

Original Research Article

A study on type of emergencies brought to C. U. Shah Medical College and Hospital by 108 and awareness regarding the services in the general population of Surendranagar, Gujarat

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ABSTRACT

Background: Emergency response service (ERS) is associated with medical, police emergency and fire. In the Indian context, a much discussed and successful public-private partnership (PPP) model for ERS is the 108 emergency service being managed and operationalized by EMRI. The World Health Organization has projected that by 2020 road crashes will be a major killer in India. It is a well-accepted fact that a patient who receives basic care from trained professionals and transported to the nearest healthcare facility within 15-20 minutes of an emergency has the greatest chance of survival and terms like 'The Golden Hour' and the 'Platinum Ten Minutes' that imply the importance of it.

Methods: A cross sectional study was carried out in Surendranagar district. Out of 10 talukas of district 4 talukas were selected randomly; out of them one village was selected from each taluka. 20 houses were selected randomly from each village; one adult male and one adult female from selected house were included for the study.

Results: 100% respondents knew that 108 could be used for medical emergencies where as 3.57% and 6.43% of respondents, respectively, knew that it also could be used for police and fire type of emergencies. Awareness regarding '108' services and literacy status of respondents showed statistically significant association.

Conclusions: Although people were aware about '108' service and had faith in the service, there is large gap in knowledge as to how and when to utilize it including police and fire emergencies.

Keywords: 108, Fire, Police, Emergency, Awareness

INTRODUCTION

Emergency response service (ERS) is generally associated with medical services, police emergency and fire service. In the Indian context, a much discussed and successful public-private partnership (PPP) model for ERS is the 108 Emergency Service being managed and operationalized by Emergency Management and Research Institute (EMRI) in many states in India like Andhra

Pradesh, Gujarat, Uttarakhand, and Rajasthan with around 1300 ambulances running (as on December 2008).¹

Emergency medical services (EMS) is an essential part of the overall healthcare system as it saves lives by providing care immediately. Emergencies and accidents are commonplace in all parts of India. The World Health Organization (WHO) has projected that by 2020 road crashes will be a major killer in India, accounting for

546,000 deaths.² 30% of emergency patients in India die before they reach a hospital. Over 80% of accident victims do not achieve access to medical care within one hour of the incident.³ It is terms like 'The Golden Hour' and the 'Platinum Ten Minutes' that imply the importance of Emergency Medical Services (EMS) all over the world.⁴ It is a well-accepted fact that a patient who receives basic care from trained professionals and is transported to the nearest healthcare facility within 15-20 minutes of an emergency has the greatest chance of survival.⁴ To assess awareness of '108' services among general population. To identify type of emergencies brought to C. U. Shah Medical College and Hospital by using '108' service.

METHODS

This study was a cross-sectional conducted in areas of Surendranagar district of Gujarat state from August 2015 to October 2015.

Study group

Population of 4 randomly selected Villages of Surendranagar district, 20 houses will be selected from each villages; from selected houses 2 persons will be selected randomly.

Survey technique and participant recruitment procedures

4 talukas were selected out of 10 talukas of Surendranagar district; one village was selected from each taluka by simple random sampling; 20 houses were selected randomly from each village; one adult male and one adult female from selected house were included for the study. The information was gathered in a pre-tested and predesigned questionnaire by house to house visit. Data regarding type of emergencies brought to C. U. Shah Medical College and Hospital in 1-0-8 was collected in pre-tested and predesigned proforma.

Inclusion criteria

2 members of households >18 years and patients who will be brought to C. U. Shah Medical college and Hospital in 1-0-8.

Exclusion criteria

Individuals who were not giving consent or non-co-operative.

Ethical clearance

Institutional ethical clearance was obtained prior to initiation of the study.

Statistical analysis

Information was collected, compiled and analyzed by applying suitable tests. Data were analyzed using Microsoft Excel 2007.

RESULTS

Out of total 80 respondents in each sex, majority males i.e., 79 (98.75%) were aware of '108' service whereas around 61 (76.25%) females were knowing about service; this difference in the knowledge was found to be statistically highly significant (Chi square=16.514, Df=1, significance p value=0.00004) (Table 1).

Table 1: Distribution of study participants according to their sex and awareness regarding '108' service (n=160).

Sex	Awareness		Total
	Yes	No	
	N (%)	N (%)	N (%)
Female	61 (76.25)	19 (23.75)	80 (50)
Male	79 (98.75)	1 (1.25)	80 (50)
Total	140 (87.5)	20 (12.5)	160 (100)

Chi square =16.514; Df=1; Significance p value=0.00004.

