering the subjects related to legislation, medical ethics, work in sterile service areas and radiation safety.<sup>1</sup> The fact that those people, in addition to the operation team, also get involved in the team leads to some ethical and health problems for the patient.

Operating rooms are the high-risk areas in terms of infection and it is necessary to pay utmost attention to sterilization rules. One of the most important factors to prevent surgical site infections is the fact that the team of operating room fully and absolutely obey the asepsis rules.<sup>2</sup>

Firstly, those rules should be known in order to obey them. In a study carried out over nursing students, knowledge levels related to hospital waste management were researched. It was seen that although all the students received training on this subject, their knowledge levels were not sufficient, and the fact that knowledge is not repeated at intervals and not supported in practice is evaluated as the reason for the mentioned situation. It was stated that increasing knowledge can be obtained by reinforcing together theoretical and clinical knowledge and it is necessary to maintain the continuity of the mentioned knowledge by observing it in the application areas and by evaluating it at intervals.<sup>3</sup> In the present study, it has been seen that almost all of the clinical support personnel received training in the fields except health services and their health-related knowledge is only their success of the results of online exam they took in their own offices without being subjected to surveillance of the ministry of health. However, it is seen in the study above that it is necessary even for the ones, who received training, to apply theoretical knowledge in application areas accompanied by observers for continuity and correctness of the knowledge.

One of the most important matters to pay attention in providing health services is protection of patient privacy.<sup>4,5</sup> Patient privacy, in general, means the information of patient, which even sometimes the patient himself/herself does not know, is secret in all the areas of treatment of that patient.<sup>4</sup> It is the general view in patient privacy that although the doctor and nurse are responsible,

the health service is provided by a team service. In protection of privacy, all the other healthcare professionals in that team should pay necessary attention to and act with the sense of responsibility. Meticulousness, which all the employees exhibit about privacy, shall prevent them from facing with negative conditions before the laws. Otherwise, many legal and social problems can occur.<sup>6,7</sup>

It is also very important for safety of employees that clinical and surgical support personnel are aware of their work and all the risks. Because operating room employees are always faced with the risk of radiation exposure and infection. In a study carried out over nurses and technicians, it was seen that although they knew the risks related to their work were high, their accumulation of knowledge was insufficient and it was stated that it is necessary to carry out studies related to occupational health and safety and to provide employees with training within this scope in order to increase the mentioned knowledge.<sup>8</sup>

Working hours in our country are determined as 45 hours weekly and no restriction is placed to daily basis. Since clinical support personnel keep in touch with many doctors at the hospital and thus they may join the operation at any moment, there is no shift concept in those employees. As a result of the fact that working processes of the mentioned employees, who have to join the operation at every hour of the day (daytime, off the shift or late hours at night), are long and indefinite; unhappiness, absenteeism and thus leave of employment can be seen in employees.<sup>9</sup>

The essential condition of the ministry of health to work at medical health firms and join the operations is having the working certificate issued by the ministry. In the present study, nearly 30% of clinical support personnel, who work at commercial firms, do not have a working certificate issued by the ministry of health. However, since they are not subjected to an inspection, the fact that the mentioned ones freely join the operations leads to many problems as well as the legal problem for that group, who already has insufficient knowledge. It should be ensured that inspections are made on this subject and the employees without a certificate are not taken into the operating room.

It is known that vital accumulation of knowledge, such as privacy, sterilization, occupational health and safety, is insufficient in clinical support personnel whose theoretical knowledge is questioned by few limited subjects determined by the Ministry of Health. By adding different training methods and models and supporting the theoretical knowledge with practical knowledge, the continuity of them should be provided. Therefore, it is very important the mentioned employees receive in-service training at intervals. In-service training increases the person's comprehensive knowledge of their work by increasing accumulation of knowledge and thus decreases the possibility of making a mistake and also increases its benefit to the patient.<sup>9,10</sup>

In conclusion, the present study is the first study related to surgical orthopedic firm technicians, who work at the supplier health firms. We consider that providing those employees, who legally gained a status by being qualified as a clinical support personnel in 2004 and whose training is extremely insufficient, with in-service training with the status of hospital staff and supporting them and also inspecting them at intervals are all for the benefit of both the patient and the firm personnel.

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**Table-1:** Demographic characteristics of the orthopedic medical company employees

Gender	
Male	90
Female	0
Age	
Average	31,4
Range	19-48
Duration of work at occupation	
Average	9,7
Range	1-25

The rate of working for less than five years		
Number		33
Percent		36,6
Salary (Turkish lira)		
Average		3000
Range		2000-3500
Social security (SSI)		
Number		90
Percent		100
Educational Background	Secondary education (Number/Percent)	11 (12.2%)
	High School (Number/Percent)	63 (70%)
	Faculty/ College (Number/Percent)	16(17.8%)
Health-related training	Medical vocational high school (Number/Percent)	2(3.18% high school)
	School of Nursing (Number/Percent)	1(6.25% of bachelor or college graduates)
Health-related course, seminar, etc. (Number/Percent)		0
Ministry of Health The Rate of Working With A Certificate (Number/Percent)		63(70%)