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THE DETERMINATION OF THE FACTORS AFFECTING EMERGENY SERVICES

Abstract:

The present research which aims that determining the factors that affect the provision of 112 emergency services in the province of Konya, is a descriptive research. The present research was conducted in 2014. The universe of the present research is 800 health personnel working in 112 stations in the province of Konya and its districts. 210 voluntary participants form the sample of the research. The data of the research were collected using the questionnaire form developed by researchers. The questionnaire form consists of 88 items, 15 of them are socio-demographic. The answers to the questions are 1- Strongly disagree to 5-Strongly agree.Statistical analyses were evaluated by using SPSS program and descriptive statistics were used on the collected data. At the end of the study, it was concluded that negative working conditions, the lack of staff in terms of quantity and quality and some organizational problems affected the emergency services negatively.

Keywords:

Emergency Services, Ambulance Staff, Organizational Problems

JEL Classification: I10

INTRODUCTION

It is a fact accepted by everybody that health is the most precious asset individuals have. However, protection of this asset and staying healthy require a great effort and care. Because, besides illnesses, people are faced with many dangers that can derange health. In case of exposure to dangers, possible deaths, injuries, and disablements can be reduced with correct and early response. Therefore, first aid and Emergency aid is extremely important.

First aid is the provision of initial care for an illness or injury. It is usually performed by non-experts (or sometimes by an expert in case of an emergency), but trained personnel to a sick or injured person until definitive medical treatment can be accessed. Certain self-limiting illnesses or minor injuries may not require further medical care past the first aid intervention. It generally consists of a series of simple and in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment (http://en.wikipedia.org/wiki/First_aid). On the other hand, emergency system aid involves all services provided with medical devices at the scene of accident and during the transfer to the hospital by teams specially trained in emergency services (Emergency Regulations 2000). Its difference from first aid is that the response is done by professional teams, with medical devices at the scene of accident, during the transfer to hospital and afterwards in the hospital.

In Turkey, the history of ambulance emergency services goes back to a very old time. It was first established by Ministry of Health in 1985 as a mobile ambulance team that could be reached via mobile phone and aimed at interfering in the traffic accidents. In 1986, the system called “077 Emergency Service” that carried patients in Ankara, Istanbul, and Izmir laid the foundations of the emergency services systems of our time. In 1994, the 077 Emergency Service was transformed into Ambulance Emergency and Rescue System and has been provided throughout the country for free.

Today, Ministry of Health, General Directorate of ambulance emergency services undertakes the provision and coordination of emergency services. *Provincial Ambulance Service Head Physicians* were established within the Health Board in provinces and *command and control centers* and *ambulance emergency stations* were established. According to 2012 data, there are 1863 ambulance emergency stations and 4269 ambulances in Turkey. In addition, 17 helicopter ambulances, 4 air ambulances, 291 snow palletized ambulances, and 4 sea ambulances are in service of patients. The population is 22.602 people per emergency stations (Ministry of Health, 2012:80-83).

Besides the efforts to provide emergency services in the best way, it is an undeniable fact that, there are difficulties and problems in the provision of health services. The planning and training of the health personnel working in ambulances haven't been completed according to required conditions yet. Many of the established stations haven't reached the physical standards, and their need for equipment, devices, knowledge-skills, communication and security hasn't been met completely yet. Primarily, that patients with low injury and complaints use the ambulances more frequently forces the system (Atilla et al., 2010: 1755). Another research conducted by Onge et al.(2013) found that the emergency system provided to patients in ambulances are inadequate. Guneri et al. (2011:2) state that, problems such as; workload, the anxiety and when and how they will be required on duty, anxiety caused by the inability to establish healthy communications with patients and their relatives, and being exposed to violence, cause burnout and low motivation among emergency staff.

The present research is very important in terms of determining the problems experienced by emergency service personnel, and increasing the satisfaction of both patients and personnel and it aims at determining the factors affecting the provision of Ambulance Emergency Services in the province of Konya.

2.METHOD

The present research which aims that determining the factors that affect the provision of ambulance emergency services in the province of Konya, is a descriptive research. The present research was conducted in 2014. The universe of the present research is 800 health personnel working in ambulance stations in the province of Konya and its districts. 210 voluntary participants form the sample of the research. The data of the research were collected using the questionnaire form developed by researchers. The questionnaire form consists of 88 items, 15 of them are socio-demographic. The answers to the questions are 1- Strongly disagree to 5-Strongly agree. The literature review and opinions of the ambulance health personnel were used in development of the form. Before the implementation of the form, it was pre-tested on 15 people, and the questions that were not understood or were misunderstood were corrected, and then it was implemented after it got its final form. The questionnaire forms were filled in by researchers using the face-to-face questionnaire technique. The data were analyzed in SPSS and descriptive statistics (frequency, percentage, mean, standard deviation) were done on the data.

