Evaluation of the calls made to 112 and the problems 112 employees encounter

112'ye yapılan başvuruların ve 112 çalışanlarının karşılaştığı sorunların değerlendirilmesi

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SUMMARY

Objective: The purpose of this study is to evaluate the calls made to 112 Emergency Call Center in Edirne and to identify the problems experienced by the employees.

Method: The universe of this study consisted of Edirne 112 Emergency Call Center employees (N = 233). The research was carried out as cross-sectional and descriptive. The surveys were distributed to all employees on a voluntary basis, but 160 people completed the survey. A survey was conducted to identify the problems faced by 112 employees. Also, document scanning method was used to evaluate the calls made to 112 emergency center. Data was performed with frequency percentage and descriptive statistics in SPSS 21 program.

Results: The number of cases for the first 9 months of 2019 is 31.365. It was found that 78% of the cases in Edirne 112 Emergency Health Services were medical, 83.5% were intraprovincial referrals and 51.8% were prediagnosed of the cardiovascular system. 53.1% of 112 Emergency Healthcare employees are women, 41.9% are Emergency Medical Technicians, 43.8% are associate degree graduates, 73.8% of them are working as civil servants, and 31.3% have been professionally working for 10 years or more. 18.2% of the employees stated that they had commination's problems with patient relatives, 11.2% have felt time pressure and 10.6% stated that they were uncomfortable with ambulance failures. 61.2% of the participants stated that they were being violated in their working environments. In addition, 46.7% of the participants stated that they were exposed to verbal violence and called code white.

Conclusions: It was found that the majority of 112 cases were due to medical reasons and with a prediagnosis related to the cardiovascular system. It was also determined that 112 employees generally have problems with patient relatives, feel time pressure and are exposed to violence. 61.2% of the participants were exposed to violence and 46.7% stated that they were subjected to verbal violence and gave white code, because the employees were generally in trouble with their relatives, because they felt time pressure and were exposed to false reports.

Keywords: Emergency health services, 112, health workers, ambulance, violence

ÖZET

Amaç: Bu çalışma da Edirne 112 Acil Çağrı Merkezine yapılan başvuruların değerlendirilmesi ve bu merkezde çalışanların yaşadıkları sorunların belirlenmesi amacıyla yapılmıştır.

Yöntem: Kesitsel ve tanımlayıcı olarak gerçekleştirilen araştırmanın evrenini Edirne 112 Acil Çağrı Merkezi çalışanları (N=233) oluşturmuştur. Anketler gönüllük esasına göre tüm çalışanlara dağıtılmış ancak 160 kişi anketi doldurmuştur. 112 çalışanlarının karşılaştığı sorunların belirlenmesinde anket formu, 112'ye yapılan başvuruların değerlendirilmesinde ise doküman taraması yöntemi kullanılmıştır. Veriler SPPS. 21 programında frekans yüzde ve tanımlayıcı istatistikler ile gerçekleştirilmiştir.

Bulgular: 2019 yılı ilk 9 aya ait vaka sayısı 31.365'dir. Edirne 112 Acil Sağlık Hizmetlerine yapılan vakaların %78'inin medikal, % 83.5'inin il içi sevk ve %51,8'inin ön tanısının kardiyovasküler sistem ile ilgili olduğu saptanmıştır. 112 Acil Sağlık Hizmetleri çalışanlarının %53,1'i kadın, %41,9'u Acil Tıp Teknikeri, %43,8'i önlisans mezunu, %73,8'i devlet memuru statüsünde çalışan olup, %31,3'ünün mesleki çalışması süresi 10 yıl ve üzeridir. Çalışanların %18,2'si hasta yakınları ile iletişim sorunu yaşadığını, %11,2'si zaman baskısı hissettiğini ve %10,6'sı ise ambulans arızlarından rahatsızlık duyduğunu ifade etmiştir. Katılımcıların %61,2'si çalışma ortamlarında şiddete maruz kaldığını belirtmiştir. Ayrıca katılımcıların %46.7'si sözel şiddete maruz kalıp beyaz kod verdiğini belirtmiştir.

