

# Attitude of Healthcare workers towards Disaster Management practices in a Hospital of Gujarat

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**How to cite this article:** Kamlesh K. Patel, Manish Ramavat, Nimesh Bhojak, Palak J. Vora et al Attitude of Healthcare workers towards Disaster Management practices in a Hospital of Gujarat. Volume 13 | Issue 4 | October-December 2022

## Abstract

**Background:** Effective management of a disaster requires preparedness and appropriate attitude of healthcare workers. Attitude of the healthcare workers will impact their response during any emergency situation coping. This study was conducted to assess overall attitude towards disaster management among the healthcare staff of 650 bedded hospital in North Gujarat region.

**Methodology:** This is a cross sectional survey study carried out on 201 healthcare staff of the hospital under study. The data was collected through an online questionnaire consisting the demographic details of the participants and followed by questions regarding the attitude of participants toward disaster management and disaster management practices in the hospital. Data was coded and analysed with MS Excel and SPSS.

**Result:** From the responses we received, it was conclude that 45.8% staff of the study hospital have taken the training for disaster management and 44.8% staff have faced disaster during their work experience at the hospital. Among the respondents, majority are students (56.2%), nursing staff (25.4%), doctors (11.9%) and others (6.5%). Looking to their perception, 39.3% staff believes that the disaster preparedness in the hospital is sufficient, 22% says it is insufficient while 38.8% have neutral response.

**Conclusion:** Attitude of health care workers towards disaster management is very important as it impacts their response during any emergency situation. Study showed the awareness regarding the disaster occurrence and vulnerability of the hospital and health care workers' attitude requires improvement. Which can be positively impacted by trainings, mock-drills, making them aware about their roles during a disaster and disaster policy related information.

**Keywords:** Disaster management, Attitude, Perception, preparedness

## Introduction

A disaster is an unexpected event either natural or man-made origin which can cause great destruction of property, environment and human life.<sup>1,2</sup> Effective management of a disaster require preparedness and appropriate attitude. Attitude of the healthcare staff

will impact their response during any emergency situation handling.

Preparedness for any disaster requires implementation of various practices in the hospital and willingness of the healthcare workers to actively participate in the disaster management process. This

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practices of disaster preparedness should be a part of routine functioning of the hospital which allows the hospital to provide standardized care and efficient resource utilization during the disaster.<sup>3</sup>

There have been a lot of researches conducted across the globe about assessing the knowledge, attitude and practice regarding disaster management and disaster preparedness<sup>4-7</sup> among different healthcare workers like physician, nursing staff, emergency staff etc.<sup>8-10</sup> Factors impacting the disaster preparedness<sup>11-13</sup> which showed the staff requires adequate knowledge, ability to take the decision quickly<sup>7</sup> during any critical condition, knowing the disaster plan, effective communication within the hospital, ethical issues<sup>9</sup> and attitude to take a lead for effective Disaster management. Perception regarding disaster preparedness of a healthcare worker is influenced by training, experience, and support<sup>12</sup>. Proper education regarding disaster management, knowing their role during emergency might improve the disaster preparedness by improving coordination among the healthcare workers<sup>8</sup>.

Currently world is facing the complex disaster of SARS Cov-2 virus pandemic, even though the number of cases have been showing the variations, the hospitals need to be more resilient not only to fight with impact of Covid-19 pandemic but also as a part of preparation for upcoming challenges also.<sup>14</sup> Improving the overall attitude of health care worker towards disaster preparedness is also important along with strengthening the healthcare system, improving communication and technological aspects.

This study has been conducted to understand overall attitude towards disaster management among the healthcare workers of a 650 bedded hospital in North Gujarat region.

### Method:

This is a cross sectional survey study. The self - constructed questionnaire was prepared and sent through online mode i.e. Via Google form. Pilot survey was conducted to test the questionnaire. Informed consent was obtained in first part of the questionnaire itself. Other part consists of participant details including name, age, gender, work department, educational qualification, history of facing disaster, training status about disaster management etc. Third part of questionnaire consists of questions regarding attitude of participants towards managing the disasters. All the questions were based on five-point

Likert scale from 1 = disagree to 5 = strongly agree.

The study was carried out on the staff during the period of 5<sup>th</sup> may to 15<sup>th</sup> June 2021. The data as collected through online questionnaire consisting the demographic data and questions regarding disaster management. The questionnaire sent to 400 staff, among which 201 responded. Both male and female gender responded nearly equal percentage. Majority of participants fall in the age group of 21-30 years of age group.

We selected doctors, nursing staff, medical and nursing students, administrative staff, other paramedical staff working in the hospital including staff of isolation wards and ICU departments also.

Data was collected and statistical analysis was done with the help of MS excel and SPSS V.20. Descriptive statistics and frequency analysis were done. Reliability of data was checked with Cronbach's alpha test as shown in Table 2.