3.FINDINGS

Findings obtained from the present study are presented below in tables.

Table 1. Socio-Demographic Features of the Participants

Age	**f**	**(%)**	**Profession**	**f**	**(%)**
18-25	102	48.6	Physician	6	2.9
26-35	76	36.2	Nurse	16	7.6
36-45	21	10	Paramedic	35	16.7
46+	11	5.2	Emergency Technican	126	60
Gender	**f**	**(%)**	Driver	27	12.9
Male	89	42.4	**Monthly Income (TL)**	**f**	**(%)**
Female	121	57.6	750-1500	8	3.8
Marital Status	**f**	**(%)**	1501-2000	64	30.5
Single	93	44.3	2001-2500	119	56.7
Married	117	55.7	2500 +	19	9
Educational Status	**f**	**(%)**	**Tenure of office (year)**	**f**	**(%)**
High School	116	55.2	1-2	98	46.7
Associate Degree	65	31	3-5	52	24.8
Bachelor Degree	19	9	6-10	44	21
MA/PhD Degree	10	4.8	11-20	16	7.6
			TOTAL	**210**	**100**

Table 1 presents the socio-demographic features of the participants. As can be seen in Table 1, 102 (48.6%) of the participants are between the ages of 18-25, 76 (36.2%) of them are between 26-35, 21 (10%) of the are between 36-45, and 11 (5.2%) of them are over 46. 89 (42.4%) of the participants are male and 121 (57.6%) of them are female. 93 (44.3%) of the participants are single, 117 (55.7%) of them are married.

116 (55.2) of the participants are high school graduate, 65 (31%) of them have associate degree, 19 (9%) of them have bachelor degree, 10 (4.8%) of them have either MA of PhD degrees. 6 (2.9%) of the participants are physicians, 16 (7.6%) of them are nurses, 35 (16.7%) of them are paramedics, 126 (60%) are emergency technicians and 27 (12.9%) of them are drivers. The monthly incomes of the participants are as follows; 8 (3.8%) of the participants earn between 750-1500 TL, 64 (30.5%) of them earn between 1501-2000 TL, 119 (56.7%) of them earn between 2001-2500 TL, 12 (5.7%) of them earn between 2001-3000 TL, and 7(3.3%) of them earn 3001 TL or more. The tenure of office of the participants are as follows; 98 (46.7%) of the participants have been working for 1-2 years, 52 (24.8%) of them for 3-5years, 44 (21%) of them for 6-10 years, 12 (5.7%) of them 11-20 years, and 4 (1.9%) of them have been working for 21 years and more.

Table 2. Height and Weight of the Participants

Height (cm)	**Frequency**	**Percentage**
150-160	38	18.1
161-170	93	44.3
171-180	65	31
181-more	14	6.7
Weight (kg)	**Frequency**	**Percentage**
40-50	25	11.9
51-65	91	43.3
66-80	52	24.8
81-95	39	18.6
96+	3	1.4
Total	**210**	**100**

Table 2 presents the heights and weights of the participants. The height and weight of the personnel are very important during carrying and interfering of the patient. Because, it they are too short, too thin or fat, that will create problems. In this context, 38 (18.1%) of the participants are shorter than 160cms. Moreover, 25 (11.9%) of the participants weigh between 40-40 kg and 42 (20%) of them weigh more than 20 kg.

Table 3. Findings Related to the Training, Knowledge, and Skill Levels of the Participants

Questions (n=210)	**Strongly Disagree**		**Disagree**		**Undecided**		**Agree**		**Strongly Agree**		**Std. Dev.**	**Mean**
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**		
I attend courses related to my duty regularly.	5	0,02	21	0,10	14	0,07	93	0,44	77	0,37	1,03	4,03
I have adequate knowledge and skills in the provision of the service related to my duty.	5	0,02	16	0,08	24	0,11	109	0,52	56	0,27	0,95	3,93
I attend in-service trainings related to my duty regularly.	9	0,04	27	0,13	30	0,14	82	0,39	62	0,30	1,14	3,77
I think the in-service training I get is adequate.	7	0,03	34	0,16	42	0,20	81	0,39	46	0,22	1,10	3,60
I got the required vocational training at the school I studied.	21	0,10	33	0,16	22	0,10	90	0,43	44	0,21	1,26	3,49
I got orientation training when I	37	0,18	43	0,20	13	0,06	57	0,27	60	0,29	1,50	3,29

started my duty.												
I had the opportunity to practice enough about my profession at the school I studied.	21	0,10	59	0,28	29	0,14	61	0,29	40	0,19	1,31	3,19

