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ISSUES EXPERIENCED IN PROVISION OF EMERGENCY SERVICES IN PRE-HOSPITALIZATION PERIOD IN TURKEY

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ABSTRACT

Objectives: The present study was conducted to determine issues experienced during provision of emergency health services before hospitalization of patients and to suggest solution for hospital administrations and practitioners for eliminating relevant bottlenecks.

Methods: Whereas the study covered 459 health service personnel at the emergency service in Trabzon City, Turkey in 2016, a Likert-type survey method was harnessed as a data collection tool whose reliability and validity were tested. Collected study data were analyzed for their frequency and significance test.

Results: Based on the obtained findings, it was determined that emergency health services have been strengthened in terms of infrastructure, preparedness for cases and human resources and organizational structure. However, substantial issues were observed with the accessing and intervention process to cases reported considered as external factors.

Conclusion: These issues could mainly be classified under two groups: the first is reflection of limitations introduced by the established buildings, roads and other infrastructure and the influence of economic opportunities on social organization and development on emergency service intervention processes; and this contributes into our case with inadequate structural features of buildings, stairs, elevators, roads, gates. The second is the issue related with social education, culture and mentality. Reflections of the second group issues could be observed in false and malicious calls made to emergency service, violation of right of way assigned to ambulances, adverse attitudes of relatives of patients and verbal attack aiming at emergency service personnel.

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STRUCTURED ABSTRACT

Introduction and Objectives

Likewise all over the world, emergency health services are the most inseparable element of health services, which requires race with time. Numerous studies have revealed that intervention made in the first five minutes, half-an-hour and in the first hour after experiencing an accident, acute disease or trauma is vitally important in terms of saving lives or preventing disability. Along the program of transition in health services applied in Turkey, emergency health services have been reorganized. This reorganization has both strengthened infrastructure of emergency health services and advanced its efficiency and agility. Nevertheless, there are various issues with the operation of the service and especially with having access, intervention to cases and in logistic phases of the process. The present study was conducted to determine the issues experienced during the provision of emergency health services in the pre-hospitalization period and to assist administrations and practitioners in terms of determining problems and making suggestions for resolution of these problems.

Emergency health service given before hospitalization is a service branch which requires highly intensive and stressful work load (Duran et al., 2012: 144). Additionally, emergency health crews might face difficulties during intervention into the reported cases. It is commonly known that emergency crew members would encounter difficulties in having access to case locations while they are providing emergency health services in traffic environment because of other drivers' ignorance of traffic rules or of traffic jam (Karakuş et al., 2014). 112 stations are required to be located in proximity of city center in order to intervene in cases immediately (Handerson & Mason, 2004).

Another difficulty encountered in accessing cases especially with services provided to countryside is reported as improper width of roads in rural areas and poor traffic signage. Moreover, limited free space around the residential areas in urban areas makes access of ambulance units difficult; and living and passage areas in buildings non-conforming to the standards obstructs accessing patients (Uskun et al., 2007).

Based on all of these characteristics and issues that could be encountered during performance of this duty, it is possible to conclude that provision of emergency health services has a quality which challenges human nature. Especially anxiety and other psychological problems could be observed with emergency health service personnel (Annagür, 2010). This finding suggests that emergency health service personnel might need psychological support.

In the preliminary study, development phases of emergency health services in Turkey were introduced briefly; and issues laid by former studies were tried to be determined. In the present study, it was aimed to determine issues experienced at application level; to review the relevant literature and to make suggestions to administrations for resolution of revealed problems so as to make a contribution to the subject.

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Methods

As the study was planned for March 2016; necessary initiatives were taken with the City Health Directorate and City Governorship for implementation of the survey study structured in five-point Likert style, a qualitative research method. Finally, the ultimate survey form was prepared under the title of "The Survey Form for Determining Issues Related with the Emergency Health Services in the Pre-Hospitalization Period" applied on voluntary basis to the emergency health personnel and their administrations on duty at the Branch Directorship, the Command and Control Center and 30 different ASHİ units in Trabzon City in the period of June and July 2016. Finally, 459 valid survey forms were collected.

For reliability analysis of the scale, Cronbach's Alpha coefficient was estimated at 0.84 which suggests that the proposed survey could be considered as reliable. The KMO value was estimated at 0.881. Additionally, the Barlett sphericity test was employed for evaluation of significance of correlation among items; and significance was determined as 0.000 (Approx. Chi-Square: 4237.924/ df: 496/ sig: 0.000). In order to assess dimensions of items, "Direct Oblimin" rotation operation was executed by the "Principal Components" method.

Results and Discussion

The present study was conducted to determine issues encountered by emergency health services personnel in the pre-hospitalization period. In general, it was determined in this study that while level of issues expressed concerning the dimensions of infrastructure, case preparedness and human resources were at medium level, higher level of issues was reported with the dimension of case intervention. Especially, substantial issues were determined as false or malicious calls made to emergency call centers and difficulties experienced in confirmation of case addresses. As it was reported by Uskun et al. (2007) concerning the emergency services in the pre-hospitalization period, inappropriate features of stairs and elevators of buildings for handling of patients; and exposed traffic accident risks subject to roads, traffic jam and drivers as it was determined by Karakuş et al. (2014), Uskun et al. (2007) and Yılmaz (2012) were put in prominence. In parallel with findings reported by Yıldız (2015) and Budak (2015), adverse attitudes of relatives of patients, exposure to verbal assaults were among the dimensions which came to foreword. Moreover, reluctance of hospital emergency services to administer patients was considered as another major issue. Ineffective utilization from air ambulances and insufficient number of runways for air ambulances in urban areas was also emphasized. The personnel's need for in-service training was brought to forefront as well.

Conclusion and Suggestions

Finally, it was realized that infrastructure, case preparedness and human resources and organizational structure of emergency health services were further strengthened along the health transformation program based on the present study. Accordingly, no significant issues were determined regarding these dimensions. Another issue was determined as psychological support need of personnel because of the

stress, difficulty, verbal and physical assaults encountered in this profession. It would be important to recruit psychologists and social service specialists to fulfill psychological needs of employees regularly.

