

Patient Satisfaction with Pre-hospital Care

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Abstract:

Background: The prehospital care is based on the knowledge and skills needed for the prevention, diagnosis and management of mild to immediate cases of illness and injury which affects all ages with full undifferentiated categories of physical and behavioral disorders. Aim: is to prioritize patient satisfaction with emergency medical services in some aspects to improve and raise the quality of pre-hospital care. **Methodology:** Customer satisfaction surveys have been conducted. **Result:** we determined the answers for all the patients in our 72 sample from the patients admitted in National Guard Hospital either by our EMS or by Red Crescent ambulances. Their age ranged from 18 to 86 and older including males and females. The patient's opinion about overall treatment, and we divided into five levels of satisfaction: (Excellent, Good, Neutral, bad, and Horrible), 68 patients evaluate excellent on percentage of (94.4%), 1 patient evaluate good on percentage of (1.4%), 2 patients evaluate neutral on percentage of (2.8%), 1 patient evaluate bad on percentage of (1.4%), and non of the patients evaluate horrible. **Conclusion:** the purpose of this study is to measure the level of satisfaction among patients with pre-hospital care to improve and raise the quality of care, and to identify the factors that influence the patient satisfaction. Researches on patient's satisfaction in emergency medical services are limited especially in (NGHA) and Red Crescent in Saudi Arabia. In this study the patients evaluate the services that provided by the EMS employees with among the ages, between both of the genders and emergencies.

Introduction

A pre hospital care is the medical care given before arrival to the hospital emergency department (ED). This type of care is based on the knowledge and skills that is needed for the prevention, diagnosis and management of mild to immediate cases of illness and injury which affects all ages with full undifferentiated categories of physical and behavioral disorders.

The significance of this study is to measure the patient satisfaction with emergency medical services in some aspects to improve and raise the quality of pre-hospital care. Patient satisfaction level varies upon some treatment factors, which care givers play an important role in. The factors are essential to raise the quality of care, which are: response time, explanation of care, medical care provided, the ability to reduce patient anxiety, the ability to meet the patient's non-medical needs, and the level of politeness shown by the provider toward the patient.

Review of the literature

A pre hospital care is the medical care given before arrival to the hospital emergency department (ED).^[1] This is based on the knowledge and skills that is needed for the prevention, diagnosis and management of mild to immediate cases of illness and injury which affects all ages

with full undifferentiated categories of physical and behavioral disorders. "It is a specialty in which time is critical".^[2]

The aim of this study is to prioritize patient satisfaction with emergency medical services in some aspects to improve and raise the quality of pre-hospital care. Patient satisfaction level varies upon some treatment factors, which care givers play an important role in.^[3] The factors are essential to raise the quality of care, which are: response time, explanation of care, medical care provided, the ability to reduce patient anxiety, the ability to meet the patient's non-medical needs, and the level of politeness shown by the provider toward the patient.^[4]

In conclusion, the pre hospital care is based on the medical knowledge and skills to the prevent, diagnose and manage all cases of illness and injury which affect all ages with full undifferentiated categories of physical and behavioral disorders. The Purpose of this study is to measure the level of satisfaction among patients with pre-hospital care to improve and raise the quality of care, and to identify the factors that influence the patient satisfaction. Researches on patients satisfaction in emergency medical services are limited especially in Saudi Arabia.^[5]

Materials and Methods

Customer satisfaction surveys will be conducted regularly. A form of the Questionnaire file is attached.

Study Area/Setting:

Our study will be conducted in Emergency Department in National Guard Hospital which is located within the King Abdulaziz medical City (KAMC) complex in Riyadh, Saudi Arabia. The emergency department provides a complete range of services including ICU, CCU, PCU and OR receiving variety of cases either through our EMS or Red Crescent.

Study Subjects:

The study will include all patients either male or female from age of 12 to 90 years old.

Inclusion criteria:

All patients above 18 years old who were admitted in National Guard Hospital either by our EMS or by Red Crescent ambulances.

Exclusion criteria:

Patients dead on scene, age below 18, or were admitted on ER with a private car.

Study Design:

This is a cross-sectional study, prospective.

Sample Size:

The data will be retrieved from patients who have had treatment by EMS of KAMC during the period July 2016 to February 2017. Sample size is expected to be between 70 and 100.

Step 1:

$$SS = \frac{Z^2 * P * (1 - P)}{C^2}$$

Step 2:

$$new\ ss = \frac{SS}{1 + \frac{SS - 1}{Pop}}$$

Pop = Population

Sampling Technique:

All patients transported to emergency department in KAMC by ambulances. All age groups and all type of emergencies. It will be done by consecutive sampling.

