SATISFACTION LEVELS OF CLIENTS USING EMERGENCY MEDICAL SERVICE IN KLANG VALLEY: RETROSPECTIVE TELEPHONE SURVEY

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ABSTRACT

The measurement of patients’ satisfaction with pre-hospital care setting is particularly important since Emergency Medical Service (EMS) is often a primary determinant in the health care delivery service and there is no information available regarding this variable in Klang Valley, Malaysia. This study aims to identify the satisfaction level of clients using EMS in the Klang Valley region, Malaysia. A retrospective telephone survey (5-7 min/call) was conducted at central and suburbs of Klang Valley’s Medical Emergency Coordinator Centre (MECC). Customer satisfaction was assessed during the period of 1.1.2011 to 31.12.2011 using a structured questionnaire. The total sample size was n=500 patients or significant others. Cases were contacted for this survey by using proportionate stratified random sampling. The survey instrument was designed to assess two primary domains of satisfaction which are 1) interaction and 2) communication, in addition to overall satisfaction. The urban versus suburban and views on the different types of cases were compared. In this study 100 patients and 400 significant others participated. Customer satisfaction mean score was 3.12±0.88 in a 1 - 5 scale. This study indicated that both urban and suburban society in the Klang Valley areas were satisfied with the pre-hospital care service they received. There are many other external factors that can affect the satisfaction of the customer such as a technical error or bad weather. All these could delay a response. Evaluating customer satisfaction is an essential indicator for improving and achieving an excellent health care delivery system for a society.

Keyword: Emergency Medical Service, Satisfaction, Telephone Survey

INTRODUCTION

The concept of patient or customer satisfaction is an important quality outcome indicator of health care in the hospital setting as well as out of hospital setting. The measurement of patients’ satisfaction with pre-hospital care is particularly important since pre-hospital Emergency Medical Service (EMS) are often a primary determinant in the delivery of a health care service. Patient satisfaction is a measurement designed to obtain reports or ratings from patients about the services received from an organization, hospital, physician, nurse or health care provider⁴. Thus the satisfaction ratings are based on measurements of services. These include communication with the health care provider, hospital staff responsiveness, hospital atmosphere, disease management, communication about medication, and information about discharge⁵. In the pre-hospital care setting previous researchers have identified the main dimension for measurement as the satisfaction with the way personnel communicate and interact towards clients⁶.

Therefore, measuring and improving patient or customer satisfaction in pre-hospital care are essential. This is because the importance of patient satisfaction has also been recognized in the EMS Agenda for the Future⁶. In addition, patient satisfaction was identified in an EMS system as a critical indicator of the quality of an EMS system⁷. Thus, stakeholder perception of any service provided is of paramount importance and is a necessity for continuing service improvement. Recently, patient satisfaction has become a growing importance to providers of EMS as one of the measures of the outcome of the service. This means that we are not only looking at the survival of the patient; patient satisfaction is also needed to assess the overall performance⁸.

Persse et al. conducted an EMS customer satisfaction study by using the telephone survey method⁹. The survey questions were developed in consultation with faculty members from the School of Public Health, University of Texas and written into a script. Identical questions were utilized for both transported and non-transported patients. All scripted questionnaires began by asking the respondent’s consent to be surveyed. Consenting participants were asked to respond ‘yes’ or ‘no’ to seven questions, and two additional questions were asked that solicited open-ended responses. The final question asked the patient to describe their degree of satisfaction with the care provided. The findings revealed that 2,498 transported and 2,975 non transported respondents were successfully contacted. Of these 2, 368 (94.8%) transported clients reported overall satisfaction with the service provided; of the non-transported clients 2, 865 (96.3%) reported overall satisfaction. The most common reason given for non-satisfaction in both groups was the response time was too long. Although the proportion of satisfied groups is extremely high, the unsatisfied respondents suggest there is still room for improvement.