Table 3 presents the findings related to the training, knowledge, and skill levels of the participants. As can be observed in Table 3, the participants were asked 7 questions related to the issue and their answers were as follows; 170 (81%) of the participants answered the question *"I attend courses related to my duty"* as agree-strongly agree, and the mean for this question is (x=4.03±1.03). These questions follow this question respectively as; *"I have adequate knowledge and skills in the provision of the service related to my duty."* with (x=3.93±0.95), and *"I attend in-service trainings regularly."* with (x=3.77±1.14). The question, *"I had the opportunity to practice enough about my profession at the school I studied."* had the lowest score with (x=3.19±1.31).

Table 4. Administrative and Organizational Problems Affecting the Provision of Service

Questions (n=210)	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree		Std. Dev.	Mean
	f	%	f	%	f	%	f	%	f	%		
Most of the cases we interfere during the day are cases that don't require emergency intervention.	12	0,06	11	0,05	13	0,06	49	0,23	125	0,60	1,15	4,26
I have difficulty to meet my feeding needs during my duty.	13	0,06	34	0,16	23	0,11	37	0,18	103	0,49	1,34	3,87
We carry out paper work of our unit ourselves and this situation makes the provision of the service difficult.	13	0,06	31	0,15	42	0,20	61	0,29	63	0,30	1,23	3,62
Our working system decreases the quality of service.	11	0,05	22	0,10	55	0,26	84	0,40	38	0,18	1,07	3,55
I cannot take enough watch leave at the end of watch duty.	28	0,13	19	0,09	28	0,13	93	0,44	42	0,20	1,28	3,49
Our ambulance or service vehicle doesn't have adequate equipments.	25	0,12	23	0,11	37	0,18	81	0,39	44	0,21	1,27	3,46
Most of the personnel working in our department are female and this makes our job difficult.	21	0,10	42	0,20	34	0,16	49	0,23	64	0,30	1,37	3,44
Our ambulance or service vehicle mechanically breaks down frequently.	33	0,16	35	0,17	25	0,12	52	0,25	65	0,31	1,46	3,39
There aren't enough health personnels in my unit.	34	0,16	63	0,30	20	0,10	34	0,16	59	0,28	1,49	3,10
I have problems because of the administrative structuring in our institution.	29	0,14	47	0,22	51	0,24	48	0,23	35	0,17	1,29	3,06
I experience problems related to lack of materials, equipments and devices as I perform my duty.	23	0,11	59	0,28	48	0,23	55	0,26	25	0,12	1,21	3,00
The abundance of cases affects the quality of the service we provide negatively.	35	0,17	68	0,32	30	0,14	46	0,22	31	0,15	1,34	2,86
There isn't a physician in my	51	0,24	42	0,20	50	0,24	32	0,15	35	0,17	1,40	2,80

team and that affects the provision of my service negatively.												
The station building of out unit is big enough and has the necessary qualifications required for the service.	84	0,40	33	0,16	33	0,16	33	0,16	27	0,13	1,46	2,46

As can be seen in Table 4, 174 (83%) of the participants stated that, *"Most of the cases they interfere during the day are cases that don't require emergency intervention"*, and the mean score for this answer is (*x*=4.26±1.15). This question was followed by the following questions respectively as; *"I have difficulty to meet my feeding needs during the day."* with (*x*=3.87±1.34), *"We carry out paper work ourselves."* with (*x*=3.62± 1.23), *"The working system decreases the quality of service."* with (*x*=3.55±1.07), *"I cannot take enough watch leave."* with (*x*=3.49±1.28), *"The ambulances don't have adequate equipments."* with (*x*=3.46±1.27), "*Most of the personnel in our department are female and this makes our job difficult."* with (*x*=3.44±1.37), *"Vehicles mechanically break down frequently"* with (*x*=3.39±1.46),*"I have problems because of administrative structuring"* with (*x*=3,55±1,07), *"There aren't enough health personnel in my unit."* with (*x*=3.10±1.49), *"I experience problems related to lack of materials, equipments and devices as I perform my duty."* with (*x*=3.00±1.21), *"Abundance of cases affects the quality of the service we provide negatively."* with (*x=2.86*±1.34), *"Absence of a physician in my team affects the provision of my service negatively."* with (*x*=2.80±1.40), *and "The service building is not big enough, and doesn't have the qualifications required for service."* with (*x*=2. 46±1.46).