Considering weight lifting capacity of applicant during recruitment process for especially ambulance crew would make positive contribution to resolution of issues that arise during patient handling processes. Need for in-service training should not be limited to vocational developments, self-improvement, ethical, patient rights and communication dimensions must be covered as well.

Keywords: Emergency Health Services, Health Worker, Prehospital Emergency Services, Turkey

HASTANE ÖNCESİ ACIL SAĞLIK HİZMETLERİ SUNUM SÜRECİNDE YAŞANAN SORUNLAR

ÖZET

Acil sağlık hizmetleri bütün dünyada olduğu gibi ülkemizde de sağlık hizmetlerinin en vazgeçilmez, en hızlı yapılması gereken hizmetleridir. Yapılan bir çok çalışmada kaza, akut hastalık veya kriz anlarında ilk beş dakika, ilk yarım saat ve ilk birkaç saat içinde müdahale hayat kurtarma veya sakat kalmama açısından çok önemlidir. Ülkemizde sağlık dönüşüm programı uygulaması çerçevesinde acil sağlık hizmetleri de yeniden yapılandırılmıştır. Bu yapılanma ile merkezde Sağlık Bakanlığı bünyesinde kurulmuş olan Acil Sağlık Hizmetleri Genel Müdürlüğü, illerde ise Sağlık Müdürlükleri bünyesinde acil sağlık hizmetleri yürütülmektedir. Yeni yapılanma acil sağlık hizmetlerinin alt yapısını güçlendirmekle beraber, etkinliğini, hızını artırmıştır. Bununla birlikte sistemin işleminde ve özellikle vakaya ulaşım, müdahale ve taşıma aşamalarında karşılaşılan sorunlar mevcuttur. Bu çalışma Trabzon ili özelinde mevcut sorunları tespit etmek ve yönetici ve uygulamacılara sorunların tespiti ve çözüm önerisi geliştirmede katkı yapmak üzere, yönetimin katılımıyla gerçekleştirilmiştir.

Elde edilen bulgulara göre; 112 acil sağlık hizmetlerinin altyapı, vakaya hazırlık ve insan kaynakları imkanlarının ve örgütlenme yapısının sağlıkta dönüşüm programı dahilinde ciddi anlamda güçlendirildiği yapılan çalışmalardan anlaşılmaktadır. Bu nedenle bu konularda yüksek düzeyde sorun ifadesi fazla yoktur.

Fakat dış faktörler bağlı olan vakaya ulaşım ve müdahale süreçlerinde ciddi sorunlar yaşanmaktadır. Bu durumun nedenleri başlıca iki başlıkta incelebilir. Birincisi; mevcut bina, yol ve diğer altyapı ve ekonomik imkanların toplumsal yapılanma ve gelişmeye getirdiği sınırlılıkların acil müdahale süreçlerine yansımalarıdır ki, bu düşüncüyü destekleyen, bina merdiven ve asansörlerinin, yolların yetersizliği sorunlarıdır. İkinci neden ise toplumsal eğitim, kültür ve mantalite sorunudur.

Anahtar Kelimeler: Acil sağlık Hizmetleri, Sağlık Çalışanları, Hastane Öncesi Acil Hizmetleri, Türkiye

1. Introduction

Likewise all over the world, emergency health services are the most inseparable element of health services, which requires race with time. Numerous studies have revealed that intervention made in the first five minutes, half-an-hour and in the first hour after experiencing an accident, acute disease or trauma is vitally important in terms of saving lives or preventing disability. Along the program of transition in health services applied in Turkey, emergency health services have been re-organized. Whereas this re-organization has introduced a General Directorate of Emergency Health Services under the body of the Ministry of Health (MH), it has introduced Emergency Health Service units under the body of Directorates of Health in cities. This reorganization has both strengthened infrastructure of emergency health services and advanced its efficiency and agility. Nevertheless, there are various issues with the operation of the service and especially with having access, intervention to cases and in logistic phases of the process. The present study was conducted to determine the issues experienced during the provision of emergency health services in the pre-hospitalization period and to assist administrations and practitioners in terms of determining problems and making suggestions for resolution of these problems.

Turkey is reported among the countries with significantly high rate of accidents, injuries, emergency cases and natural disasters (Zenginol, 2011). Of these considered accidents or injury cases, 10% and 54-60% of death cases occur in the first 3 to 5 minutes and in the first 30 minutes, respectively (Demiralp, 2012). These rates reveal the importance of emergency health interventions in cases of accidents, injuries and instant diseases to protect lives of individuals. Emergency health service operations in Turkey include all sorts of health services given by the crews comprised of the health personnel who are trained on emergency health services at the case site, during transfer of the case and at health institutions (Adaş et al., 1997).

In the system operation, as soon as a call received by the call center, a physician at the center evaluates whether this call necessitate an emergency health service intervention. The physician in charge at the center is obliged to decide whether the incident requires emergency health service as well as to provide information to the person on the other side of the line about what to do at the moment. Afterwards of this stage, if it is considered that this call necessitates an emergency health service, the center notifies the closest and/or appropriate emergency unit with respect to the characteristics of the case over the established communication system. The assigned ambulance unit access to the incident location shortly and provide necessary health service. If it is considered that further health service is necessary for the case, health service crew transfers the patient. At this stage, the ambulance unit communicates with center once more and requests for transfer to the closest health organization. If it is found necessary, emergency health service is continued (Resmi Gazete, 2009).

Literature

Emergency health service given before hospitalization is a service branch which requires highly intensive and stressful work load (Duran et al., 2012: 144). Additionally, emergency health crews might face difficulties during intervention into the reported cases. It is commonly known that emergency crew members would encounter difficulties in having access to case locations while they are providing emergency health services in traffic environment because of other drivers' ignorance of traffic rules or of traffic jam (Karakuş et al., 2014). 112 stations are required to be located in proximity of city center in order to intervene in cases immediately (Handerson & Mason, 2004).