Sonuç: 112'ye gelen vakaların çoğunluğunun medikal nedenlerle gerçekleştiği ve ön tanısının da kardiyovasküler sistem ile ilgili olduğu saptanmıştır. Katılımcıların %61,2'si şiddete maruz kaldığını ve %46,7'sinin sözel şiddete maruz kalıp beyaz kod verdiğini ifade ederken, çalışanların genel olarak hasta yakınları ile iletişim sorun yaşadığı, zaman baskısı hissettikleri, yanlış ihbara maruz kaldıkları belirlenmiştir

Anahtar sözcükler: Acil sağlık hizmetleri, 112, sağlık çalışanları, ambulans, şiddet

INTRODUCTION

Emergency health services are an important component of healthcare systems and they make a significant contribution to reducing preventable deaths and disabilities, especially in low and middle-income countries. Therefore, the health services have traditionally focused on emergency health services especially in the developing countries [1,2].

Emergency health services are considered as the systems responsible for providing emergency aid and protecting public health and safety, and their aim is to respond to calls for help quickly, to provide initial stabilization services and to transfer patients to the appropriate hospitals when necessary. In life-threatening emergencies, it also improves the health status of patients including the ability to react quickly of the employees of 112 [3].

American Emergency Physicians Association states that timely responsiveness, providing expert health personnel, moving to an appropriate health facility and providing medical surveillance are included in the quality emergency health services and access to the emergency health services [4]. The command control center, ambulance, competence and training of the personnel and administrative mechanisms must be considered and evaluated together in the effective management of pre-hospital emergency health services, which concern different disciplines and have many components [5].

Ambulance employees are the first to reach the patient who requires urgent intervention, see the patient at the scene, start the treatment and provide the transfer. In all these processes, they have to make decisions and act very quickly [6]. For these reasons, the staff working in emergency health services, which generally interfere with critical cases, has a higher potential to be exposed to traumatic stress factors caused by anxiety and depression [7]. Also, it is observed that anxiety disorder, burnout, job satisfaction and motivation decrease are found in this group which works under intense stress [8,9].

The phenomenon of violence that occurs as a verbal, physical or sexual assault in health institutions, which are labor-intensive institutions, threatens the healthcare workers day by day. In the study conducted by Akbaş et al. (2016), it was determined that 112 employees were exposed to violence at high levels [10].

The demand for pre-hospital healthcare services is increasing day by day in many countries. It is known in the literature that emergency health services are used more by the elderly population than the younger population [11, 12]. In this case, the demand for emergency health services will increase with the aging population [13]. Traffic accidents, earthquakes, fire, flood disasters and epidemic diseases are other factors that increase the demand for emergency health services in our country. The patient's socioeconomic status, geographical conditions, trauma, and the severity of the disease affect the rates of ambulance use in

various factors [14]. In the first aid applied at the scene, the first half hour is called the golden hour and it is very important in the prevention of death and injuries. In accidents and injuries, 10% of the deaths occur due to respiratory arrests in the first five minutes and 50% due to major bleeding in the first 30 minutes [15]. Experts state that at least 20% of deaths can be prevented with first intervention performed in a quality, fast, appropriate and conscious way [16]. According to 2018 Health Statistics annual data, there are 5.586 ambulances in our country in 2018 and the population per ambulance is 16.701. The number of stations in 112 is 2.735 and the number of ambulances is 4.910. The number of cases per emergency ambulances in 112 is 1.113 [17]. Ambulance utilization rates are increasing in Turkey as in the other countries [14, 18], and it is important to manage the resources effectively and correctly in order to bring the patients from the scene to hospitals as soon as possible and provide them effective medical intervention.

In line with this information, this study aims to evaluate the applications made to Edirne emergency health services and to identify the problems experienced by those working in this field. In this context, it is thought that it will contribute to the literature in addition to determining the demand for emergency health services and the problems experienced by the emergency healthcare workers, providing healthcare professionals to work more efficiently and to effectively deliver these services.

MATERIAL AND METHODS

This study was carried out in two stages. In the first stage, the cases for the first six months of 2019 were evaluated retrospectively in order to evaluate the demand for emergency health services. In the second stage of the study, it is aimed to determine the problems of emergency healthcare workers before the hospital. The universe of the study was composed of Edirne city ambulance command and control center employees (233). All employees were tried to reach without selecting a sample, but the study was completed by reaching only 160 people due to reports, permits and seizures. The questionnaire prepared in the light of expert opinions and related literature was used as a data collection tool. Before starting the study, written permissions were obtained from the institution and the data were collected by the researchers by using face-to-face interview technique. Verbal consents were obtained by explaining the purpose and content of the research to the participants.

