

# ROLE OF TRAINING THE HOSPITAL STAFF IN PREPARING TO COMBAT AN EPIDEMIC: AN OBSERVATIONAL PILOT STUDY OF DENGUE EPIDEMIC IN A TERTIARY CARE HOSPITAL OF DELHI

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## Abstract

Dengue is an acute viral disease of serious public health concern globally. Dengue fever is prevalent throughout India in most of the metropolitan cities and towns [7]. In one of the worst reported outbreaks of dengue in Delhi in 1996, more than 10,000 cases and 400 deaths were documented. During the current outbreak in Delhi, we observed that hospitals were facing problems on management issues, be it patients, nursing staff or doctors. Situation was same in almost every govt. hospital so we decided to conduct a project to study the difficulties faced by patients and hospital staff. As most govt. hospitals lack trained personnel in hospital management we took this as an opportunity to demonstrate the role of a dedicated management person in hospital administration, who can play an important role during such out-breaks and be an important source of social welfare and medical outsourcing. We drew the inference that the role of a person from management background is pivotal in the proper disposal of health care. During study it was observed that every centre has its own sets of problems keeping in view the resources available and the public they cater so these efforts should be individualised for each centre. At the end of this observational study, we have made certain recommendations which may help build a better atmosphere among medical and nursing staff in the hospitals and which will go a long way in decreasing the chaos that often originates in hospitals during times of crisis like dengue epidemics.

**Key Words:** Dengue, Epidemic, Management.

## INTRODUCTION

Dengue is an acute viral disease of serious public health concern globally. The commonest vector of dengue virus in India is *Aedes aegypti* followed by *Aedes albopictus* [1]. It spreads by the bite of infected *Aedes* mosquito & causes a wide spectrum of disease from mild undifferentiated fever to severe fatal DHF/DSS [2, 3, 4]. No vaccine is yet available for protection but it can be drastically reduced by health education programmes & sensitizing the community to participate in integrated vector control programmes [5, 6].

Dengue fever is prevalent throughout India in most of the metropolitan cities and towns [7]. In one of the worst reported outbreaks of dengue in Delhi in 1996, more than 10,000 cases and 400 deaths were documented [8, 9]. If we look at Delhi's dengue fever outbreaks in the last 5-6 years 6259 cases were reported in 2010 and about 5000 cases were reported in 2013 while less than 1,000 patients tested positive for dengue last year.

This year the Capital has set a new record with the number of dengue cases crossing the 12,000 mark (12,531) till 4th week of October, the highest since 1996 – the year when records started being maintained. [10, 11]. During the current outbreak in Delhi, we observed that hospitals were facing problems on management issues, be it patients, nursing staff or doctors. Situation was same in almost every govt. hospital so we decided to conduct a project to study the difficulties faced by patients and hospital staff. As most govt. hospitals lack trained personnel in hospital management we took this as an opportunity to demonstrate the role of a dedicated management person in hospital administration, who can play an important role during such out-breaks and be an important source of social welfare and medical outsourcing.

## SUBJECTS AND METHODS

This project was conducted in Sanjay Gandhi memorial hospital, S-block Mangolpuri, Delhi-83 during a period from 15th October to 30th November 2015.