Data Collection methods, instruments used, measurements:

The data will be obtained from King Abulaziz Medical City-Emergency Department. The data collection will be via

questionnaires and the patient will get a phone call to fill out the questionnaire over the phone and it will be 1-2 weeks after the transport of the patient. The contact numbers will be taken from the database of the emergency department. The questionnaire is self-designed. Which was validated and found reliable by four members of the EMS department at KSAU-HS.

Data Management and Analysis Plan:

Study variables (appendix A) are going to be directly entered into SPSS version 20. A backup soft copy version as well as a hard copy print are going to be dated, saved and secured after each data entry update. A designated study binder and a dedicated USB flash memory stick are going to be kept with the principal investigator.

Statistical analysis of study variables; probable statistical parameters, demographic data, descriptive statistics will be reported in the form of frequencies and percentages for categorical data (race, age, sex). The mean and SD will be used for continuous data. Statistical analysis (chi square test, t-test, analysis of variance, correlation, regression) will be done for other variables. And variable outcomes will be carried out through SPSS version 20.

Table1: Age (years)

	Frequency	Percent
Valid 18-20	25	34.7
21-30	14	19.4
31-40	9	12.5
41-85	18	25.0
>=86	6	8.3
Total	72	100.0

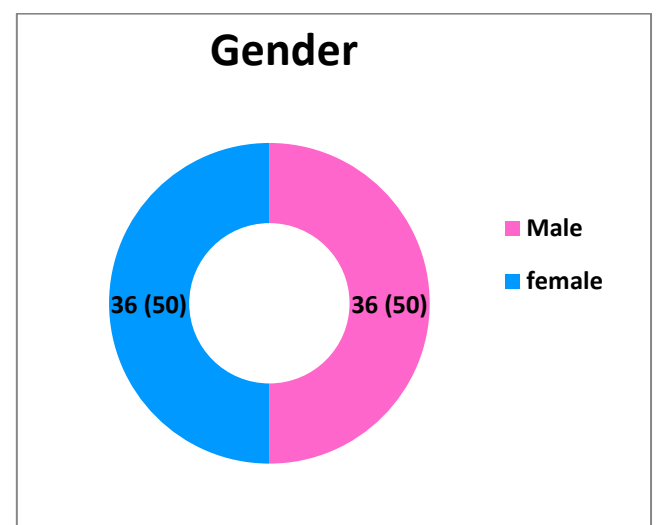


Fig 1: Gender distribution of study subjects

Table2: Emergency

	Frequency	Percent
Valid Trauma	10	13.9
Medical	58	80.6
Transportation	3	4.2
Medevac	1	1.4
Total	72	100.0

Table3: Emergency time

	Frequency	Percent
Valid Day	25	34.7
Night	47	65.3
Total	72	100.0

Table4: Response time (in minutes)

	Frequency	Percent
Valid 1-10	37	51.4
11-20	22	30.6
21-30	9	12.5
>30	4	5.6
Total	72	100.0

Table5: Services provided by EMS

	Frequency	Percent
Valid Excellent	55	76.4
Good	12	16.7
Neutral	3	4.2
Bad	1	1.4
Horrible	1	1.4
Total	72	100.0

Table 6: Communication from EMS providers

	Frequency	Percent
Valid Excellent	59	81.9
Good	10	13.9
Neutral	2	2.8
Horrible	1	1.4
Total	72	100.0

Table7: Non-medical care provided by EMS

	Frequency	Percent
Valid Excellent	49	68.1
Good	12	16.7
Neutral	6	8.3
Bad	4	5.6
Horrible	1	1.4
Total	72	100.0

Table 8: Medical Care provided by EMS

	Frequency	Percent
Valid Excellent	58	80.6
Good	11	15.3
Neutral	2	2.8
Horrible	1	1.4
Total	72	100.0

Table9: Explanation given regarding treatment procedures

	Frequency	Percent
Valid Excellent	49	68.1
Good	11	15.3
Neutral	8	11.1
Bad	1	1.4
Horrible	3	4.2
Total	72	100.0

Table10: Have the provider reduced your anxiety

	Frequency	Percent
Valid Excellent	64	88.9
Good	1	1.4
Neutral	3	4.2
Bad	2	2.8
Horrible	2	2.8
Total	72	100.0