Another difficulty encountered in accessing cases especially with services provided to countryside is reported as improper width of roads in rural areas and poor traffic signage. Moreover, limited free space around the residential areas in urban areas makes access of ambulance units

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difficult; and living and passage areas in buildings non-conforming to the standards obstructs accessing patients (Uskun et al., 2007).

In another research, (Yıldız, 2015) it is revealed that health personnel also experience difficulty in reaching security forces with the cases relevant with the legislative issues; and they encounter risks of assault of patients or their relatives. In the same research, it is reported that health crew is exposed to physical and mostly verbal violence exerted by the people. It is revealed that such violence incidents are results of agitated behaviors of patients and their relatives, insufficient security precautions, lack of communication and omission of command and control center regarding passing information on case to the health crew. False or lack of information given on the phone about the reported cases may play role in experiencing such incidents.

Since emergency health services requires immediate intervention to the case, health personnel also face with high risk of having traffic accident when on duty. These personnel experience traffic accidents such as collision with other vehicles or objects, instant breaks or running off the road in general because of necessity of cruising at high speed while they are on duty in ambulance (Yılmaz, 2012). It has been observed that about 5% of emergency health workers took incapacity report as a result of such traffic accidents while they are on duty (Güneri et al., 2011)

Based on all of these characteristics and issues that could be encountered during performance of this duty, it is possible to conclude that provision of emergency health services has a quality which challenges human nature. Especially anxiety and other psychological problems could be observed with emergency health service personnel (Annagür, 2010). This finding suggests that emergency health service personnel might need psychological support.

In the preliminary study, development phases of emergency health services in Turkey were introduced briefly; and issues laid by former studies were tried to be determined. In the present study, it was aimed to determine issues experienced at application level; to review the relevant literature and to make suggestions to administrations for resolution of revealed problems so as to make a contribution to the subject.

2. Material and Method

As the study was planned for March 2016; necessary initiatives were taken with the City Health Directorate and City Governorship for implementation of the survey study structured in five-point Likert style, a qualitative research method. In the Likert scale, options and scores presented to the respondents ranged between 1: Certainly Disagree to 5: Certainly Agree. In order to prepare the survey for the purposes of this study, a pre-interview session was conducted with the emergency health service personnel and associated administrations; in line with the obtained information, survey items were prepared. Afterwards, the draft survey was consulted to the relevant personnel so as to determine their view about the survey from; finally, the ultimate survey form was prepared under the title of "The Survey Form for Determining Issues Related with the Emergency Health Services in the Pre-Hospitalization Period" applied on voluntary basis to the emergency health personnel and their administrations on duty at the Branch Directorship, the Command and Control Center and 30 different ASHİ units in Trabzon City in the period of June and July 2016. Finally, 459 valid survey forms were collected.

In the analysis of collected data, frequency, t-test and ANOVA test were conducted. In the meantime, number, percentage mean and standard deviation were investigated for descriptive statistics. As a result of frequency analysis, three levels were determined according to mean score ranges: Low: 1-2.33; Medium: 2.34-3.66; and High: 3.67. While "Independent Samples t-test" was utilized for comparison two groups, "One Way Anova" test was used for comparison of groups more

than two. When the difference among groups is significant, Post-hoc tests were conducted. If the variance among groups is homogenous, Tukey test was conducted; if not, then Games-Howell test was conducted. For aforesaid analysis, the significance level was determined as $\alpha=0.05$. As a result of the analyses, if p values were greater than this level, it was assessed that they were not statistically significant, if small or equal to this value, then they were assessed statistically significant. For the groups significantly correlated between, “*” reference was indicated.

2.1. Reliability

Cronbach’s Alpha reliability coefficient was considered as one of the most prominent quality determinants of survey studies. Based on the estimated coefficient for items, the one displaying inconsistent variability, negative correlation, low correlation could be eliminated so that the survey could be more reliable (Rog et al., 2013). Hair et al. (2010) reported that although Alpha coefficient is taken as .60 in the exploratory factor analysis, the threshold level of this coefficient is necessary to be taken as 0.70. For reliability analysis of the scale, Cronbach's Alpha coefficient was estimated at 0.84 which suggests that the proposed survey could be considered as reliable.

2.2. Validity

Whereas structural validity of items was investigated by the factor analysis, adequacy of number of sampling was investigated by the Kaiser-Meyer-Olkin (KMO) test. The KMO value was estimated at 0.881. Additionally, the Barlett sphericity test was employed for evaluation of significance of correlation among items; and significance was determined as 0.000 (Approx. Chi-Square: 4237.924/ df: 496/ sig: 0.000). In order to assess dimensions of items, “Direct Oblimin” rotation operation was executed by the “Principal Components” method. Table 1 exhibits the scale under four dimensions: infrastructure, preparedness to the case, intervention to the case and human resources. Whereas 40-60% explanatory strength for variance is considered adequate in the factor analyses in social sciences, (Karagöz, 2015) factors in the present study were able to explain 41% of overall variance, which could be considered as acceptable level.

3. Results

Personal and occupational information of prehospital emergency healthcare workers is given in Table 1.

Table 1: Socio-Demographic Characteristics of Employees

	(n=460)	
Occupation Groups	n	%
Emergency Medical Technician (EMT)	213	46.3
Paramedic	82	17.8
Data preparation operator, driver, servant	97	21.1
Nurse-Health Officer-Community Health Technician	43	9.3
Physician	24	5.2
Gender		
Female	226	49.1
Male	234	50.9
Age		
≤25	135	29.3
26-35	230	50.0
36-45	59	12.8
≥46	36	7.8
Educational Status		
High School	177	38.5

Associate Degree	199	43.3
Undergraduate	64	13.9
Graduate	16	3.5
Occupational Work Year		
0-4	139	30.2
5-9	186	40.4
10-14	61	13.3
15-19	35	7.6
≥20	39	8.5
Marital status		
Single	178	38.7
Married	282	61.3
Total	460	100

According to Table 1, personnel were predominantly comprised of EMTs. A general balance was observed in terms of gender distribution of personnel. On the other hand, majority of personnel was from the groups of 26-35 aged, associate and high school degree, nine years seniority at work and married.