Table 5. Existence of a Health Problem Among Personnel

Type of illness	Frequency	Percentage(%)
Nope	132	62,9
Intervertebral disc disorders	22	10,5
Lumbago	12	5,7
Dizziness and giddiness	23	10.8
Stress-induced gastritis	9	4,3
Other physical diseases	12	5,7
Total	210	100,0

Table 5 shows that, 78 (37%) of the participants were found to have a work-related physical disease. The most frequent of these diseases are; intervertebral disc disorders (10.5%), Lumbago (5.7%), Dizziness and giddiness (10.8%), and Stress-induced gastritis (4.3%) and other physical diseases (5.7%).

Table 6. Communication Factors Affecting the Provision of Service

Questions (n=210)	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree		Std. Dev.	Mean
	f	%	f	%	f	%	f	%	f	%		
We receive unjustly complaints from patients and relatives during the provision of service.	10	0,05	38	0,18	47	0,22	71	0,34	44	0,21	1,15	3,48
I frequently experience problems related to patient-transfer in the hospital where we transfer the patients to.	17	0,08	30	0,14	26	0,12	60	0,29	77	0,37	1,31	3,71
My job affects my psychology negatively.	30	0,14	56	0,27	41	0,20	45	0,21	38	0,18	1,34	3,02
I have difficulties in communicating with patients and relatives.	25	0,12	82	0,39	44	0,21	44	0,21	15	0,07	1,14	2,72
I have adjustment and communication problems with my teammates.	59	0,28	70	0,33	30	0,14	26	0,12	25	0,12	1,33	2,47
I have coordination and communication problems with the Command and Control Center.	31	0,15	53	0,25	47	0,22	45	0,21	34	0,16	1,31	2,09

The communication problems health personnel experience during the provision of service are presented in Table 6. According to it, the problem expressed by health personnel most was *"We receive unjustly complaints from patients and relatives."*(x= 3.48±1.15). This problem was followed by these problems respectively as; *"We experience problems during patient transfer in the hospitals."* (x=3.71±1.31), *"My job affects my psychology negatively."* (x=3.02±1.34), *"I have difficulties in communicating with patients and relatives."* (x=2.72±1.14), *"I have adjustment and communication problems with my teammates."* (x=2.47±1.33), and *"I have coordination and communication problems with the command and control center."* (x=2.09±1.31).

Table 7. Security Related Factors Affecting the Provision of Service

Questions (n=210)	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree		Std. Dev.	Mean
	f	%	f	%	f	%	f	%	f	%		
I experience problems with relatives during patient transfer, and I am exposed to verbal or physical violence.	14	0,07	26	0,12	33	0,16	88	0,42	49	0,23	1,16	3,63
I experience problems with patients during patient transfer, and I am exposed to verbal or physical violence.	13	0,06	32	0,15	56	0,27	78	0,37	31	0,15	1,10	3,39
We experience traffic problems frequently during patient transfer.	9	0,04	68	0,32	37	0,18	57	0,27	39	0,19	1,21	3,23
Personnel security precautions we take during service provision are insufficient.	58	0,28	50	0,24	43	0,20	37	0,18	22	0,10	1,34	2,60
Security precautions against possible dangers from patients, relatives, or environment are insufficient.	77	0,37	64	0,30	35	0,17	17	0,08	17	0,08	1,25	2,20
During service provision, law enforcers (such as police, gendarme) provide us with sufficient security.	91	0,43	51	0,24	35	0,17	20	0,10	13	0,06	1,24	2,11

Security related problems affecting the service provision of health personnel are presented in Table 7. According to this, the problems expressed by health personnel are respectively as follows; "*I experience problems with relatives during patient transfer, I am exposed to verbal or physical violence." (x=3.63±1.16),"I experience problems with patients during patient transfer, I am exposed to verbal or physical violence." (x*=3.39±1.10), *"We experience traffic problems frequently."* (*x*=3.23±1.21), *"Personnel security precautions are insufficient."* (*x*=2.60±1.34), *"Security precautions against possible dangers from patients, relatives, or environment are insufficient."* (*x*=2.20±1.25), and *"Insufficiency of precautions taken by law enforcers."* (*x*=2.11±1.24)

