

A PROSPECTIVE KAP STUDY ON DISASTER MANAGEMENT OF HEALTHCARE STAFF

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ABSTRACT

The study is designed and conducted to understand the baseline of knowledge, attitude and practice towards disaster management among health care providers. Sampling is done among nurses, housekeeping and security staff to obtain statistically significant findings, based on which targeted intervention can be planned. The key findings suggest that level of education and year of experience at hospital had an effect on knowledge about disaster management. Major problem area found were knowledge about who is incident commander during disaster, during which phase of disaster management hospitals play most important and where hospital's disaster management plan can be found. Nurses had positive attitude towards disaster management they agreed to that hospital should have disaster management plan, they should know about disaster plan, effects of disaster can be reduced, mock drills should be conducted regularly and for all classes of staff, they know their responsibility during disaster but majority agreed to that hospital is unlikely to be affected by disaster. 93.89% of correct responses was obtained in practice section in case of nurses. Level of education and year of experience at hospital they are currently working had an effect on knowledge about current practices of disaster management at their hospital. Regular and frequent training should be conducted regarding basic knowledge about what disaster situation is, disaster management, phases of disaster management, disaster preparedness, hospital's role in different phases of disaster management cycle.

INTRODUCTION

Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural and man-made causes, or by accident or negligence which result in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation of, environment, and is of such a nature or magnitude or as to be beyond the coping capacity of the community of the affected area.

WHO defines a disaster as an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community.

Disasters disrupt progress and destroy the hard-earned fruits of painstaking developmental efforts, often pushing nations, in quest for progress, back by several decades. Thus, efficient management of disasters, rather than mere response to their occurrence has, in recent times, received increased attention both within India and abroad. This is as much a result of the recognition of the increasing frequency and intensity of disasters as it is an acknowledgment that good

governance, in a caring and civilized society, needs to deal effectively with the devastating impact of disasters.

India is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. 58.6 per cent of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12 per cent of land) is prone to floods and river erosion; of the 7,516 km long coastline, close to 5,700 km is prone to cyclones and tsunamis; 68 per cent of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches. Vulnerability to disasters/ emergencies of Chemical, Biological, Radiological and Nuclear (CBRN) origin also exists. Heightened vulnerabilities to disaster risks can be related to expanding population, urbanization and industrialization, development within high-risk zones, environmental degradation and climate change.

Delhi is also vulnerable to a large number of natural as well as man-made disasters. Delhi have a high population density, extensive physical infrastructure, heavy vehicular traffic all contributing to make a disaster situation as a mega disaster situation. Delhi is at very high risk of terrorist attacks, high risk of earthquake (Zone IV), road accidents, chemical and industrial accidents, moderate to high risk of floods, medium risk of epidemics and fire and low risk of wind storms.

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http://dx.doi.org/10.20530/IJTA_33_129-134

ISSN 2320-138X © 2016

AIM AND OBJECTIVES

General objective:

To determine the level of knowledge, attitude and practice about disaster management among Nurses, housekeeping and security staff of a tertiary care hospital in New Delhi.

Specific objectives:

1. To determine the level of knowledge about disaster management among Nurses, housekeeping and security staff of a tertiary care hospital in New Delhi.
2. To determine the attitude towards disaster management among Nurses, housekeeping and security staff of a tertiary care hospital in New Delhi.
3. To determine the level of knowledge towards current practices of disaster management among Nurses, housekeeping and security staff in a tertiary care hospital in New Delhi.
4. To suggest further on training needs of the Nurses, housekeeping and security staff.

RESEARCH QUESTION

What is the level of knowledge, attitude and practice about disaster management among Nurses, housekeeping and security staff of a tertiary care hospital in New Delhi?

MATERIAL AND METHODS

Study Area:

A tertiary care hospital in New Delhi.

It is quantitative, prospective cross-sectional study using close ended self-administered structured questionnaire. The study was conducted for Nursing, housekeeping and security staff as they are the most important people for proper functioning of the hospital and plays an important role at the time of disaster. The staff from the following area were included in the study: ICU, casualty, OT, HDU, all wards.

Sampling method :

Simple random sampling was carried out from the cluster of staff. Wards/ areas/ departments/ check posts were taken as clusters.