Frequency distribution of the scale was presented in tables below so as to determine issues related with the emergency health services.

Table 2: Infrastructure Factor Frequency Distribution

Statements	Joining Levels										Mean	Standard deviation
	Strongly Disagree		Disagree		Partly agree		Agree		Strongly Agree			
	N	%	N	%	N	%	N	%	N	%	x	sd
Our work offices do not have sufficient physical conditions.	12	2.6	104	22.6	191	41.5	92	20.0	61	13.3	3.18	1.01
Technical equipment of the ambulances are not enough..	8	1.7	21	4.6	148	32.2	238	51.7	13	2.8	3.63	0.79
There are some hitch in the calibration maintenance process of technical equipment and ambulances.	13	2.8	54	11.7	121	26.3	222	48.3	50	10.9	3.52	0.93
Ambulances parking spaces are not enough to go fast to the task.	36	7.8	87	18.9	150	32.6	102	22.2	85	18.5	3.24	1.18
Mean											3.39	0.97

According to Table 2, it could be observed that issues related with infrastructure were at medium level. Major issues reflected to the study were insufficient technical equipment in ambulances and deficiencies and improper calibration of aforesaid equipment.

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Table 3: Frequency Distribution of the Case Preparedness Factor

Statements	Joining Levels										Mean	Standard deviation
	Strongly Disagree		Disagree		Partly agree		Agree		Strongly Agree			
	N	%	N	%	N	%	N	%	N	%	x	sd
The call center too busy with unnecessary calls.	6	1.3	12	2,6	61	13,3	220	47.8	158	34.3	4.12	0.83
Verification of the call gets difficult and takes a lot of time due to missing patient contact and address information given to the command center.	12	2.6	35	7.6	140	30.4	273	59.3	-	-	3.46	0.74
After the call is notified, the team can not get to the relative time within the standard time because of the position of the 112 stations.	27	5.9	79	17.2	162	35.2	120	26.1	72	15.7	3.28	1.10
The duration for going out on a mission is sometimes delayed due to the physiological needs of the team members	32	7.0	100	21.7	162	35.2	166	36.1	-	-	3.00	0.92
The duration for going out on a mission is sometimes interrupted by the preparation of the ambulance for the new patient or due to technical equipment problems.	23	5.0	77	16.7	168	36.5	152	33.0	40	8.7	3.23	0.99
Mean											3.41	0.91

According to Table 3, it could be observed that issues encountered in case preparation phase were at medium level. False and malicious calls made to the call center were considered significant problem; and another major issue was related with confirmation of reported case addresses.

Table 4: Frequency Distribution of Case Intervention Factor

Statements	Joining Levels										Mean	Standard deviation
	Strongly Disagree		Disagree		Partly agree		Agree		Strongly Agree			
	N	%	N	%	N	%	N	%	N	%	x	sd
There are delays because the drivers in the traffic do not comply with the traffic rules.	7	1.5	27	5.9	87	18.9	185	40.2	154	33.5	3.98	0.94
The ambulance is at risk of accidents at a high level	9	2.0	24	5.2	110	23.9	170	37.0	147	32.0	3.91	0.96

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while trying to reach the scene quickly.												
Due to the traffic intensity, ambulances are being late.	2	0.4	12	2.6	95	20.7	206	44.8	145	31.5	4.04	0.81
Due the fact that the rural roads are narrow, neglected and lacking the necessary orientation signs delay access to the case.	2	0.4	5	1.1	38	8.3	139	30.2	276	60.0	4.48	0.73
The fact that the vehicles in the place where the case is located parking randomly complicates the job.	2	0.4	14	3.0	59	12.8	165	35.9	220	47.8	4.27	0.83
Because the building stairs are narrow, steep and inadequate, it gives difficult to transport the patients.	2	0.4	4	0.9	26	5.7	130	28.3	298	64.8	4.56	0.68
Because patient relatives do not allow emergency medical intervention at the scene and insist on immediate transfer of the patient things get difficult.	2	0.4	5	1.1	56	12.2	171	37.2	226	49.1	4.33	0.76
During the last year, team members were frequently exposed to verbal violence by patients and their relatives.	3	0.7	14	3.0	96	20.9	187	40.7	160	34.8	4.05	0.85
During the last year, team members were frequently exposed to physical attacks by patients and their relatives.	11	2.4	40	8.7	153	33.3	168	36.5	88	19.1	3.61	0.96
The elevators in the buildings are not large enough and inadequate to carry patients.	2	0.4	5	1.1	34	7.4	122	26.5	297	64.6	4.53	0.71
Patient relocation is often very difficult due to the patient's relatives not being cooperative.	2	0.4	12	2.6	96	20.9	159	34.6	190	41.3	4.13	0.86
Late arrivals of security forces during judicial incidents are causing problems for emergency services.	2	0.4	6	1.3	49	10.7	140	30.4	263	57.2	4.42	0.76
Emergency service workers are reluctant to accept the patient when the patient is admitted to the hospital emergency room.	6	1.3	19	4.1	98	21.3	141	30.7	196	42.6	4.09	0.95

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Using ambulances in the transportation of non-emergency cases and patients causes problems.	4	0.9	2	0.4	50	10.9	133	28.9	271	58.9	4.44	0.77
Ambulance helicopters should be used more actively.	4	0.9	18	3.9	114	24.8	195	42.4	129	28.0	3.92	0.87
In order for air ambulances to be able to access the case address quickly, it is necessary to establish landing areas in certain places and in certain hospitals.	2	0.4	6	1.3	60	13.0	206	44.8	186	40.4	4.23	0.75
There are personnel shortages in 112 emergency stations.	43	9.3	139	30.2	147	32	87	18.9	44	9.6	2.89	1.11
Mean											4.11	0.78