A study by Kuisma et al. on the measurement of patient satisfaction used a different approach compared to the above study⁷. They distributed a
questionnaire to the patients after treatment by EMS and received replies approximately two weeks after the service in two different years (2000 and 2002). The questionnaire consisted of 19 items in a scale from 1 (very poor) to 5 (excellent). The focus of the survey was mainly on the dispatch center responses and paramedic responses. The total response for this study was relatively low in both years (36.8% (n=432) and 40.0% (n=464) respectively). The overall score of patient satisfaction in the year 2000 was 4.6 and in 2002 it was 4.5. Patients reported three areas that gave the highest degrees of dissatisfaction: they were not taken to their hospital of choice; they thought that the paramedic was not able to meet their needs; and the paramedics did not introduce themselves directly to the patient’s relatives.

A similar study of the above using a postal survey approach was conducted at Reading, Ohio for four consecutive years from 2001 till 2004. The overall response rate was 32.0% out of 2764 respondents. The questionnaire was printed on a pre-addressed, postage paid postcard. It consisted of five questions that used a five point Likert scale (5 very satisfied to 1 very unsatisfied) and three open ended questions. Almost all the respondents were very satisfied or satisfied (99.5%). The open ended questions suggested that interpersonal communication was the single most important contributor to patient satisfaction. From the findings of both studies, it is clear that it is essential to the EMS to take note of the suggestions improvement, particularly regarding the communication elements.

It is true that a patient’s perception can be very subjective. Findings from a small study at one of the teaching hospitals on the east coast of Malaysia suggested that the hospital was aware that the present ambulance service faced many problems. However, the results of the study surprisingly showed that patients’ perceptions were positive and ranged from 9.33 to 9.70 out of 10.0. The instrument was developed by Victoria University of Technology Research Project and it had 6 variables (24 items – score range from 1-poor to 10-excellent). These were ‘vehicle’, ‘staff attitudes’, ‘staff performance’, ‘professionalism’, ‘efficiency of service’ and ‘image’. Perhaps the limitations of this study was its small sample size (n=87) and probability sampling technique was not implemented. Another possible confounding factor was the way the interviews were conducted by the research assistant. In conclusion, the performance of pre-hospital emergency medical services cannot only rely on the data available from pre-hospital run sheets. We need to realize that the perceptions of the customers who receive the service also have great value for improving the service. Hence the most important thing is measuring this indicator is that quality can be maintained and, at the same time, society will have greater trust in the service. Therefore, the aim of this study is to identify the satisfaction level of clients using EMS in the Klang Valley region, Malaysia.

**METHODODOLOGY**

A consecutive retrospective telephone survey was used to assess customer satisfaction for the period of 1.1.2011 to 31.12.2011 by using a structured questionnaire. However, it was only feasible for 500 (n=460 Kuala Lumpur’s MECC and n=40 Sungai Buloh’s MECC) patients or significant others to be surveyed. All the potential cases are based on phonetic alphabet category which is ECHO (patients who are in cardiac or respiratory arrest), DELTA (patients with life threatening condition other than cardiac or respiratory arrest), CHARLIE (patients with serious condition but not life threatening which require immediate response), and BRAVO (patients with serious conditions but not life threatening which require urgent response). Thus category ECHO, DELTA, CHARLIE and BRAVO cases were contacted for this survey by using proportionate stratified random sampling. McKenzie-Mohr suggests the telephone survey sample size should be 10% of the population or a minimum of 500 should be sufficient for generalizing the findings. The following criteria was used for recruitment: patients who were conscious and alert when receiving the pre-hospital care service or significant others who witnessed the pre-hospital care given to the patient. This was from calling the center, on-scene time and the arrival of the patient at the emergency and trauma center.