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Question	Response
Have you attended any workshop/ seminar regarding management of dengue fever during this season?	66% Senior residents accepted that they had attended seminars, but none of the Junior resident and Nursing staff had attended any seminar during this year.
How many workshops have you attended in last 3 years regarding management of dengue fever?	Among Seniors Residents 33% had attended 3 seminars, 33% 1 seminar and rest hadn't attended any seminar regarding dengue management. Among JRs only 25% told that they had attended one seminar previously but none of the nursing staff had attended any seminar in the past 3 years.
From where do you get latest update about dengue fever management?	Among SRs almost all said they get it from internet with some updates from colleagues & seniors. 63% JRs said they use internet while 37% said they get information from seniors and colleagues.
How do you attend a patient when he first presents to you?	50% SRs said they first attended patients selected by JRs 50% said they attended patients one by one with priority to old and sick patients. Almost all JR and nursing staff said that they attend old & sick patient first then other patients one by one.
In case of a large crowd which is very common in this season how do you find sick patient among waiting unattended patients?	All SRs said they find sick patients among unattended ones with help of JRs and by regularly visiting the emergency room. 53% JRs said that they find sick patients among unattended patients by regularly visiting among patients while 43% said they attend on patient/patient's attendant request.
How frequently do you/your team revisit to assess the patient admitted?	Among SRs about 66% said that they revisited only when patients complained about any problem otherwise it depended on the availability of time left from attending new patients. Almost all JRs said they revisited when patient complained about any problem otherwise it depends on patients' number and doctors' availability in that period.
How do you manage crowd at workplace?	All said that mostly guards help in managing crowd with health volunteers' support on few occasions. 82% JRs and all nursing staff said that they managed crowd with help of guards and 18% said on few occasion health volunteers also helped in managing crowd with guards
According to you how many patients were aware about the disease?	According to 84% SRs almost all patient was aware about the disease. 55% JRs said most patients were aware about the disease but 45% JRs said they were not aware about the disease properly.
According to you how many patients were aware about the Danger signs of the disease?	According to all SRs & JRs very few patients or their attendants were aware about the danger signs of dengue fever. Interestingly many among the nursing staff were unaware about the danger signs of dengue fever.
How do you find role of media?	About 66% SRs & 50% JRs said media increased awareness but also created panic by ill presentation of situation. 33% SRs & 36% JRs said media was supportive in increasing awareness while 12% JRs said it created panic among people.
How do you find the role of private NGO/ Groups in managing this epidemic?	70% SRs said there was no support; 30% SRs said there was little support on some occasions but that too in unorganised way.
Did hospital management sought suggestions from you regarding difficulties faced in treating patients on regular basis?	All SRs, JRs & Nursing staff said that suggestions were sought from them.
Do you provide any suggestion with your own initiative?	Almost all SRs, 60% JRs & few nursing staff said that they provided few suggestions with their own initiative.
Do you know about nodal officer for dengue in your hospital?	All SRs were aware about the Nodal officer but no JR & nursing staff were aware about the Nodal officer.
Is quality of your work affected by large no of patients?	About 84% SRs, all JRs & Nursing staff said that their work was affected by large no. of patients.
Is there any role for Health Volunteers, if yes what kind of support they can provide?	Almost all said that health volunteers can play a very significant role during such situations.

For collecting data following people were interacted with:

Doctors including Junior & Senior Residents, Casualty Medical Officers & Specialist from Department of medicine.

Nursing Staff working in casualty and wards  
Pharmacist Patients in dengue ward & casualty

Primary data was obtained using two tools of research namely the Questionnaire and the structured interviews.

On the basis of exploratory research and theoretical perspective gained, a Questionnaire was developed. It was thereafter administered through personal contact & visits to SGMH. An evenly balanced sample was selected at random for Responses. Details of the sample are as under.

### **Questionnaire**

SampleSize	52 ( respondents)
Sample Composition	
JuniorResident	16
SeniorResident	7
NursingStaff	5
Patient	24

A separate set of short Questionnaire was developed for conducting structured interviews.

### **Structured Interviews**

Samplesize	9
Sample Composition	
Nodalofficer	1
Specialist	3
MedicalOfficer	5

### **Aggregated Response Of Patients**

When patients were enquired about knowledge of dengue fever most were aware about this. Source of information was Television in about 50%, Radio/FM in 25%, newspaper in 16% and other sources like hoardings and screen displays around hospitals/ public places. When enquired about the disease, about 70% said that it is a serious disease while 30% said that it became serious when treatment was not taken within time, but most patients were not aware about the danger signs of the disease.

Patients were also enquired about the services of doctors, nursing staff and other services like food, cleanliness about which they were satisfied. Only complaint from admitted patients was about the availability of beds as most patients have to share their bed. They also told that no information like danger signs & preventive measures related to dengue are provided to them.