According to Table 4, emergency health service personnel were experiencing issues with accessing and intervention in cases. Especially, improper stair gates of buildings, insufficient elevators, using ambulances for purposes other than emergency cases, latency of security forces in accessing case location, poor road infrastructure in countryside, improper parking of vehicles on street, misbehaviors of relatives of patients, verbal assaults, reluctance of emergency service personnel at hospitals to administer the patients brought to the service, traffic jam, reluctance of other drivers in traffic to clear the road for ambulance, accident risk of ambulances subject to their high speed, insufficient runways for air ambulance and poor utilization from air ambulances emerged as major issues.

Table 5: Human Resource Factor Frequency Distribution

Statements	Joining Levels										Mean x	Standard Deviation sd
	Strongly Disagree		Disagree		Partly agree		Agree		Strongly Agree			
	N	%	N	%	N	%	N	%	N	%		
The physical characteristics of the employees of the ambulance team should be appropriate so that the task can be carried out effectively.	12	2.6	12	2.6	87	18.9	197	42.8	150	32.6	4.0	0.92
The physical disorders of the ambulance team cause problems in transferring patients.	9	2.0	48	10.4	150	32.6	163	35.4	90	19.6	3.6	0.97
In-service training and certified courses are needed to further improve the level of vocational knowledge and skills of	8	1.7	16	3.5	-	-	314	68.3	122	26.5	4.14	0.73

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workers in emergency services.												
I do not see vocational high school and associate degree education as enough.	55	12.0	137	29.8	165	35.9	60	13.0	43	9.3	2.78	1.11
Working hours and the way of implementation should be rearranged.	105	22.8	144	31.3	94	20.4	72	15.7	44	9.6	2.57	1.26
Mean											3,41	0,99

Table 5 illustrated that issues related with human resources dimension were at medium level as well. Especially need for in-service training and observing physical characteristics during recruitment were considered major issues.

When issues excluded from the dimensions considered in the factor analysis were investigated;

Table 6: Frequency Distribution of Employees' Views about Yourself

Statements	Joining Levels										Mean	Standard Deviation
	Strongly Disagree		Disagree		Partly agree		Agree		Strongly Agree			
	N	%	N	%	N	%	N	%	N	%	x	sd
I think I'm doing a sacred job.	6	1.3	2	0.4	51	11.1	126	27.4	274	59.6	4.43	0.80
I'm thinking of staying on this mission until I retire.	64	13.9	73	15.9	116	25.2	106	23.0	101	22.0	3.23	1.33
I sometimes need psychological support because of being under intense stress.	26	5.7	58	12.6	168	36.5	140	30.4	68	14.8	3.36	1.05

Table 6 revealed that although emergency health services personnel were of the opinion that mission of their job was sacred, less than half of respondents (agree + certainly agree) were considering retirement; and majority of respondents (agree + certainly agree) were in need of psychological support in their professional life.

Based on the analysis conducted to determine whether there was difference among perceptions of personnel regarding issues referred in the scale with respect to their gender, seniority and profession, significant differences among perceptions were explained below.

Table 7: The Relationship between Expression and Factors According to Gender

T Test	Gender	N	X	SD	t	P
Infrastructure	Female	226	3.1029	0.54740	-2.645	0.008
	Male	234	3.2575	0.69963		
Ambulances parking spaces are not enough to go fast to the task.	Female	226	2.5885	1.10500	-2.979	0.003
	Male	234	2.9145	1.24005		
Case preparedness	Female	226	3.5398	0.66714	2.119	0.035

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Verification of the call gets difficult and takes a lot of time due to missing patient contact and address information given to the command center	Male	234	3.3932	0.81253		
Intervention to case						
During the last year, team members were frequently exposed to verbal violence by patients and their relatives.	Female	226	4.1991	0.78892	3.502	0.001
	Male	234	3.9231	0.89973		
During the last year, team members were frequently exposed to physical attacks by patients and their relatives.	Female	226	3.7611	0.89218	3.260	0.001
	Male	234	3.4701	1.01974		
Patient relocation is often very difficult due to the patient's relatives not being cooperative.	Female	225	4.2489	0.80196	2.681	0.008
	Male	234	4.0342	0.91184		
Emergency service workers are reluctant to accept the patient when the patient is admitted to the hospital emergency room.	Female	226	4.1814	0.90323	1.995	0.047
	Male	234	4.0043	0.99999		
Human resources						
The physical characteristics of the employees of the ambulance team should be appropriate so that the task can be carried out effectively.	Female	225	3.8489	0.92307	-3.622	0.000
	Male	233	4.1588	0.90764		
Other expressions						
I'm thinking of staying on this mission until I retire.	Female	226	2.3850	1.16906	-6.321	0.000
	Male	234	3.1368	1.37673		
I sometimes need psychological support because of being under intense stress.	Female	226	3.6637	0.92001	6.299	0.000
	Male	234	3.0684	1.10190		

According to Table 7, male respondents in general reflected the opinions related with issues of infrastructure and improper parking space for ambulances, allowing them to set off on their way sooner. Female personnel expressed more complaints about incomplete case addresses, incurring verbal and physical violence, reluctance of relatives of patients to carry patients to ambulance and reluctance of hospital emergency services to administer patients. While male respondents' opinions were concentrated on consideration of physical characteristics during personnel recruitment and on retirement from this profession, female respondents were requesting more psychological support.