**Table 1: Details of the participants**

Demographics	Category	Frequency (Percentage %)
Gender	Male	99(49.3%)
	Female	102(50.7%)
Age	<20 years	05(2.5%)
	21-30 years	166(82.6%)
	31-40 years	26(12.9%)
	41-50 years	04(2%)
	>50 years	00(0%)
Educational Qualification	School	11(5.5%)
	Diploma	33(16.4%)
	Graduation	142(70.6%)
	Post- Graduation	15(7.5%)
Work Department	OT	13(6.5%)
	OPD	23(11.4%)
	ICU	41(20.4%)
	Wards	36(17.9%)
	Isolation ward	6(3%)
	Emergency	5(2.5%)
	Others (Labour room/ DEIC/ Covid registration/ Dental/ Physiotherapy)	77(38.3%)

Demographics	Category	Frequency (Percentage %)
Designation	Doctor/consultant	24(11.9%)
	Nursing staff	51(25.4%)
	Administrative staff	2(1%)
	Paramedical Staff	9(4.5%)
	Others	2(1%)
	Students	113(56.2%)
Work Experience	<1 year	122(60.7%)
	1-5 years	46(22.9%)
	5-10 years	23(11.4%)
	>10 years	10(5%)
Training Received	No	109(54.2%)
	Yes	92(45.8%)
Marital status	Unmarried	152(75.6%)
	Married	49(24.4%)
	Separated	00(0%)
Faced Disaster	Yes	90(44.8%)
	No	83(41.3%)
	Not sure	28(13.9%)

## Result

Among the respondents, ~ 60% had less than 1-year experience of working in the hospital. 92 respondents

**Table 3: Attitude towards disaster management practices**

	Items studied	Mean	Std. Deviation	Kurtosis
1	Do you think disaster occurs only due to natural causes	3.56	1.248	-.870
2	Perceived requirement of disaster management policy	4.55	1.095	5.030
3	I should know about disaster management policy	4.61	0.921	6.644
4	Our hospital is safe from disaster	2.49	1.297	-.739
5	Nothing can be done for the disaster	2.59	1.294	-.809
6	I should know about disaster management committees	4.63	0.886	8.120
7	Do you think mock drill helps in effective disaster management	4.35	0.959	1.842
8	Perceived requirement of mock drill for all staff	4.5	0.895	3.285
9	Perceived Requirement fire safety training for all staff	4.73	0.794	10.713
10	Perceived requirement for regular disaster management training	4.63	0.816	6.675
11	You should Know about your responsibility during disaster	4.71	0.83	10.155

(45.8%) had taken training for disaster management. 44.8% participants have faced disaster and 13.9% staff are not sure about they have faced any disaster or not.

Attitude towards disaster management includes knowing their responsibility during disaster, the importance of mock drills, willingness to attend fire safety training, feeling that the hospital is having sufficient preparedness for disaster, occurrence of disaster etc. Are included in the calculation. Total 16 questions were taken in consideration which had responses in five-point Likert scale from 1 (disagree) to 5 (strongly agree). Descriptive statistic of studied items is described in Table no.3

47.3% staff (n =95) had neutral, 24.9% staff had negative and 22.4% had positive attitude towards disaster management and preparedness. This survey was conducted during the ongoing Covid-19 pandemic.

**Table 2: Alpha Reliability of data**

Cronbach's Alpha [Alpha reliability]	Number of items
0.8205	16

The data was validated with Cronbach's alpha which was 0.8205, which showed the data was reliable and it is having good internal consistency.

	Items studied	Mean	Std. Deviation	Kurtosis
12	Staff experience helps in better management of disaster	4.6	0.879	5.561
13	Need for Upgradation of disaster management policy	4.6	0.861	6.178
14	Can we take uninformed leave during disaster?	2.2	1.518	-.754
15	Do you think the disaster preparedness in your hospital is sufficient?	3.25	1.174	-.567
16	Will you give First aid when a disaster Strikes?	4.53	0.944	4.677

## Discussion

There have been limited researches about disaster preparedness among healthcare workers in India emphasizing on educating health worker, better resource allocation, training, capacity building, psychological preparedness, communicating effectively and developing effective training tools for training of the healthcare worker and infrastructure development in India.<sup>15-18</sup>

Hospital staff working in the hospital should know the susceptibility or vulnerability of a hospital for type of disasters possible to occur, so they can be prepared in advance for coping up the emergency situation. Regular fire safety trainings, mock drills will keep health care workers prepared for unexpected crisis. Knowing their roles during disaster management practice and previous experience will aid the better management of disaster. Hospital should have updated disaster management plan and policy and health care worker working in the hospital should be aware of them.

