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Original Research Article

Knowledge and awareness on disaster management among medical professionals of a selected public and private medical college hospital

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ABSTRACT

Background: Disaster causes widespread destruction, disrupting people's lives and causing human suffering with communities finding it difficult to cope. When the disaster occurs, human beings may not have the power to stop it from occurring, nevertheless they may have the power and ability to adapt or minimize the impact of the disaster on their lives. This study was aimed to assess the level of knowledge and awareness on disaster management among medical professionals.
Methods: A cross-sectional study was conducted among the medical professionals from two selected medical college hospitals in Dhaka city of Bangladesh from January to April 2017. A total of 120 samples were selected purposively using two stages sampling technique. The data was collected using self-administered semi-structured questionnaire and was analysed using SPSS 20.0 version.
Results: In this study half 60 (50.0%) of the study participants were in the age group 20-30 years and about 77.5% of the study participants were Muslims. About 64.2% of the study participants had less than 11 years of professional experience. Only 10 (8.3%) of the study participants had attended training on disaster management. About 30.0% of the study participants had good level of knowledge and only 49.2% had high level of awareness.
Conclusions: The findings revealed that most of the study participants had not attended any training on disaster management. It also reported that the majority of the study participants had poor level of knowledge. Evacuation exercises need to be done for the entire hospital at least twice a year.

Keywords: Disaster, Management, Medical, Participants, Professionals

INTRODUCTION

Disasters are stressful events for the community at large not only among the individuals who suffer from the personal loss.[1,2] Natural or human-made disasters, are inevitable, there are some ways to prevent and manage how people and their communities respond to a disaster. It is also a sudden extraordinary event that causes a great loss, damage, destruction and injury to people and their environment.[3] More than 3 million families have been affected with natural hazards around the world in the past two decades from an economical perspective. The occurrence and human consequences of disasters have been increasing due to the increasing population.[4] After disaster occur, human beings may not have the power to stop it from occurring, however they may have the power and ability to adapt, survive, and minimize the impact of the disaster on their lives.[5] Disasters have affected efforts to achieve MDGs, specifically the target of halving extreme poverty by the year 2015.[6] The importance of reducing disaster risk is shown by the many efforts being made by different governments, the United Nations and

other organizations. These efforts include the Yokohama strategy of 1994 and later the Hyogo Framework for Action 2005-2015 aimed at building resilience of nations and communities to disasters with an expected outcome of a substantial reduction of disaster losses in lives and in the social, economic and environmental assets of communities and countries.[6]

Disasters have a potential of producing mass casualties thereby straining the health care systems. This showed that the hospitals need to be prepared for an unusual increase in workload, hence the importance of hospital disaster preparedness.[5] Hospitals must prepare for the possibility of disaster within the facility as a requirement of accreditation and licensure. Healthcare providers have been less inclined to confront the possibility that disruption may occur within the facility itself and undermine their ability to provide care.[7] Globally hospitals have been involved in disasters, both internally and externally. These two types of disasters are independent, but not mutually exclusive. Internal disasters are isolated to the hospital and occur more frequently than do external disasters. External disasters affect the community as well as the hospital.[8] The employees need to know the disaster management plan of their organization. Healthcare facilities are required to have regular, periodic fire and disaster drills to allow their staff to practice emergency skills.[9] Hospitals and health centers are complex that play a critical role in disaster situations. So due to that, special consideration must be given to disaster planning for these facilities.[10]

The Bangladeshi people have been one of the worst victims of natural disasters in the world. They are facing and learning to live with natural disasters are equally an ancient preoccupation. Disaster management in independent Bangladesh has undergone a complex process of development. However, it received its impetus from concrete challenges faced at home, it also received inputs from developments, institutions and policies outside Bangladesh. In the process, Bangladesh has developed a workable system of disaster management that includes a set of mechanisms and processes, as well as a whole range of ways and means for the management of disasters. The prevailing system of disaster management in Bangladesh could be of considerable importance to others involved in the same venture elsewhere in the world.[11] This study was aimed to assess the level of knowledge and awareness on disaster management among medical professionals of a selected public and private medical college hospital.

METHODS

A cross-sectional study was conducted among the medical professionals from two selected medical college hospital in Dhaka city of Bangladesh to assess their level of knowledge and awareness on disaster management. The study was conducted among the medical professionals of Dhaka Medical College Hospital (DMCH) and Enam Medical College Hospital (EMCH) for a period of four months (January to April 2017). The study population were medical professionals i.e. Doctors, Nurses, Radiologist, Medical Laboratory Technologist, and Pharmacists of a selected two medical college hospitals.