Table 8: The Relationship between Years of Work and Opinions of Health Workers

	Years of Work	N	X	S.S	f	p
Case preparedness						
Case preparedness	0-4	139	3.3194	0.54784	4.234	0.002
	5-9	186	3.4957*	0.59374		
	10-14	61	3.3574	0.63363		
	15-19	35	3.1029*	0.55598		
	≥20	39	3.3487	0.59421		
	Total	460	3.3817	0.59116		
The duration for going out on a mission is sometimes delayed due to the physiological needs of the team members.	0-4	139	2.9424	0.95379	2.570	0.037
	5-9	186	3.1344*	0.87500		
	10-14	61	2.9672	0.94811		
	15-19	35	2.6286*	0.87735		
	≥20	39	3.0000	1.00000		
	Total	460	3.0043	0.92648		

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Intervention to case						
The ambulance is at risk of accidents at a high level while trying to reach the scene quickly.	0-4	139	3.8633	0.97951	2.527	0.040
	5-9	186	4.0806*	0.90581		
	10-14	61	3.7377	1.01492		
	15-19	35	3.7143*	1.04520		
	≥20	39	3.7949	1.00471		
	Total	460	3.9174	0.96886		
During the last year, team members were frequently exposed to verbal violence by patients and their relatives.	0-4	139	3.9568	0.88359	2.934	0.020
	5-9	186	4.2204*	0.79172		
	10-14	61	3.9836*	0.90354		
	15-19	35	3.9429	0.90563		
	≥20	39	3.8718	0.86388		
	Total	460	4.0587	0.85739		
Emergency service workers are reluctant to accept the patient when the patient is admitted to the hospital emergency room.	0-4	139	4.1079	0.97572	3.859	0.004
	5-9	186	4.2419*	0.90677		
	10-14	61	4.0164	0.97454		
	15-19	35	3.6857*	0.99325		
	≥20	39	3.7949	0.92280		
	Total	460	4.0913	0.95676		
There are personnel shortages in 112 emergency stations.	0-4	139	2.6475*	1.08923	2.854	0.023
	5-9	186	3.0430*	1.14291		
	10-14	61	2.9672	0.91227		
	15-19	35	3.0286	1.15008		
	≥20	39	2.7949	1.19603		
	Total	460	2.8913	1.11297		
Human resources						
Working hours and the way of implementation should be rearranged.	0-4	138	2.8623*	1.38391	5.347	0.000
	5-9	186	2.3548*	1.13085		
	10-14	61	2.3115*	1.14806		
	15-19	35	3.0571*	1.25892		
	≥20	39	2.6154	1.31019		
	Total	459	2.5773	1.26250		
Other expressions						
I'm thinking of staying on this mission until I retire.	0-4	139	2.9496*	1.29840	15.875	0.000
	5-9	186	2.3441*	1.20355		
	10-14	61	2.6230*	1.29311		
	15-19	35	3.2571*	1.35783		
	≥20	39	3.9231*	1.15587		
	Total	460	2.7674	1.33179		
I sometimes need psychological support because of being under intense stress.	0-4	139	3.0791*	1.04995	5.912	0.000
	5-9	186	3.6290*	1.01183		
	10-14	61	3.2459	1.01087		
	15-19	35	3.3143	1.10537		
	≥20	39	3.3077	1.07981		
	Total	460	3.3609	1.05832		

Turkish Studies

According to Table 8, concerning the first five items plus the item relevant with case preparedness, opinions of personnel with 5 to 9 years seniority were especially differentiated from the ones with 15 to 19 years seniority level. Concerning work style and reorganization of operations, opinions of personnel with 15-19 year seniority and the ones considering retirement were significantly differentiated from others. Moreover, concerning having psychological support, personnel with 5 to 9 seniority were more in need in comparison with the ones with 0 to 4 year seniority.

Table 9: The Relationship between Professions and Opinions of Health Workers

		N	X	S.S	f	p
Infrastructure						
Ambulances parking spaces are not enough to go fast to the task.	Emergency Medical Technician (EMT)	213	2.6620	1.16486	3.646	0.006
	Paramedic	82	2.4634*	1.16741		
	Data preparation operator, driver, servant	97	2.9794*	1.22457		
	Nurse-Health Officer-Community Health	43	3.1163*	1.11717		
	Physician	24	2.9167	1.05981		
	Total	459	2.7495	1.18228		
	Case preparedness					
Case preparedness	Emergency Medical Technician (EMT)	213	3.4291	0.58737	4.205	0.002
	Paramedic	82	3.5390*	0.56103		
	Data preparation operator, driver, servant	97	3.2515*	0.62535		
	Nurse-Health Officer-Community Health	43	3.2465	0.62158		
	Physician	24	3.2000	0.31208		
	Total	459	3.3821	0.59174		
	Verification of the call gets difficult and takes a lot of time due to missing patient contact and address information given to the command center.	Emergency Medical Technician (EMT)	213	3.5070		
Paramedic		82	3.6220*	0.60124		
Data preparation operator, driver, servant		97	3.3093*	0.80830		
Nurse-Health Officer-Community Health		43	3.4186	0.73136		
Physician		24	3.2917	0.90790		
Total		459	3.4662	0.74796		
Total		459	3.2854	1.10340		