The data were evaluated with SPSS.21 software package using descriptive statistics.

RESULTS

The number of cases, ambulances and stations applied to 112 Ambulance Command and Control Centers (ACCC) in Edirne province between 2013 and 2019 are examined and the findings are given in Table 1.

Table 1: Number of Stations, Ambulances and Cases of Edirne ACCC between 2013-2019

Year	Number of Stations	Number of Ambulance	Number of Cases
2013	15	33	22.621
2014	16	41	27.933
2015	17	42	30.705
2016	17	43	34.693
2017	19	43	37.666
2018	18	42	39.683
2019 (January-September)	19	51	31.365

According to the causes of ambulance cases for the first nine months of 2019 and in consideration of the diagnosis of the transfers in and out of the province, it is seen that the most cases consisted of medical cases with 78%. Medical cases are respectively followed by traffic accidents (7.9%), other accidents (6.9%) and injuries (2.3%). It is seen that 83.5% of the transfers are carried out in the province. It is understood that 51.8% of out-of-province transfers consist of patients with cardio vascular system diseases. This group is followed by the respiratory system patients with 13.2%, the

others with 9.5%, obstetrics with 5.1%, the genito-urinary system patients with 5.1% and newborns with 5.1%.

Table 2 provides information about the introductory features of Edirne city ambulance command and control center employees.

Table 2: Descriptive Characteristics of The Participants

Variables	Frequency (n)	Percentage (%)
Gender		
Male	75	46.9
Woman	85	53.1
Profession		
Emergency Medical Technician	67	41.9
Paramedic	47	29.4
Chauffeur	30	18.8
Doctor	16	10.0
Education		
High school	31	19.4
Associate degree	70	43.8
License	48	30.0
Master	11	6.9
Staff		
4b	13	8.1
657	118	73,8
Continuous Worker	29	18.1
Service Period		
0-1 years	20	12.5
2-5 years	50	31.2
6-9 years	40	25.0
10 years and over	10	31.3
TOTAL	160	100

In Table 2, introductory features of the participants are given and 53.1% of the participants are women, 41.9% are emergency medicine technicians, 43.8% are associate degree graduates, 73.8% are in the status of staff subject to the civil servants law No. 657 and the service period of 31.2% is 2-5 years.

Table 3: Distributions Regarding the Problems Frequently Encountered by the Participants

Problems	Frequency (n)	Percentage (%)
Communication problem with patient relatives	86	18.2
Time pressure	53	11.2
Ambulance failures	50	10.6
False reports	46	9.7
Drivers	46	9.7
Their ideas are ignored	41	8.7
Communication problem with patients	33	7.0
Problems experienced with hospital staff	32	6.8
Problems with other station staff	28	5.9
Communication problem with managers	25	5.3
Communication problem with the station staff worked	18	3.8
Excessive guard	11	2.3
TOTAL	**470**	**100**

✱ **Participants gave more than one answer to the question.**

Participants were asked what problems they mostly encounter in their work environment and the answers are given in Table 3. Accordingly, 18.2% of the participants experienced communication problems with patient relatives, 11.2% experienced time pressure, 10.6% ambulance failures, 9.7% false reports, 9.7% reported the drivers as a problem.

Table 4: Distribution of Answers of Participants regarding Violence Questions

Expressions	Frequency (n)	Percentage (%)
Exposure to violence		
I was exposed to violence	98	61.2
I was not exposed to violence	62	38.8
Type of Violence		
I was exposed to verbal violence (I gave a white code)	49	46.7
I was exposed to verbal violence (I did not give white code)	45	42.8
I was exposed to physical violence (I gave a white code)	4	3.8
I was exposed to physical violence (I did not give a white code)	7	6.6
Reasons for not giving white code		
Forgiveness	42	80.8
Don't be afraid of the judicial process	5	9.6
Other	5	9.6

Table 4 presents the answers given by the participants to the questions regarding their exposure to violence in their working environment. 61.2% of the participants stated that they were exposed to violence. While 46.7% of the participants stated that they were exposed to verbal violence and gave a white code, 42.8% stated that they were exposed to verbal violence and did not give a white code. While 3.8% of the participants stated that they were exposed to physical violence and gave white code, while 6.6% stated that they were exposed to physical violence and did not give white code. When asked about the reasons of not giving white code to those who stated that they were exposed to violence and did not give white code, 80.8% stated that they forgive and 9.6% stated that they were afraid of judicial processes.