A total of 120 samples were selected purposively using two stages sampling technique. Firstly, two tertiary care hospitals were selected and the selected of samples was followed by a Simple Random Sampling Technique with population proportional to size accordingly. Studied samples were divided into two hospitals. A 60 medical professionals from each public and private medical college hospital were selected. From five categories of medical professionals, each group 24 respondents (24-Doctors, 24-Nurses, 24-Radiologist, 24-MLT and 24-Pharmacist) were taken to participate in the present study, 12 from each of a category in the selected public and private medical college hospitals. The medical professionals who were available and had more than 6 months job experience been included. However, those who were severely ill or absent at the time of data collection were excluded.

To find out the reliability, validity and practicability for the modification of the questioners, pre-test had been done among 10 medical professionals in the Dhaka Shishu Hospital (Pediatric Hospital) before finalizing the instruments. According to the results of pre-testing necessary modification was done. The information was collected using self-administered semi-structured questionnaire. All the collected data were coded numerically and entered into the SPSS 20.0 version for the statistical analysis. The descriptive analysis of data was presented as tables.

All ethical issues related to this research was addressed according to guidelines of ethical review committee of State University of Bangladesh (SUB). Permission was taken from each departmental head, hospital director, Nursing Superintendent for data collection from the selected hospital authority. Written informed consent was taken from the study participant before starting the data collection. Confidentiality of the respondents was maintained, and the informed consent form was translated into local language (Bengali). There was the right to the study participants to withdraw at any time from the study procedure.

RESULTS

Table 1 showed that about half 60 (50%) of the study participants were in the age group 20-30 years and most of the study participants in this age group were from private hospital 41 (68.3%) and the remaining were from public hospital 19 (31.7%). Most of the study participants 62 (51.7%) were female and the rest were male 58 (48.3%). However, the majority of the female study participants were from public hospital 35(58.3%). About

77.5% of the study participants were Muslims, followed by Hindu 19(15.8%) and the remaining were Christian 8 (6.7%).

Table 1: Socio-demographic characteristics of the respondents (n=120).

Variables	Hospital				Total N (%)
	Public		Private		
	N	%	N	%	
Age (years)					
20-30	19	31.7	41	68.3	60 (50.0)
31-40	26	43.3	6	10.0	32 (26.7)
41-50	9	15.0	8	13.4	17 (14.2)
>50	6	10.0	5	8.3	11 (9.1)
Gender					
Male	25	41.7	33	55.0	58 (48.3)
Female	35	58.3	27	45.0	62 (51.7)
Religion					
Muslim	45	75.0	48	80.0	93 (77.5)
Christian	6	10.0	2	3.3	8 (6.7)
Hindu	9	15.0	10	16.7	19 (15.8)
Marital status					
Single	11	18.3	34	56.7	45 (37.5)
Married	47	78.3	26	43.3	73 (60.8)
Divorced	2	3.3	0	0.0	2 (1.7)
Professional experience (years)					
<11	30	50.0	47	78.3	77 (64.2)
11-20	21	35.0	6	10.0	27 (22.5)
21-30	4	6.7	4	6.7	8 (6.7)
>30	5	8.3	3	5.0	8 (6.7)

The majority of the study participants 73 (60.8%) were married. Most of the study participants 47(78.3%) from public hospital were married on the other hand most of the study participants 34 (56.7%) from private hospital were single. About 64.2% of the study participants had less than 11 years of professional experience. Followed by 11-20 years 27 (22.5%).

More than seven-tenths 47 (78.3%) of the study participants from private hospital had less than 11 years of service experience, on the other hand only 30 (50.0%) had less than 11 years of service experience.

Distribution based on training on disaster management

Table 2 showed that about 91.7% of the study participants had not attended training on disaster management and the only 10 (8.3%) had attended training on disaster management.

Among the study participants that attended training on disaster management most of them 6 (10.0%) were from public hospital and on the other hand only 4 (6.7%) among them were from private hospital.

Table 2: Distribution based on training on disaster management (n=120).