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Case preparedness						
Case preparedness	Emergency Medical Technician (EMT)	212	4.2332	0.51486	6.128	0.000
	Paramedic	82	4.3936*	0.33665		
	Data preparation operator, driver, servant	97	4.1037*	0.45901		
	Nurse-Health Officer-Community Health	43	4.1163*	0.49272		
	Physician	23	3.9976*	0.41893		
	Total	457	4.2116	0.47937		
There are delays because the drivers in the traffic do not comply with the traffic rules	Emergency Medical Technician (EMT)	213	3.9202	1.01322	2.747	0.028
	Paramedic	82	4.1951*	0.80797		
	Data preparation operator, driver, servant	97	4.1031	0.88370		
	Nurse-Health Officer-Community Health	43	3.6977*	1.01266		
	Physician	24	3.8750	0.74089		
	Total	459	3.9847	0.94718		
Due to the traffic intensity, ambulances are being late.	Emergency Medical Technician (EMT)	213	3.9812	0.83532	2.605	0.035
	Paramedic	82	4.2561*	0.71683		
	Data preparation operator, driver, servant	97	4.0825	0.83753		
	Nurse-Health Officer-Community Health	43	4.0000	0.81650		
	Physician	24	3.7500*	0.73721		
	Total	459	4.0414	0.81500		
Due the fact that the rural roads are narrow, neglected and lacking the necessary orientation signs delay access to the case.	Emergency Medical Technician (EMT)	213	4.5117*	0.74991	4.643	0.001
	Paramedic	82	4.6220*	0.58034		
	Data preparation operator, driver, servant	97	4.4536*	0.72199		
	Nurse-Health Officer-Community Health	43	4.4419*	0.73363		
	Physician	24	3.9167*	0.82970		
	Total	459	4.4815	0.73078		
Because the building stairs are narrow, steep and inadequate, it	Emergency Medical Technician (EMT)	213	4.5493*	0.73566	3.515	0.008

Turkish Studies

gives difficult to transport the patients.	Paramedic	82	4.7927*	0.40788		
	Data preparation operator, driver, servant	97	4.4639*	0.67795		
	Nurse-Health Officer-Community Health	43	4.4884	0.66805		
	Physician	24	4.3750	0.82423		
	Total	459	4.5599	0.68212		
Because patient relatives do not allow emergency medical intervention at the scene and insist on immediate transfer of the patient things get difficult.	Emergency Medical Technician (EMT)	213	4.3850	0.76612	3.304	0.011
	Paramedic	82	4.5122*	0.63331		
	Data preparation operator, driver, servant	97	4.1443*	0.82903		
	Nurse-Health Officer-Community Health	43	4.2558	0.75885		
	Physician	24	4.1667	0.76139		
	Total	459	4.3333	0.76495		
During the last year, team members were frequently exposed to verbal violence by patients and their relatives.	Emergency Medical Technician (EMT)	213	4.1690*	0.82963	6.273	0.000
	Paramedic	82	4.2073*	0.79718		
	Data preparation operator, driver, servant	97	3.6907*	0.89397		
	Nurse-Health Officer-Community Health	43	4.0930	0.89480		
	Physician	24	4.0000	0.72232		
	Total	459	4.0588	0.85832		
During the last year, team members were frequently exposed to physical attacks by patients and their relatives.	Emergency Medical Technician (EMT)	213	3.6573*	1.00466	6.439	0.000
	Paramedic	82	3.8537*	0.93124		
	Data preparation operator, driver, servant	97	3.2062*	0.95675		
	Nurse-Health Officer-Community Health	43	3.7442*	0.78961		
	Physician	24	3.8333*	0.63702		
	Total	459	3.6144	0.96979		
Patient relocation is often very difficult due to the patient's relatives not being cooperative.	Emergency Medical Technician (EMT)	212	4.1462	0.89883	2.512	0.041
	Paramedic	82	4.3659*	0.76194		
	Data preparation operator, driver, servant	97	4.0515	0.89409		

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	Nurse-Health Officer-Community Health	43	4.0698	0.82794		
	Physician	24	3.8333	0.70196		
	Total	458	4.1419	0.86479		
Emergency service workers are reluctant to accept the patient when the patient is admitted to the hospital emergency room.	Emergency Medical Technician (EMT)	213	4.2160*	0.92671	9.239	0.000
	Paramedic	82	4.3902*	0.89933		
	Data preparation operator, driver, servant	97	3.9072	0.97982		
	Nurse-Health Officer-Community Health	43	3.5349*	0.88234		
	Physician	24	3.6667*	0.81650		
	Total	459	4.0893	0.95686		
Using ambulances in the transportation of non-emergency cases and patients causes problems.	Emergency Medical Technician (EMT)	213	4.4883*	0.78072	5.069	0.001
	Paramedic	82	4.6463*	0.67352		
	Data preparation operator, driver, servant	97	4.3505	0.75057		
	Nurse-Health Officer-Community Health	43	4.3488	0.75226		
	Physician	24	3.9167*	0.88055		
	Total	459	4.4444	0.77253		
Ambulance helicopters should be used more actively.	Emergency Medical Technician (EMT)	213	4.0141	0.87134	3.905	0.004
	Paramedic	82	4.1220*	0.77603		
	Data preparation operator, driver, servant	97	3.7526*	0.91322		
	Nurse-Health Officer-Community Health	43	3.6977	0.88734		
	Physician	24	3.6667	0.76139		
	Total	459	3.9303	0.87139		
Human Resource						
Human Resource	Emergency Medical Technician (EMT)	212	3.2406*	0.62405	4.763	0.001
	Paramedic	82	3.4585*	0.61863		
	Data preparation operator, driver, servant	97	3.4557*	0.51780		
	Nurse-Health Officer-Community Health	43	3.3860	0.74629		

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	Physician	24	3.6750*	0.54951		
	Total	458	3.3616	0.62122		
I do not see vocational high school and associate degree education as enough.	Emergency Medical Technician (EMT)	213	2.6479*	1.11294	2.944	0.020
	Paramedic	82	3.0488*	1.21617		
	Data preparation operator, driver, servant	97	2.7320	0.93000		
	Nurse-Health Officer-Community Health	43	2.8140	1.20031		
	Physician	24	3.2083	1.06237		
	Total	459	2.7821	1.11188		
Working hours and the way of implementation should be rearranged.	Emergency Medical Technician (EMT)	212	2.2264*	1.13357	15.024	0.000
	Paramedic	82	2.4390*	1.15574		
	Data preparation operator, driver, servant	97	3.2680*	1.36562		
	Nurse-Health Officer-Community Health	43	2.6744	1.12802		
	Physician	24	3.2500*	1.15156		
	Total	458	2.5808	1.26172		
Other expressions						
I think I'm doing a sacred job.	Emergency Medical Technician (EMT)	213	4.4038	0.86132	2.622	0.034
	Paramedic	82	4.6585*	0.57132		
	Data preparation operator, driver, servant	97	4.4330	0.73467		
	Nurse-Health Officer-Community Health	43	4.3488	0.92282		
	Physician	23	4.1304*	0.96786		
	Total	458	4.4367	0.80841		
I'm thinking of staying on this mission until I retire.	Emergency Medical Technician (EMT)	213	2.3897*	1.24888	30.704	0.000
	Paramedic	82	2.2073*	1.09700		
	Data preparation operator, driver, servant	97	3.7320*	1.09464		