Sample size :

25% of the total nursing staff, housekeeping staff and security staff from each ward/ area/ department/ check posts was taken as the sample size for the study including the dropouts, missed and lost cases. This amounted to approximately 112 staff members. The indirect identifiers were used for staff and informed consent was obtained from the staff before participating in the study.

Inclusion criteria:

- 1) Subjects (Nurse, housekeeping and security staff) who are working for more than 6 months in the hospital.
- 2) Subjects (Nurse, housekeeping and security staff) who were willing to participate in the study.

Exclusion criteria:

- 1) Nursing In-Charges, Speciality nurses, housekeeping and security supervisors were excluded from the study.

Data collection tool and technique:

A self-administered, pre tested, structured questionnaire with 30 questions was used for data collection. 10 questions each regarding knowledge, attitude and practice towards disaster management in the hospital was asked from the participating staff members. Bilingual questionnaire was used for ease of understanding and to elicit true response by Hindi speaking staff in housekeeping and security department. Questionnaire included following:

- Informed consent
- Demographic details
- Knowledge based questions (10)
- Attitude based questions (10)
- Knowledge about current practice based questions (10)

RESULTS

The table 1 shows that out of total 54 nurses, 41 (75.92%) nurses belong to the age group 20-30 years, 12 (22.22%) nurses belong to the age group 30-40 years and 1 (1.85%) nurse belong to the age group 40+ years. Out of total 45 housekeeping

Table 1: Percentage distribution of subjects with respect to age groups

Age groups	Nurses	Housekeeping	Security
20-30	41 (75.92%)	36 (80%)	3 (37.5%)
30-40	12 (22.22%)	8 (17.78%)	3 (37.5%)
40+	1 (1.85%)	1 (2.22%)	2 (25%)
Total	54 (100%)	45 (100%)	8 (100%)

Table 2: Educational distribution of Nurses, Housekeeping & security staff Education qualification and their age groups

	Education Qualification	Age group			Total
		20-30	30-40	40+	
Nurses	B.Sc. Nursing	6 (14.63%)	2 (16.67%)	0 (0%)	8 (14.81%)
	GNM	35 (85.37%)	10 (83.33%)	1 (100%)	46 (85.18%)
	Total	41 (100%)	12 (100%)	1 (100%)	54 (100%)
Hkp. staff	Primary	9 (25%)	5 (62.5%)	1 (100%)	15 (33.34%)
	Secondary	19 (57.58%)	3 (37.5%)	0 (0%)	22 (48.88%)
	Senior Secondary	8 (24.24%)	0 (0%)	0 (0%)	8 (17.78%)
Security staff	Total	36 (100%)	8 (100%)	1 (100%)	45(100%)
	10 th	1 (33.33%)	2 (66.67%)	2 (100%)	5 (62.5%)
	12 th	2 (66.67%)	1 (33.33%)	0 (0%)	3 (37.5%)
	Total	3 (100%)	3 (100%)	2 (100%)	8 (100%)

Table 3: Gender distribution of staff Nurses, Housekeeping & security staff

	Gender	Age group			Total
		20-30	30-40	40+	
Nurses	Male	10 (24.39%)	5 (41.67%)	0 (0%)	15 (27.78%)
	Female	31 (75.61%)	7 (58.33%)	1 (100%)	39 (72.22%)
	Total	41 (100%)	12 (100%)	1 (100%)	54 (100%)
Housekeeping staff	Male	32 (88.89%)	7 (87.5%)	1 (100%)	40 (88.89%)
	Female	4 (11.11%)	1 (12.5%)	0 (0%)	5 (11.11%)
	Total	36 (100%)	8 (100%)	1 (100%)	45 (100%)
Security staff	Male	3 (37.5%)	3 (37.5%)	2 (25%)	8 (100%)
	Female	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total	3 (100%)	3 (100%)	2 (100%)	8 (100%)

staff, 36 (80%) housekeeping staff belong to the age group 20-30 years, 8 (17.78%) housekeeping staff belong to the age group 30-40 years and 1 (2.22%) housekeeping staff belong to the age group 40+ years. Out of total 8 security staff, 3 (37.5%) security staff belong to the age group 20-30 years, 3 (37.5%) security staff belong to the age group 30-40 years and 2 (25%) security staff belong to the age group 40+ years.