DISCUSSION

112 emergency health services constitute the basis of pre-hospital emergency health services, which is an important component of health systems. As in the other countries, the demand for emergency health services in our country is high and this situation, in which the employees have violence and communication problems with the relatives of the patients, affects the motivation and efficiency of the employees and the quality of service negatively. It also creates problems in intervening patients and saving their lives. People working in emergency health services generally work under various conditions such as time pressure, rapid decision making and intervention, pressure of relatives of the patient or those around them, as they interfere with critical cases related to human life. This can lead to stress and anxiety on employees. As result of the study, it is seen that the number of cases is constantly increasing, but the number of stations is not increasing at the same rate when the number of stations, ambulances and cases are analyzed by years. Edirne 112 ambulance service responded to 31.365 cases in the first 9 months of 2019. This number is estimated to reach approximately 42.000 by the end of the year. Although the number of cases has increased continuously every year since 2013, it is seen that the number of personnel and equipment has not increased sufficiently. While the number of patients increased by 90% in 6 years, the number of stations increased from 15 to 19, which is a 26% increase. This situation, which is mostly due to medical reasons, is seen to be followed by traffic accidents, other accidents and injuries when the distribution of the cases by causes in the first 9 months of 2019 is examined. Similarly, in the studies made by Kıdak et al. (2009) in İzmir, Tözün et al. (2008) in Eskişehir, Rızalar and Öztürk (2015) in Ordu, in which they evaluated the use rates of 112 ambulance services, it is determined that most of the cases are caused by medical reasons and then traffic accidents [19,20,21].

51.83% of out-of-province transfers are made with the diagnosis of cardio vascular system patients, 13.24% of respiratory system diseases, 5.07% of obstetrics, genito-urinary system and newborns. Cardiovascular diseases take the first place among the causes of adult death in the world [22]. In the studies of Benli et al. (2015), trauma took the first place and cardiovascular diseases took the second place [23]. In the study of Aydın et al. (2011), trauma and neurological diseases take the first place after psychiatric diseases such as conversion and anxiety [24]. It is appropriate to supplement the necessary health personnel to the hospitals related to the areas where the cases are frequently experienced in order to reduce the transfers and to treat the patients faster.

The sources of problems experienced by 112 employees are due to patient relatives, time pressure, ambulance failures, drivers during the transfer, false reports, not getting opinions and problems with the patients. Similarly, in the study of Gezgin (2016), 112 employees stated that they

had communication problems with the relatives of the patients [25].

More than half of the employees stated that they were exposed to violence in the workplace and most of them were exposed to verbal violence. About half of those who are exposed to verbal and physical violence state that they gave white code. When those who did not give white code were asked about the reason, the vast majority stated that they forgave the violent person. Although there are legal arrangements to reduce violence in health, there are problems in implementation. In addition, it is useful to raise awareness of the public and to be sensitive in the implementation of the penalties. In the studies conducted by Akbaş et al. (2016) with a similar sample in Adana, it was determined that the majority of the employees were exposed to violence, and in this case they did not give a white code and they remained silent against this violence [10]. In the studies conducted in the literature, it was found that the majority of emergency healthcare workers were exposed to violence, especially verbal violence, in their working environments [26, 27, 28, 29].

Therefore, it can be said that the demand for emergency health services is increasing day by day in the light of the information obtained from these study findings. Violence that we encounter as an important sociological problem in our country in the recent years has also increased as an undesired phenomenon in the health sector and poses a risk for healthcare professionals. Employees exposed to violence tend to forgive or remain silent for various reasons. In addition, 112 employees stated that they mostly have communication problems with their relatives, but they are concerned about the nature of their work. Employees have problems with patients, colleagues, managers, hospital staff, as well as problems such as ambulance malfunction and false reporting. Health managers and health politicians have a duty to determine and solve the problems of employees in this field in providing quality access to emergency health services, which is an important component of the health services. It is beneficial to perform similar studies in a wider group and time frame.

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