Table11: Opinion about overall treatment

	Frequency	Percent
Valid Excellent	68	94.4
Good	1	1.4
Neutral	2	2.8
Bad	1	1.4
Total	72	100.0

Results:

Table 1 shows the age of the patients and we divide it into 5 ranges of ages, the first range of ages was from 18 to 20, and the result for this group was 25 patients (34.7%). The second range of ages was from 21 to 30, and the result for this group was 14 patients (19.4%). The third range of ages was from 31 to 40, and the result for this group was 9 patients (12.5%). The fourth range of ages was from 41 to 85, and the result for this group was 18 patients (25%). The fifth range of ages was above 86 and the result for this group was 6 patients (8.3%). Figure 1 shows the gender of the patients and it was equal for both genders 36 patients (50%) for each gender. Table 2 shows the patient's condition for calling EMS, and it was divided into four kinds of emergency (Trauma, medical, transportation and medevac), there were 10 trauma patients on percentage of (13.9%), 58 medical patients on percentage of (80.6%), 3 transportation patients on percentage of (4.2%) and 1 patient for medevac on percentage of (1.4%). Table 3 show us when was the emergency (Day or night) and the results was 25 patients (34.7%) on daytime and 47 patients (65.3%) on nighttime. Table 4 shows us how fast the EMS response time since calling, and we divide it into four time periods (1min-10min, 11min-20min, 21min-30min, more than 30min), 37 calls was responded in time of 1min-10min on percentage of (51.4%), 22 calls was responded in time of 11min-20min on percentage (30.6%), 9 calls was responded in time of 21min-30min on percentage of (12.5%), 4 calls was responded in time more than 30min on percentage of (5.6%). Table 5 shows us patients satisfaction with services provided by EMS, and it was divided into five levels of satisfaction :(Excellent, Good, Neutral, bad, and Horrible), 55 patients evaluate the services provided to them as an excellent (76.4%), 12 patients evaluate the services provided to them as a good (16.7%), 3 patients evaluate the services provided to them as a neutral (4.2%), 1 patient evaluate the services provided to them as a bad (1.4%), 1 patient evaluate the services provided to them as a horrible (1.4%). Table 6 show us the ability of ems providers to communicate with the patients, and it was divided into four levels of satisfaction :(Excellent, Good, Neutral, and Horrible), 59 patients evaluate the communication skills of the ems provider as an excellent (81.9%), 10 patients evaluate the communication skills of the ems provider as a good (13.9%), 2 patients evaluate the communication skills of the ems provider as a neutral (2.8%), 1 patient evaluate the communication skills of the ems provider as a horrible (1.4%). Table 7 show us the evaluation of how the EMS providers met the non-medical need, and it was divided into five levels of satisfaction :(Excellent, Good, Neutral, bad, and Horrible), 49 patients evaluate excellent on percentage of (68.1%), 12 patients evaluate good on percentage of (16.7%), 6 patients evaluate neutral on percentage of (8.3%), 4 patients evaluate bad on percentage of (5.6%), 1

patient evaluate horrible on percentage of (1.4%). Table 8 shows how was the medical care that provided by EMS, it was divided into five levels of satisfaction :(Excellent, Good, Neutral, bad, and Horrible), 58 patient evaluate excellent on percentage of (80.6%), 11 patients evaluate good on percentage of (15.3%), 2 patients evaluate neutral on percentage of (2.8%), 1 patient evaluate horrible on percentage of (1.4%). Table 9 shows us did the EMS providers explain the treatment procedure to the patients or not, and it was divided to five levels of satisfaction :(Excellent, Good, Neutral, bad, and Horrible), 49 patients evaluate excellent on percentage of (68.1%), 11 patients evaluate good on percentage of (15.3%), 8 patients evaluate neutral on percentage of (11.1%), 1 patient evaluate bad on percentage of (1.4%), 3 patients evaluate horrible on percentage of (4.2%). Table 10 shows us the evaluations of have the EMS providers reduce patient's anxiety, and it was divided into five levels of satisfaction :(Excellent, Good, Neutral, bad, and Horrible), 64 patients evaluate excellent on percentage of (88.9%), 1 patient evaluate good on percentage of (1.4%), 3 patients evaluate neutral on percentage of (4.2%), 2 patients evaluate bad on percentage of (2.8%), 2 patients evaluate on percentage of (2.8%). Table 11 show us the patient's opinion about overall treatment, and we divided into five levels of satisfaction :(Excellent, Good, Neutral, bad, and Horrible), 68 patients evaluate excellent on percentage of (94.4%), 1 patient evaluate good on percentage of (1.4%), 2 patients evaluate neutral on percentage of (2.8%), 1 patient evaluate bad on percentage of (1.4%), and non of the patients evaluate horrible.