Table 2 shows education qualification, out of total 54 nurses, 8 (14.81%) have pursued B.Sc. Nursing and 46 (85.18%) have pursued GNM. Out of total 41 nurses in age group 20-30, 6 (14.63%) have pursued B.Sc. Nursing and 35 (85.37%) have pursued GNM. Age wise, education distribution is also elicited in the table for all the carder of staff. Out of total 45 housekeeping staff, 15 (33.34%) have pursued Primary education, 22 (48.88%) have pursued Secondary education and 8 (17.78%) have pursued Senior Secondary education.

Table 3 shows gender distribution, out of total 54 nurses, 15 (27.78%) were male and 39 (72.22%) were female. Age wise gender distribution is also depicted in the table for all carders of staff.

Table 4 shows years of work experience in hospital currently working, out of total 54 nurses, 2 (3.7%) had less than 1 year work experience, 36 (66.67%) had 1-5 years' work experience, 15 (27.78%) had 5-10 years' work experience and 1 (1.85%) had more than 10 years' work experience. Age wise distribution of work experience is also depicted in the table for each category of staff.

Table 5 shows education and work experience wise percentage distribution of the staff across the spectrum.

Attitude:

The subsequent section consists of results related to the attitudinal questions w.r.t the area of concern, across the various carders of staff.

Table 4: Distribution of Nurses, Housekeeping and security staff Years of work experience at hospital currently working and their age groups

	Work experience	Age group			Total
		20-30	30-40	40+	
Nurses	less than 1 year	2 (4.88%)	0 (0%)	0 (0%)	2 (3.70%)
	1-5 years	30 (73.17%)	6 (50%)	0 (0%)	36 (66.67%)
	5-10 years	9 (21.95%)	5 (41.67%)	1 (100%)	15 (27.78%)
	more than 10 years	0 (0%)	1 (8.33%)	0 (0%)	1 (1.85%)
	Total	41 (100%)	12 (100%)	1 (100%)	54 (100%)
Housekeeping	less than 1 year	8 (22.22%)	2 (25%)	0 (0%)	10 (22.22%)
	1-5 years	28 (77.78%)	6 (75%)	1 (100%)	35 (77.78%)
	5-10 years	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	more than 10 years	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total	36 (100%)	8 (100%)	1 (100%)	45 (100%)
Security	less than 1 year	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	1-5 years	2 (66.67%)	1 (33.33%)	0 (0%)	3 (37.5%)
	5-10 years	1(33.33%)	1 (33.34%)	1 (50%)	3 (37.5%)
	more than 10 years	0 (0%)	1 (33.33%)	1 (50%)	2 (25%)
	Total	3 (100%)	3 (100%)	2 (100%)	8 (100%)

Table 5: Percentage distribution of knowledge of staff about Disaster Management

% Knowledge of sampled nursing staff	Education		Work experience at ISIC			
	GNM	B.Sc. Nursing	less than 1 year	1-5 years	5-10 years	more than 10 years
67.78%	66.52%	75%	60%	67.78%	68%	80%
% Knowledge of sampled hkp staff	Education		Work experience at ISIC			
	Primary	Secondary	Senior Secondary	less than 1 year	1-5 years	
58.22%	56.67%	58.64%	60%	59%	58%	
% Knowledge of sampled security staff	Education		Work experience at ISIC			
	10 th	12 th	1-5 years	5-10 years	more than 10 years	
72.50%	74%	70%	73.33%	76.67%	65%	

a) Nurses:

b) Housekeeping staff:

c) Security staff:

conducted in tertiary care hospital in New Delhi. The study included a total of 107 samples out of which 54 were nurses, 45 were housekeeping staff and 8 were security staff. Sampling method used was cluster simple random sampling. Questionnaire used had total 30 questions; 10 knowledge based multiple choices, 10 attitude based 4-point Likert scale and 10 knowledge about current practice of disaster management in their hospital based multiple choice. The questionnaires were distributed and later collected. The response rate was 100% in case of nursing and security staff but 90% in case of housekeeping staff.