Figure 1 shows, a large majority 140 (87.5%) out of 160 respondents had knowledge about '108' service and 20 (12.5%) respondents even did not know it. Out of 140 respondent, 128 (91.43%) prefer '108' in the emergency medical condition. On further inquiring to 12 (8.57%) respondents who were not preferring the services around 83.33% had no any reason and 16.66% said that 108 comes late.

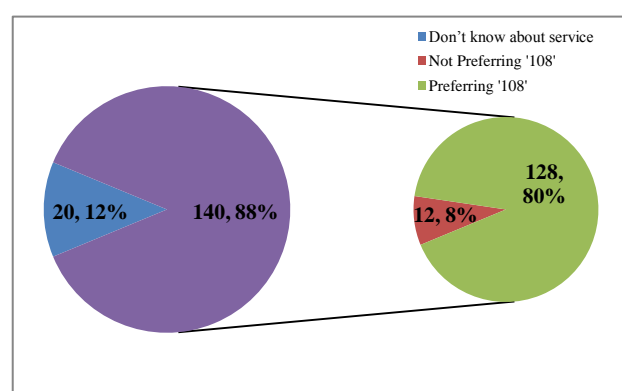


Figure 1: Knowledge and preference regarding 108 service among community (n=160).

Table 1 shows details about Source of information (n=140). In which majority of respondent came to know about service through community member approximately 49%; followed by media 32.14%, posters 26.43%, health worker 17.86%, and health centre 9.29%, other 7.14%.

Figure 2 shows knowledge of respondent regarding how to make call and utilize service. Out of 140 respondent 39.29% were not aware of how to make call and utilize service.

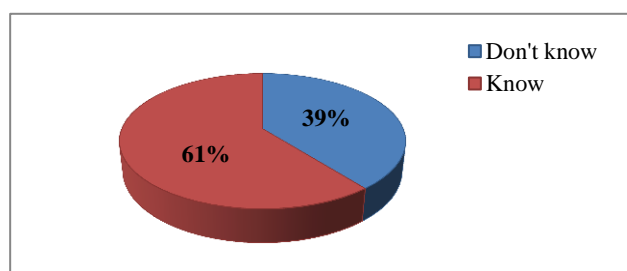


Figure 2: Response towards how to call '108' (n=140).

Table 2 shows that awareness was lacking more amongst illiterate i.e., 33.33%; which was gradually and steadily decreased to 26.09%, 8.33%, 0% and 0% in primary education, secondary education, higher secondary education and graduate respectively. There was significant association between awareness regarding '108' services and literacy status of respondent (Chi square=21.002, p value=0.0003). Awareness regarding '108' services increased with the education of respondent.

Table 2: Source of information regarding '108' service among population (n=140).

Response	No. of persons (%)
Community	69 (49.29)
Media	45 (32.14)
Health centre	13 (9.29)
Poster	37 (26.43)
Health worker	25 (17.86)
Other	10 (7.14)

Figure 3 shows data of population survey regarding knowledge of emergencies tackled by '108'; 100% respondents know that it could be used for medical emergency. Whereas only 6.43% and 3.57% respondents knew that it can also be used for fire and police emergencies respectively.

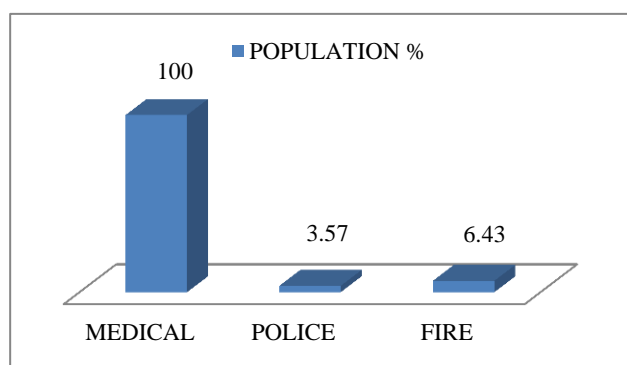


Figure 3: Knowledge regarding type of emergencies tackled by '108' (n=140).

Table 3 shows data related to type of emergencies brought to CUSMC during study. In that majority about 34% of cases were of trauma; followed by about 26% cases were of pregnancy related emergency condition. Only 9% cases were of acute abdomen. About 8% of cases were each of CNS and other condition.

Table 3: Awareness regarding '108' service according to educational level of respondents (n=160).