**Table 4: Responses of questions regarding disaster management practices**

Items Studied	1 (Strongly Disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly Agree)
Do you think disaster occurs only due to natural causes	14 (7%)	21 (10.4%)	73 (36.3%)	25 (12.4%)	68 (33.8%)
Perceived requirement of disaster management policy	13 (6.5%)	3 (1.5%)	8 (4%)	13 (6.5%)	164 (81.6%)
I should know about disaster management policy	6 (3%)	6 (3%)	7 (3.5%)	22 (10.5%)	160 (79.6%)
Our hospital is safe from disaster	62 (30.8%)	38 (18.9%)	64 (31.8%)	15 (7.5%)	22 (10.9%)
Nothing can be done for the disaster	47 (23.4%)	61 (30.3%)	45 (22.4%)	24 (11.9%)	24 (11.9%)
I should know about disaster management committees	7 (3.5%)	1 (0.5%)	10 (5%)	24 (11.9%)	159 (79.1%)
Do you think mock drill helps in effective disaster management	4 (2%)	6 (3%)	27 (13.4%)	42 (20.9%)	122 (60.7%)
Perceived requirement of mock drill for all staff	3 (1.5%)	6 (3%)	19 (9.5%)	33 (16.4%)	140 (69.7%)
Perceived Requirement fire safety training for all staff	4 (2%)	4 (2%)	7 (3.5%)	13 (6.5%)	173 (86.1%)
Perceived requirement for regular DM training	3 (1.5%)	5 (2.5%)	10 (5%)	28 (13.9%)	155 (77.1%)

Items Studied	1 (Strongly Disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly Agree)
You should Know about your responsibility during disaster	5 (2.5%)	4 (2%)	6 (3%)	15 (7.5%)	171 (85.1%)
Staff experience helps in better management of disaster	4 (2%)	5 (2.5%)	14 (7%)	22 (10.9%)	156 (77.6%)
Need for Upgradation of disaster management policy	4 (2%)	5 (2.5%)	11 (5.5%)	27 (13.4%)	154 (76.6%)
Can we take uninformed leave during disaster?	104 (51.7%)	29 (14.4%)	24 (11.9%)	11 (5.5%)	33 (16.4%)
do you think the disaster preparedness in your hospital is sufficient?	20 (10%)	24 (11.9%)	78 (38.8%)	44 (21.9%)	35 (17.4%)
Will you give First aid when a disaster Strikes?	6 (3%)	4 (2%)	16 (8%)	27 (13.4%)	148 (73.6%)

Providing information about disaster management practices, actions allotted to them during emergency, regular mock-drills and trainings will significantly enhance the attitude of health care workers towards better disaster management.

Studies have shown that there are insufficient knowledge among healthcare workers about the disaster management and about their roles during emergencies will negatively impact their responses.<sup>19-21</sup> The knowledge can be improved with emphasising more on teaching and practical training sessions regarding disaster management during learning phase of health professionals. Preparations of to be doctors and nursing staff for better responding to healthcare crisis can be achieved by specific curriculum inclusion in the medical curriculum itself.<sup>22</sup> When medical students are not exposed with disaster management training, this may affect community health once their independent practices starts.<sup>23</sup> For combating the upcoming challenges, it is beneficial to have pandemic preparedness subject in medical curricula to strengthen the resilience among frontline healthcare workers.<sup>20,22,24,25</sup>

Effective training which include simulation trainings, mock drills, evaluating the improvement among health care worker by trainings through assessing knowledge and preparedness are essential for providing timely care to the patients during crisis.<sup>26</sup> One study conducted in Tanzanian regional hospitals, gap found in disaster preparedness of health professionals and their response during emergencies.<sup>27</sup> Conducting disaster training

programmes along healthcare workers or students will aid gaining the knowledge and acquire the skill, but practical implications are limited and requires constant monitoring and evaluation of participants' response during an emergency situation.<sup>28,29</sup>

Current study showed that 23.8% staff believes that nothing can be done for any disaster. Among the respondents [45.8% trained for disaster management and 44% faced disaster in past] showed that there was requirement of effective training of disaster management to all the staff. 90% staff agrees that they should know about the hospital's disaster management policy. 39.3% staff believes that the disaster preparedness in the hospital is sufficient, 22% says it is insufficient while 38.8% have neutral response. This perception will also impact their response during the disaster. Healthcare workers of the hospital showed positive attitude towards giving first aid whenever a disaster strikes (87%) internally or during an external disaster also. While some health care worker believes that they can take un-informed leave during the disaster (21.9%).

Limitation of the study is that, it was conducted in a single tertiary care hospital. And the questionnaire was based on individual perceptions, which might also be influenced by personal factors or work-related factors also.

## Conclusion

Disasters are sudden and inevitable for any hospital or community, hospital's response to which becomes crucial to save human lives during the critical time. Attitude of health care workers towards disaster

management is very important as it impacts their response during any emergency situation. Looking to the overall attitude of the staff, 22.4% were having positive attitude, 24.9% health care staff had negative attitude, and 47.9% staff were having neutral response. The Study showed the awareness of healthcare workers regarding the disaster management policies and their role during the disaster, requires improvement at the study hospital. Their willingness to provide urgent care in critical time is strongly on positive side showing their dedication of work even in challenging situations. Still, there is a need of conducting more trainings and continuous observation studies for disaster preparedness in the hospital.

**Declaration:** This research is a part of a major research project of corresponding author for Masters in Hospital Management course at Hemchandracharya North Gujarat University, Patan, Gujarat.

**Ethical Clearance:** Not required as it was a cross sectional online survey study. The identity of participants and hospital have not been disclosed anywhere in the study.

**Source of Funding:** Nil

**Conflicts of interest:** Nil

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