With respect to Practice for disaster management the following is seen for all the carder of staff:

DISCUSSIONS

The study was aimed to determine the level of knowledge, attitude and knowledge about practice of disaster management among nurses, housekeeping and security staff. This was a prospective cross-sectional hospital based study

Table 6: Attitude of nurses towards Disaster Management

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. It is necessary to have a disaster management plan.	68.52%	31.48%	0%	0%
2. I should know about the disaster plan	44.45%	55.55%	0%	0%
3. Do you believe that your hospital is unlikely to be affected by any type of disaster	30.18%	33.98%	16.98%	18.86%
4. Disasters are God's will and nothing can be done to reduce the effect of disaster.	5.66%	16.98%	18.86%	58.49%
5. Mock drills can help in better management during disasters.	64.82%	31.48%	0%	3.70%
6. Mock drills should be conducted for all classes of staff	53.70%	42.60%	1.85%	1.85%
7. Regular training should be given for disaster management.	46.30%	51.85%	1.85%	0%
8. Effect of disasters can be reduced by Disaster Management Plan.	44.44%	50%	5.56%	0%
9. Do you know your responsibility during a disaster	38.89%	33.33%	22.22%	5.56%
10. Is it advisable to take an uninformed leave during a disaster	5.56%	11.11%	42.59%	40.74%

Table 7: Attitude of Housekeeping staff towards Disaster Management

	Yes	Can't say	No
1. It is necessary to have a disaster management plan.	88.89%	0%	11.11%
2. I should know about the disaster plan	86.67%	6.67%	4.44%
3. Do you believe that your hospital is unlikely to be affected by any type of disaster	16.28%	55.81%	13.95%
4. Disasters are God's will and nothing can be done to reduce the effect of disaster.	30.95%	26.19%	42.86%
5. Mock drills can help in better management during disasters.	90.70%	6.98%	2.33%
6. Mock drills should be conducted for all classes of staff	93.33%	0.00%	6.67%
7. Regular training should be given for disaster management.	91.11%	2.22%	6.67%
8. Effect of disasters can be reduced by Disaster Management Plan.	90.00%	7.50%	2.50%
9. Do you know your responsibility during a disaster.	93.33%	0.00%	6.67%
10. Is it advisable to take an uninformed leave during a disaster.	15.91%	6.82%	77.27%

Table 8: Attitude of Security staff towards Disaster Management

	Yes	Can't say	No
1. It is necessary to have a disaster management plan.	100%	0%	0%
2. I should know about the disaster plan	100%	0%	0%
3. Do you believe that your hospital is unlikely to be affected by any type of disaster	25%	62.50%	12.50%
4. Disasters are God's will and nothing can be done to reduce the effect of disaster.	12.50%	50%	37.50%
5. Mock drills can help in better management during disasters.	87.50%	0%	12.50%
6. Mock drills should be conducted for all classes of staff	100%	0%	0%
7. Regular training should be given for disaster management.	100%	0%	0%
8. Effect of disasters can be reduced by Disaster Management Plan.	85.71%	0%	14.29%
9. Do you know your responsibility during a disaster.	100%	0%	0%
10. Is it advisable to take an uninformed leave during a disaster.	0%	0%	100%

Table 9: Percentage distribution of Nurses knowledge about current practices of Disaster Management at their hospital

Total		Education		Years of experience at hospital currently working			
% Knowledge of sampled nurses		GNM	B.Sc. Nursing	< 1 year	1-5 years	5-10 years	> 10 years
93.89%		93.26%	97.50%	95%	93.89%	93.33%	100%
Total		Education		Years of experience at hospital currently working			
% Knowledge of sampled hkp staff		Primary	Secondary	Senior Secondary	< 1 year	1-5 years	
70.44%		75.33%	67.73%	68.75%	68%		71.14%
Total		Education		Years of experience at hospital currently working			
% Knowledge of sampled security staff		10th	12th	1-5 years	5-10 years	> 10 years	
86.25%		86%	86.67%	83.33%	86.67%		90%

ACKNOWLEDGMENT

The conception and culmination of this study would not have been possible without unconditional support and guidance given by the Medical Director of Indian Spinal Injuries Centre, Dr. H.S.Chhabra. We would take this opportunity to thank him and the management of ISIC for allowing us to conduct the study.

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