### **Aggregated Response Of Interviews**

When JRs where asked about difficulties they faced, most of them told about large crowd & comparatively limited manpower, feeling of insecurity due to lack of proper security to manage crowd. They suggested for better triage by increasing manpower to avoid mishap, separate arrangement from main casualty for fever patients, increasing awareness among public about disease and also about how hospital is functioning so that few of them could help as health volunteer.

When SRs were asked they were of same opinion & suggested for better security, better triage system. They also suggested for training guards regarding

giving information to patients like which doctor will attend them, where to go for investigations & drugs and regarding utilities also as even for queries other than medical illness they prefer doctors to ask about, interrupting them frequently.

According to casualty medical officers & specialists they were regularly discussing all issues with staff and management and many steps were being taken like pooling of staff from other departments but everyday increasing number of patients was posing difficulties in management. When asked about role of social networking groups (whatsapp etc) involving all concerned persons for better co-ordination they said it is very helpful. About health volunteer they opined that they may be useful in non-specialised work like shifting of patients, for providing information about hospital functioning, managing crowd & in educating public about disease and its danger signs.

### **Observations And Results**

#### **Data From Questionnaire**

Staff from Pharmacy department said that they also suffered due to huge crowd as it was very difficult to dispense medicines with properly explaining about them and suggested that health volunteer may help them also.

Person from medical record section suggested that daily data record analysis may show the trend of patient's inflow and may help in early application of various measures to deal with increased number of patients.

### **DISCUSSION**

Having reviewed the literature and after conducting Questionnaire based interactions, we reached the inference that certain social and management factors which are apart from the medical aspects, may as well be important in proper reprisal of an epidemic. We have drafted the following recommendations in the light of our pilot study, which may go a long way in managing epidemics in tertiary care hospitals

- Organising seminars & workshops for every section of staff dealing with patients including nursing staff and nursing orderlies along with doctors. Conducting seminars for paramedics is as important as for doctors. We also found a significant need to educate the auxiliary staff including the security guards about diseases in epidemic. This will be an important step in reducing the

episodes of violence that erupt during times of epidemics.

- These seminars should include topic related to Non-medical issues like crowd management along with medical education about dengue.
- Hospital should provide educational material & solutions related to daily issues to every staff through email/ social groups as most of staff is using internet services.
- Educating paramedical staff, patients & their attendants about Danger signs of disease.
- Training of guards placed at crowded places like casualty & OPDs regarding handling crowd efficiently to avoid ruckus.
- Educating preventive measures also to the patients & their attendants during hospital stay in which health volunteer may be helpful.
- Involvement of Medical record department in management team to understand the trend of patient inflow and timely application of measures to ensure quality delivery of services.
- Devoted staff for better triage & monitoring of already admitted patient in casualty.
- Effective pooling of doctors & staff from other departments in a planned way.
- Involving Social organisations to provide health volunteers and deploying them in planned way. These volunteer may help in various acts that does not requires professional expertise and can support lacking manpower during these outbreaks.
- Social networking group involving every layer of management from Nodal officer to nursing orderlies for faster communication and co-ordination.
- 24-hour 'May I help You service'.
- Planning for next season immediately after the end of season keeping in mind the mistakes & requirement faced during current season rather than planning after outbreak starts.
- Making a channel for getting patients feedback about hospital services and displaying good experiences of patients on hospital displays to increase trust among new patient about hospital services which will lead to fewer confrontations between staff & patient attendants.

- Separate casualty/emergency room for fever patients along with separate fever clinic to avoid congestion

## CONCLUSION

We conducted a pilot study to estimate the need of management skills in government hospitals for better management and disposal of health related issues. We employed various questionnaire based techniques to decipher the same. We focussed on the on-going outbreak of dengue and streamlined our efforts to reach a conclusion in the perspective of the same epidemic. We drew the inference that the role of a person from management background is pivotal in the proper disposal of health care. During study it was observed that every centre has its own sets of problems keeping in view the resources available and the public they cater so these efforts should be individualised for each centre. At the end of this observational study, we have made certain recommendations which may help build a better atmosphere among medical and nursing staff in the hospitals and which will go a long way in decreasing the chaos that often originates in hospitals during times of crisis like dengue epidemics.

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