Table 8. Job Satisfaction of Health Personnel

Questions (n=210)	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree		Std. Dev.	Mean
	f	%	f	%	f	%	f	%	f	%		
I am fond of my job.	10	0,05	13	0,06	22	0,10	68	0,32	97	0,46	1,11	4,09
I think I earn enough wage in exchange for my work.	43	0,20	36	0,17	39	0,19	61	0,29	31	0,15	1,37	3,00
I would like to work in another profession if possible.	48	0,23	42	0,20	42	0,20	42	0,20	36	0,17	1,41	2,89

Table 8 presents findings related to job satisfaction of the health personnel. According to this, 165 (78.5%) of the health personnel stated that they are satisfied with their jobs and the mean score of the answers to this question is 4.09±1.11. 79 (37.5%) of the participants think their wage is not enough, 92 (44%) think it is enough, and 39 (18.5%) of them stated that they are undecided.

4.RESULTS

Ambulance Emergency System was established in province of Konya in 1997-1998, and has been in service since, by increasing the number of its stations and growing its activities. However, it is a well-known fact that there are many negative factors affecting the provision of service. The present research aims at determining the factors that affect the provision of Ambulance Emergency Services negatively, and has reached some important findings. These findings can be listed as follows:

- A total of 210 health personnel, 89 (42.4%) of them male, and 121 (57.6%) of them female participated in the present research. 6 (2.9%) of the participants are physicians, 16 (7.6%) are nurses, 27 (12.9%) are drivers, 35 (16.7%) are paramedics, and 126 (60%) are emergency medical technicians.
- An important finding of the research is that 81% of the health personnel attend courses related to their duties regularly. However, 21% of the personnel consider themselves as insufficient in terms of service provision, 26% think they didn't get enough vocational education at the schools they studied, 38% stated that they graduated without making sufficient practice. These findings suggest that there are some deficiencies in the training period of the personnel.
- 83% of the participants answered the question “most of the cases we interfere during the day are cases that don't require Emergency intervention” as *agree*, and *strongly agree.*
- The administrative and organizational factors affecting the service provision of health personnel are as follows respectively starting from the most stated; personnel cannot meet their feeding needs, they do the paperwork themselves, working system, they cannot take enough watch leaves, ambulances are not equipped sufficiently, most of the personnel are female, ambulances break down regularly, insufficient health personnel, administrative structuring, lack of materials, devices, equipments, abundance of cases, absence of physicians in the teams and insufficient service buildings.
- 78 (37%) of the participants stated that they have work-related health problems.
- The communication problems affecting the provision of service are as follows; 55% of the participants stated that they receive unjust complaints from patients

and relatives, and 66% of them stated that they have problems during patient transfers to hospitals. Moreover, most the participants stated that they have problems communicating with patients and relatives.

- When it comes to security related factors; 65% of the participants stated that they have problems with relatives and 51% of them answered the questions *"I have problems with patients, I am exposed to verbal or physical violence."* as *"agree-strongly agree".* These findings are very important in terms of presenting the dimensions of violence that the health personnel are exposed to. Similarly, the findings show that the precautions about the security of health personnel are insufficient, they are not protected against attacks from patients and relatives, and the law enforcers don't provide the sufficient support in the issue.
- Despite all negative findings, 78% of the participants stated that they are fond of their jobs.

In order to eliminate the negative factors affecting the provision of emergency services; the followings can be done:

- In the areas with insufficient service buildings, station buildings that conform to standards should be built, and these should be equipped with required devices, materials and equipments.
- Service vehicles and ambulances should be enhanced in terms of quality and quantity.
- Personnel planning should be carried according to standards and the personnel deficiency in Ambulance Emergency Service stations should be made up. Personnel's lack of knowledge, training, and skills should be made up through in-service trainings.
- Awareness should be raised among citizens in order to prevent the use of vehicles for wrong purposes, and legal arrangements should be made immediately.
- The feeding problem of the personnel working in stations should solved immediately according to the conditions of the area where those stations are.
- The problems related to patient-transfer should be solved by cooperating with related hospitals and health institutions, the coordination should be carried in the best possible way.
- The communication problems of the personnel working in 112 Emergency Services stations should be minimized and if possible, they should be trained by experts in the field.
- Necessary precautions should be taken against increasing violence to health personnel.
- Necessary precautions should be taken for the treatment and solution of the work-related physical and psychological problems that the health personnel experience.

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