Discussion

From the results obtained in this study, it is evident that the prehospital care given to patients requires the knowledge and skills needed for the prevention, diagnosis, and management of mild to immediate cases of illness and injury. In particular, this kind of care in emergency situations increases the chances of patient's survival. As Doering^[2] suggests, knowledge and skills needed for quality prehospital care bear a significant impact on all ages with full undifferentiated categories of physical and behavioral disorders. As a result, many healthcare givers have always strived to ensure that the level of care given to patients at a time of injury and emergency meets their expectations and attend to the specific need.

The outcome of the prehospital care given to patients is positive patient satisfaction with emergency medical services which raise and improve the quality of pre-hospital care.^[3] This means that the level of care given to patient will directly influence the outcome and patients satisfaction in an emergency care situation. If the prehospital care given to patients is provided in an effective and timely manner, the

patient will have the ability to recuperate and register positive improvement.

The level of satisfaction among patients with pre-hospital care is important for any healthcare giver to improve and raise the quality of care.^[4] It has the ability to increase the chances of survival and overall patient outcome even in times of difficulties. Beside, these satisfaction can only be achieved if the factors that influence the patient satisfaction are given preference.^[5] The factors that were found to play a significant role in determining the effectiveness of these services were response time, explanation of care, medical care provided, the ability to reduce patient anxiety, the ability to meet the patient's non-medical needs, and the level of politeness shown by the provider toward the patient.

Limitations

The only limitation we encountered are the number of patients who refused to participate in our study, which is 1 from each 3 patients.

Conclusion

In conclusion, the purpose of this study is to measure the level of satisfaction among patients with pre-hospital care to improve and raise the quality of care, and to identify the factors that influence the patient satisfaction. Researches on patient's satisfaction in emergency medical services are limited especially in (NGHA) and Red Crescent in Saudi Arabia. In this study the patients evaluate the services that provided by the EMS employees with among the ages, between both of the genders and emergencies. At the end of the evaluation the results was conducted and attached in this report.

References

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Appendices

All patients who were admitted in National Guard Hospital either by our EMS or by Red Crescent ambulances.

Informed consent is needed for this prospective study, however institutional IRB approval is required. Patients confidentiality will be strictly observed throughout study by using patients anonymous serial number for each subject and restricting data access to the investigators.

The data collection will be via questionnaires and the patient will get a phone call to fill out the questionnaire over the phone and it will be 1-2 weeks after the transport of the patient .The contact numbers will be taken from the database of the emergency department.

The validity and reliability of the questionnaire (self-designed). Questionnaire is being tested.

Patient Satisfaction With Pre-hospital Care

Serial Number (_____)

1. What is your gender?
 - Female.
 - Male.

2. What is your age?
 - 18 to 20.
 - 21 to 30.
 - 31 to 40.
 - 41 to 85.
 - 86 or older.

3. What was your emergency?
 - Trauma (MVA) or (MVC).
 - Medical.
 - Transportation.
 - Medevac.

4. When was your emergency time?
 - Day.
 - Night.

5. How fast was the response time from your call?
 - 1-10 mins.
 - 11-20 mins.
 - 21-30 mins.
 - More than 30 mins.

6. How was the EMS service provided to you?
 - Excellent.
 - Good.
 - Neutral.
 - Bad.
 - Horrible.

7. How was the communication from EMS providers?
 - Excellent.
 - Good.
 - Neutral.
 - Bad.
 - Horrible.

8. How providers met my non-medical need:
 - Excellent.
 - Good.
 - Neutral.
 - Bad.
 - Horrible.

9. How was the medical care provided?
 - Excellent.
 - Good.
 - Neutral.
 - Bad.
 - Horrible.

10. How was the explanation of treatment procedures?
 - Excellent.
 - Good.
 - Neutral.
 - Bad.
 - Horrible.

11. Have the provider reduced your anxiety?

- Excellent.
- Good.
- Neutral.
- Bad.
- Horrible.

12. How was the politeness of the provider?

- Excellent.
- Good.
- Neutral.
- Bad.
- Horrible.

13. How was the overall treatment you had?

- Excellent.
- Good.
- Neutral.
- Bad.
- Horrible.

14. What are the things that may improve the quality of care?

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15. What are the positive things from your point of view?

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16. What are the negative things from your point of view?

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