Education	Awareness		Total no. of person
	Absent	Present	
	N (%)	N (%)	
Illiterate	4 (33.33)	8 (66.67)	12
Primary education	12 (26.09)	34 (73.91)	46
Secondary education	4 (8.33)	44 (91.67)	48
Higher secondary education	0 (0.0)	35 (100.0)	35
Graduate	0 (0.0)	19 (100.0)	19
TOTAL	20 (12.50)	140 (87.5)	160

Chi square=21.002; DF=4; significance p value=0.0003.

Table 4: Type of emergencies brought to CUSMC during month of August, September and October (n=207).

Type of emergencies	Total no.	%
Assault	6	2.90
Cardiac/cardio vascular	9	4.35
Fevers (infections)	9	4.35
Respiratory	10	4.83
CNS related	16	7.73
Others	16	7.73
Acute abdomen	18	8.70
Pregnancy related	53	25.60
Trauma	70	33.82
Total	207	100.00

Table 5: Type of emergencies tackled by 108 services in Surendranagar during month of August, September and October.

Type of emergencies	Total no.	%
Acute abdomen	316	5.65
Assault	141	2.52
Respiratory	152	2.72
Fevers (infections)	164	2.93
Cardiac/cardio vascular	191	3.42
CNS	243	4.35
Others	359	6.42
Trauma	938	16.78
Pregnancy related	3086	55.21
Grand total	5590	100.00

The analysis of data indicates that majority about 55.21% cases were of pregnancy related; followed by about 16.78% of cases were of trauma emergency condition. Only 6.42% cases were of other conditions. About 4.35% and 5.65% of cases were each of CNS and acute abdomen condition respectively.

About 77% of medical emergencies 108 reach at the site within 20 min. Rest 23% emergencies 108 reach after 20 min. Study shows that to reach at the hospital in emergency medical condition nearly half percentages '108' takes >20 min.

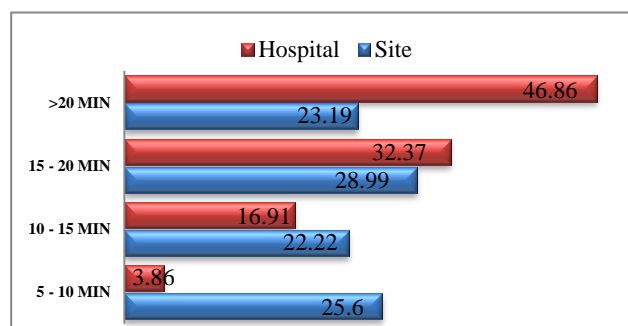


Figure 4: Time required reaching at the site and hospital by '108'.

DISCUSSION

Present study revealed that awareness regarding service was more amongst male i.e., 98.75% than female 76.25%; this difference in the knowledge was found to be statistically highly significant. Majority of population were aware of '108' service and more than 90% would prefer this service for emergency medical conditions. Community (49.29%) and media (32.14%) plays a vital role in spreading awareness regarding '108' service.

This study shows that majority of medical emergencies brought to CUSMCH by '108' service were of trauma (34%) followed by pregnancy (26%) related. In study conducted by Sunitha and Pugazhenthii on enquiry into the performance of 108 emergency service in Tamil Nadu found that the pregnancy related cases were highest with frequency of 25.75% which was followed by road traffic accident cases 22.85%.⁵ In about 77% of medical emergencies 108 reach at the site within 20 min. Rest 23% emergencies 108 reach after 20 min. Study shows that to reach at the hospital from site; nearly half percentages '108' takes >20 min. Lokesh et al in their study on efficiency of 108 service, 48 (44.04%) of study subjects gave the information that, the ambulance were reached to concern place 15-30 minutes of dial, 35 (32.11%) within 15 minutes, 20 (18.35%) in 30 min-1 hour and 6 (5.5%) more than 1 hour.⁶

CONCLUSION

Out of 160 respondents from general population, majority would prefer '108' service in emergency medical condition. Awareness regarding service increased as educational level of respondent increased. Around 39% of the population had to depend on neighbours or onlookers as they did not know how to use the services. All respondents who were aware of '108' service knew that it could be utilised for medical type of emergencies; However it was shocking that only few percentages of respondents had knowledge that 108 can also be utilized for police and fire type of emergencies as well. Although people know regarding '108' service and they do have faith in service but still there is large gap in how to utilize and in which situations it can be utilized like police, fire; and this gap can be fulfilled by properly educating people by various information education communication (IEC) activities and organizing frequent mock drill regularly.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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