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	Nurse-Health Officer-Community Health	43	3.5581*	1.24024		
	Physician	24	2.7083*	1.19707		
	Total	459	2.7669	1.33320		
I sometimes need psychological support because of being under intense stress.	Emergency Medical Technician (EMT)	213	3.4695*	1.03944	5.104	0.000
	Paramedic	82	3.5488*	1.10165		
	Data preparation operator, driver, servant	97	2.9588*	1.02994		
	Nurse-Health Officer-Community Health	43	3.4651	1.07679		
	Physician	24	3.2083	0.77903		
	Total	459	3.3617	1.05934		

Table 9 revealed that the most diverse perception was expressed by paramedics with respect to other emergency service personnel and to administrative personnel; then, they were followed by the personnel with qualities of paramedic and EMTs. Concerning the necessity of reorganization of operations, only administrative personnel complained more in comparison with paramedic and EMTs. Whereas paramedics were of the opinion that their job was sacred, they were the group in need of psychological support most. Administrative personnel, nurses and health workers were the groups considering retirement most.

4. Discussion

The present study was conducted to determine issues encountered by emergency health services personnel in the pre-hospitalization period. In general, it was determined in this study that while level of issues expressed concerning the dimensions of infrastructure, case preparedness and human resources were at medium level, higher level of issues was reported with the dimension of case intervention. Especially, substantial issues were determined as false or malicious calls made to emergency call centers and difficulties experienced in confirmation of case addresses. As it was reported by Uskun et al. (2007) concerning the emergency services in the pre-hospitalization period, inappropriate features of stairs and elevators of buildings for handling of patients; and exposed traffic accident risks subject to roads, traffic jam and drivers as it was determined by Karakuş et al. (2014), Uskun et al. (2007) and Yılmaz (2012) were put in prominence. In parallel with findings reported by Yıldız (2015) and Budak (2015), adverse attitudes of relatives of patients, exposure to verbal assaults were among the dimensions which came to foreword. Moreover, reluctance of hospital emergency services to administer patients was considered as another major issue. Ineffective utilization from air ambulances and insufficient number of runways for air ambulances in urban areas was also emphasized. The personnel's need for in-service training was brought to forefront as well.

Although employees in the emergency service were describing their job as a sacred mission, it was remarkable that more than half of them were considering retirement and majority of them were in need of psychological support.

Especially female personnel were the ones who expressed adverse attitudes of relatives of patients, being exposed to verbal and physical assault and as it was stressed by Annagür (2010), the need for psychological support mostly. Male personnel, administrative personnel, nurses, health

workers and the personnel with seniority over 15 years were found to be considering retirement more frequently. Personnel with associate degree, with 5 to 9 years seniority, paramedics and EMTs were determined to be voicing job-related issues more loudly. Especially, if this behavior was result of the understanding that “it does not matter, nothing would change” that would be felt in senior periods, it is possible to assess this finding as more negative picture.

5. Conclusion and Suggestions

Finally, it was realized that infrastructure, case preparedness and human resources and organizational structure of emergency health services were further strengthened along the health transformation program based on the present study. Accordingly, no significant issues were determined regarding these dimensions.

However, serious problems were encountered with accessing and intervening to cases, which were considered as external factors. Reasons of this situation could be considered in two groups: the first group includes reflections of limitations introduced by current building, road and other infrastructures and influence of economic status on social organization and development to the emergency intervention processes; and this view is supported by the issues encountered with inadequate of insufficient status of building stairs, elevators and roads. The second group includes social education, culture and mentality issues. Reflections of these issues could be traced from malicious calls made to emergency call centers, breaching right of way reserved for ambulances in traffic, adverse attitudes of relatives of patients and verbal violence. Resolution of infrastructure issue could only be possible by means of development of economic and infrastructure; bringing stair and elevator features of buildings as well as street widths into the agenda in urban reformation projects; and reconsideration of city plans from this view. Especially traffic and motor vehicle park issues must be tried to be resolved in collaboration with municipality and traffic administration. A new organization must be made which allows more intensive use of air ambulances in emergency services. Change in mentality could only be ensured on the long term by means of formal education tools. To that end, school curriculums and public announces must cover information on emergency health services.

Adequacy, calibration and sufficiency of equipment in ambulances which come to prominence regarding the infrastructure are significant issue. Requirements related with equipment must be certainly fulfilled and current devices must be ensured to make accurate measurements; and calibration and maintenance activities must be performed on timely basis. It is crucial to assign technical personnel responsible for this task.

One of the remarkable issues determined as a result of this study was that although main personnel backbone of the emergency service, paramedics and EMTs, believe that their job is sacred, they were determined reluctant about retiring from their job. This is an important situation because transfer of experienced groups to other sectors would be loss for emergency health services. Therefore, a detailed research must be conducted on these two groups so that career opportunities could be developed to ensure their persistence in the sector.

Another issue was determined as psychological support need of personnel because of the stress, difficulty, verbal and physical assaults encountered in this profession. It would be important to recruit psychologists and social service specialists to fulfill psychological needs of employees regularly.

Considering weight lifting capacity of applicant during recruitment process for especially ambulance crew would make positive contribution to resolution of issues that arise during patient

handling processes. Need for in-service training should not be limited to vocational developments, self-improvement, ethical, patient rights and communication dimensions must be covered as well.

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