Parahoo suggests there are three steps involved in proportionate stratified random sampling after identifying the actual sample size of the population. The first step is to stratify the sample into two areas of the study setting. The second step is to decide on a sample size and the proportion for each stratum. The third steps is to draw up simple random sampling to determine the size of each stratum based on fulfilling the inclusion and exclusion criteria. In this study, as noted above, 500 sample size was required for the telephone survey of satisfaction about receiving the pre-hospital care service. These were stratified into four groups namely ECHO, DELTA, CHARLIE and BRAVO for each MECC.

During the survey period 1 931 calls were attempted to reach the required samples over almost 3 months. The time of the telephone survey was 9 am to 1 pm and 2.30 pm to 4.30 pm during working days only and this took place in both MECC centers. Each phone conversation was approximately 5 to 7 minutes for each call and the language used was Malay or English depending on the respondent's preference. The main reason for the many non-responses was that the telephone number was inactive and the caller was just an eye witness of the event and left the scene before the ambulance arrived. However, 171 respondents refused to participate in this study, 54 respondents faced language barriers during the phone call with
Customer satisfaction was measured based on the instrument developed by Bernard et al.1. The instrument was based on the experts' view and also on the literature. This was related to the topic of demand by the stakeholders and the incidence of complaints received in relation to emergency medical services. The survey instrument was designed to be brief and to assess two primary domains dealing with satisfaction which are: 1) interaction; and 2) communication. As noted above, the team emphasis on interaction and communication issues was based on previous EMS based research highlighting problems in this aspect. The instrument consisted of 5 questions that used a standard 5 point Likert scale namely, ‘very satisfied’, ‘satisfied’, ‘adequate’, ‘unsatisfied’ and ‘very unsatisfied’. The reason for choosing this instrument as compared to other instrument is because the researcher noticed recent use of this instrument. It was considered feasible for a survey by telephone because of the small number of response items. Moreover, the language is very clear and the items really matched the objective of this study. Permission was obtained to use the instrument from the original author, Bernard et al.1.

The questionnaire was translated into the Malaysian language by the researcher and back-translated into English by two Malaysian bilingual experts. The original English and back-translated versions were checked to ensure similar meanings by a native English speaking person. For practical purposes, because some Malaysians prefer to answer in English, the questionnaire consisted of both English and Malay versions. The reliability of this instrument was tested with a similar population group of 15 and the Cronbach’s Alpha score was 0.871. The telephone survey was carried out either in the English or Malay language depending on the participant’s language proficiency and preference. The patients or significant other, who were enrolled in this study gave their verbal consent by phone.

RESULTS

Customer satisfaction was measured retrospectively by a telephone survey for the service that was delivered in 2011 for both MECCs in Klang Valley that participated in this study. The findings showed the overall perception of the respondents towards the service. The urban versus suburban and views on the different types of cases were compared.

Table 1: Customer Satisfaction towards the Pre-hospital Emergency Medical Service in both MECC in HKL and HSB (N=500)

<table>
<thead>
<tr>
<th>Types of cases</th>
<th>HKL MECC</th>
<th>HSB MECC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patient</td>
<td>Sig. other</td>
<td>Patient</td>
</tr>
<tr>
<td></td>
<td>n  Mean(SD)</td>
<td>n  Mean(SD)</td>
<td>n  Mean(SD)</td>
</tr>
<tr>
<td>BRAVO</td>
<td>34 3.21(0.88)</td>
<td>104 3.53(0.94)</td>
<td>5 3.20(0.47)</td>
</tr>
<tr>
<td>CHARLIE</td>
<td>19 3.25(0.91)</td>
<td>73 3.41(0.52)</td>
<td>9 2.61(0.55)</td>
</tr>
<tr>
<td>DELTA</td>
<td>38 3.38(0.33)</td>
<td>178 2.52(0.61)</td>
<td>21 3.01(0.29)</td>
</tr>
<tr>
<td>ECHO</td>
<td>14 2.94(0.74)</td>
<td>369 3.10(0.39)</td>
<td>7 3.14(0.78)</td>
</tr>
<tr>
<td>Total</td>
<td>91 3.28(0.21)</td>
<td>369 3.10(0.39)</td>
<td>37 2.99(0.29)</td>
</tr>
</tbody>
</table>