Training	Hospital				Total N (%)
	Public		Private		
	N	%	N	%	
Yes	6	10.0	4	6.7	10 (8.3)
No	54	90.0	56	93.3	110 (91.7)
Total	60	100.0	60	100.0	120 (100.0)

Distribution of respondent according to level of knowledge

Table 3 Showed that the majority 41 (34.2%) of the study participants had poor level of knowledge, followed by good level of knowledge 36 (30.0%), below one-fifths 22 (18.3%) of the study participants had average level of knowledge and the remaining 21 (17.5%) had excellent level of knowledge. Among the study participants that had poor level of knowledge most of them 22 (36.7%) were from public hospital and on the other hand about 31.7% had poor level of knowledge. It also showed that most of the respondents who had excellent level of knowledge 11 (18.3%) were from private hospital, on the other hand only 10 (16.7%) had excellent level of knowledge.

Table 3: Distribution of respondent according to level of knowledge (n=120).

Level	Hospital				Total N (%)
	Public		Private		
	N	%	N	%	
Poor knowledge	22	36.7	19	31.7	41 (34.2)
Average knowledge	8	13.3	14	23.3	22 (18.3)
Good knowledge	20	33.3	16	26.7	36 (30.0)
Excellent knowledge	10	16.7	11	18.3	21 (17.5)
Total	60	100.0	60	100.0	120 (100.0)

Distribution of respondents according to level of awareness

Table 4: Distribution of respondents according to level of awareness (n=120).

Level	Hospital				Total N (%)
	Public		Private		
	N	%	N	%	
Low level of awareness	31	51.7	30	50.0	61 (50.8)
High level of awareness	29	48.3	30	50.0	59 (49.2)
Total	60	100.0	60	100.0	120 (100.0)

Table 4 Showed that little above half 61 (50.8%) of the study participants had low level of awareness about disaster management and the remaining 59 (49.2%) had high level of awareness. Among the respondents with high level of awareness most of them 30 (50.0%) were from private hospital and the rest were from public hospital 29 (48.3%).

DISCUSSION

In this study about 91.7% of the study participants had not attended training on disaster management and the only 8.3% of them had attended training on disaster management. Among the study participants that attended training on disaster management most of them (10.0%) were from public hospital and on the other hand only (6.7%) among them were from private hospital. That means public hospital workers used to attend a training more than their counterpart. A study reported that in order to develop a disaster preparedness plan, elements of disaster planning, emergency coordination, communication, training, availability of equipment, and expansion of laboratory capacities should be included.[12] Attending training about disaster management is an important factor in healthcare sector, though most of studied respondents had not attended any training about disaster management. A study reported that 32% of the hospital nurses were aware of Disaster nursing knowledge before attending training, and 51.7% of them knows about it after they attended a training.[13]

The majority (34.2%) of present study participants had poor level of knowledge, and only 30% among them had good level of knowledge about the disaster management. A study reported that the knowledge about disaster preparedness and mitigation are essential for medical personels.[14] Among those that had poor level of knowledge most of them (36.7%) were from public hospital and on the other hand about 31.7% had poor level of knowledge. It also showed that most of the respondents who had excellent level of knowledge (18.3%) were from private hospital, on the other hand only (16.7%) had excellent level of knowledge. The level of knowledge of studied respondents was poor. However, it can be improved through orientations, seminars, workshops and conducting similar practical exercises.[15]

This study also reported that little above half (50.8%) of the study participants had low level of awareness about disaster management and only 49.2% had high level of awareness. In a similar study conducted by Rajesh et al. reported that the level of awareness was found to be 85.78%.[16] Another study also reported that the majority of the study participants had low level of awareness about all components of the disaster plan preparedness.[17] Among the respondents with high level of awareness most of them (50.0%) were from private hospital and the rest were from public hospital (48.3%). A study conducted among nurses reported that approximately 40% of studied nurses were unaware that their hospital has an emergency plan.[18] The lack of awareness about the disaster plan and its related items is quite alarming. The shortage in the required local knowledge and capacity would lead to the inability to manage disasters even if there is a written plan.[19]

CONCLUSION

The findings revealed that most of the study participants had not attended any training on disaster management. It also reported that the majority of the study participants had poor level of knowledge, only 30.0% of them good level of knowledge. It further revealed that little above half of the study participants had low level of awareness about disaster management. The medical professional was found to have low level of knowledge and awareness about disaster management.

Recommendations

To improve the knowledge and awareness of medical professionals at selected public and private medical college hospital the following recommendations are made: Training of all medical professionals should be institute, evacuation exercises need to be done for the entire hospital at least twice a year and the disaster committee should ensure that all medical professionals to know where and how the plans is.

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