Table 1 provides the overall mean of customer satisfaction scores of the patients and significant others for all types of cases for the both MECCs (3.12±0.88). The interaction and communication domain score were 3.10±0.71 and 3.15±0.55 respectively. Generally, all the cases and items fall under the category of adequate (based on scale 3-4). From the findings we may conclude that there is a plenty of room for improvement because none of the cases and items scored above 4 or 5 (satisfied or very satisfied). However, the results indicate that attitudes to the service given are positive and there is no overall dissatisfaction.

DISCUSSION

Transparency is desirable in the pre-hospital emergency medical service performance and it should be oriented to the client. Therefore, evaluating customer satisfaction is an essential indicator for improving and achieving an excellent health care delivery system for a society. This study indicated that society, both urban and suburban society in the Klang Valley areas were satisfied with the pre-hospital care service they received. There were no differences regarding the various types of cases. This is one of the clear ideas that we can learn from the society's perspectives. When they seek the service it is always an emergency for them and a rapid response is required regardless of the severity level of the case as defined by the health care sectors. Therefore, we can understand that communication with and interaction on the part of personnel regarding the client influences their satisfaction very much. This is in-line with Bernard et al. concerning measuring satisfaction in the pre-hospital emergency medical service context3.

Previous studies which employed the same method of telephone surveys showed in their findings that customers are very satisfied. In Texas, about 94.8% of the 2, 368 customers were satisfied with the service and the most common reason given by dissatisfied customer was the long response times4. This long response time was...
similar to Al-Shaqqi’s view that a rapid response by pre-hospital emergency medical services is a strong public expectation that the EMS systems should strive to fulfill11. Consequently, many EMS systems evaluate their performance according to how well they are able to satisfy this expectation. Another study discovered the highest degree of dissatisfaction was when they were not taken to their hospital of choice; they thought that the health care provider was not able to satisfy their needs7. This study evaluated customer satisfaction about the pre-hospital emergency medical services provided by MECC. It is very clear that customer satisfaction also relies partly on the performance of MECC. But the problem with the performance of the MECC may not be exclusively due to personnel or condition of the ambulance. In other words, not everything can be blamed on them or the vehicle. There are many other external factors that can affect the satisfaction of the customer such as a technical error, bad weather, a rainy day, or bad traffic. All these could delay a response.

The strength of this study is the data can be obtained easily. It has straight forward five (5) items in the instrument that can be obtained by phone with short period of time. Moreover, the types of questions are not difficult to be answered by the customer with their preference language. This is because the domain is very focus on communication and interaction. On top of that, there is no technical words were described or asked. This telephone survey on customer satisfaction was based on the service received in 2011, hence there might be some recall bias on the part of patients or significant others responses towards the survey. This is because the study was conducted in the mid of 2012. Another limitation that can be observed is that the instrument only has five Likert scale where the three highest score are toward the positive direction and the last two scores are towards negative direction. So, the respondents have to decide on the imbalance choices towards the service.

Based on the findings of this survey, the recommendation for further research is the study can be guided by short messaging services, whereby the customer can respond on their own pace after the service is ended as one of the strategy to avoid recall bias. Moreover, the data can help for consistent quality assurance measure towards the service. It is also crucial to modify the measurement scale of the instrument due to imbalance levels of score.

In conclusion, the customer satisfaction variable was measured by a telephone survey retrospectively for the service that was delivered in 2011 for both MECCs in Klang Valley that participated in this study. Generally all the cases and means of items fall under the category of adequate (based on scale 3-4). From the findings we concluded that there was plenty of room for improvement because none of the cases and item scored a mean above 4 or 5 (satisfied or very satisfied).

REFERENCE


