



ISSN Print: 2394-7500  
ISSN Online: 2394-5869  
Impact Factor: 8.4  
IJAR 2022; 8(9): 168-174  
[www.allresearchjournal.com](http://www.allresearchjournal.com)  
Received: 21-06-2022  
Accepted: 26-07-2022

**Sonia**  
Assistant Professor,  
Department of Community  
Health Nursing, College:  
Rattan Professional Education  
college, Mohali (Punjab),  
Studying Place: Rufaida  
College of Nursing, Jamia  
Hamdard University New  
Delhi, India

## A study to assess the effectiveness of structured education and awareness programme on disaster preparedness among inhabitants of selected community of New Delhi

**Sonia**

### Abstract

**Introduction:** India with its vast population and unique geo-physical characteristics is one of the world's most disaster-prone countries. The present study is taken under research to assess the effectiveness of education and awareness programme on disaster preparedness among inhabitants of selected community of New Delhi. The objectives were to assess their knowledge on disaster preparedness, to develop, administer and evaluate the effectiveness of education and awareness program on disaster preparedness, to determine the association between post test knowledge on disaster preparedness and selected demographic variables such as age, sex, education, occupation and previous disaster experience among community inhabitants.

**Methodology:** Research approach selected for the study was quantitative approach with pre experimental one group pre test and post design. The sample comprised of 60 community inhabitants of Mohan Baba Nagar, Badarpur, selected by purposive sampling. Tool developed and used for data collection was structured knowledge questionnaire to assess the effectiveness of education and awareness programme on disaster preparedness among community inhabitants on aspects of disaster and disaster preparedness. Tool was translated in local spoken language i.e. Hindi and administered through paper and pencil method.

**Results:** Finding revealed significantly statistical difference between mean pre-test and post test scores. The mean post-test knowledge scores (29.87) of community inhabitants regarding disaster preparedness was higher than their mean pre-test knowledge scores (20.85) with a mean difference of 9.02 and computed 'z'-value (7.973). There was no significant association between post-test knowledge scores and age, sex, education, occupation and previous experience of disaster of the subjects.

**Conclusion:** The education and awareness program on Disaster Preparedness developed by the researcher was found to be effective in enhancing the knowledge of community inhabitants.

**Keywords:** Knowledge, disaster, disaster preparedness, community inhabitants, education and awareness programme

### Introduction

India with its vast population and unique geo-physical characteristics is one of the world's most disaster-prone countries. Natural hazards such as cyclones, earthquakes, drought, floods or landslides occur in different parts of India in varying intensity. This means that we are all vulnerable in different degrees to disaster caused by these hazards. In India over 55% of the land area is vulnerable to earthquakes, 12% to floods, 8% to cyclones and 70% of the land under cultivation is prone to drought. On the East Coast, cyclones occur frequently. In the interior of the Plateau or in the Himalayas-earthquakes, and in the Ganga-Brahmaputra plain, floods are common. Rajasthan or western Orissa often experiences severe drought, as do other areas in South India.

In addition to this, social conditions that govern the way communities live, further affect the extent to which people are affected by the hazard. In order that we protect ourselves from the harmful effects of a disaster, we have to prepare ourselves in advance to face them better<sup>[1]</sup>. Every country is at the risk of exposure to some type of disaster, whether natural or manmade. Citizens of all the nations should be made aware about the common disasters that can hit the area and be prepared to combat its effects.

**Corresponding Author:**  
**Sonia**  
Assistant Professor,  
Department of Community  
Health Nursing, College:  
Rattan Professional Education  
college, Mohali (Punjab),  
Studying Place: Rufaida  
College of Nursing, Jamia  
Hamdard University New  
Delhi, India

The local residents must also be aware of how they can effectively participate in preparing for a disaster, mitigating potential impacts of a disaster and the recovery process after a disaster. One of the most effective mechanisms for a country to prepare for a disaster is by conducting education and public awareness program at the local community level. Public awareness in disaster preparedness is a process of educating and empowering the population through sharing knowledge and information about the various types of disasters and their potential risks as widely as possible so that people act appropriately when a disaster happens. Members of a community are the immediate victims of adverse effects of a disaster. They have the best knowledge about their local surrounding in terms of the most disaster-prone areas, the demography of their community and their social and traditional organization. It is important that they have the capacity to cope with the impacts of a disaster and are involved in the development of disaster preparedness activities right from the initial planning stages. Community participation can also make them more confident in their capabilities to act in the event of a disaster leading to a self-reliant community [15].

### Materials and Methods

**Research design** selected for the present study was Pre-Experimental-‘One group pre-test and post-test design’.

Variables of the study are:

1. Structured Education and Awareness Programme developed on disaster preparedness.
2. Knowledge of Community Inhabitants regarding disaster preparedness.
3. Age, sex, education, occupation and previous experience of disaster.

### Setting and Study population

Community inhabitants (10-50 years) who are residing at Mohan Baba Nagar, Badarpur, New Delhi.

### Sample Size

Total sample comprised of 60 community inhabitants at Mohan Baba Nagar, Badarpur, selected by purposive sampling.

Kangabam, Panda and Kangaba [2] stated that a critical component of disaster preparedness is the knowledge of available local resource information and how to respond at the time of disaster. Impacts of natural disasters can be reduced through pre-disaster activities for mitigating risks and such activities are among the most crucial aspects of disaster risk reduction to consider in forming a coordinated strategy or plan. Mobilizing resources raises the awareness level within the community and aids in assessing local knowledge and resources. This paper presents the results of a pilot study on awareness level among the different community of Rajiv Gandhi University which is located in

one of the high seismic zone in the North eastern part of India. The study concluded that disaster awareness among the community varies with the educational background, origin and age and the level can be strengthened through a combination of appropriate community based disaster preparedness, information technology and collaborative relationships between government, Non-Government Organizations and community-based organizations.

### Inclusion and Exclusion criteria

Community inhabitants of Mohan Baba Nagar, Badarpur, aged between 10-50 years and who could understand Hindi & were willing to participate in & were available for the study.

### Sampling technique

In the present study the sampling technique adopted was purposive sampling technique.

### Data collection Tools and Techniques

In this study, a Structured Knowledge Questionnaire on aspects of disaster and disaster preparedness was framed to assess the knowledge of community inhabitants. It was found to be the most apt instrument to elicit responses from the people. Tool was translated in local spoken language i.e. Hindi and administered through paper and pencil method.

### Structured Knowledge Questionnaire

Section 1: This section comprised of 5 items for obtaining information about selected demographic factors such as age, sex, education, occupation and previous disaster experience.

Section 2: This section deals with the items to assess the knowledge of people on various aspects of disaster preparedness in the form of self structured administered knowledge questionnaire.

### Ethical Considerations

Ethical permission to conduct the study was taken from Institution Review Board Jamia Hamdard.

### Analysis of the Data

The data was tabulated in Microsoft Excel Spread sheet and the analysis was done using descriptive and inferential statistics using SPSS.

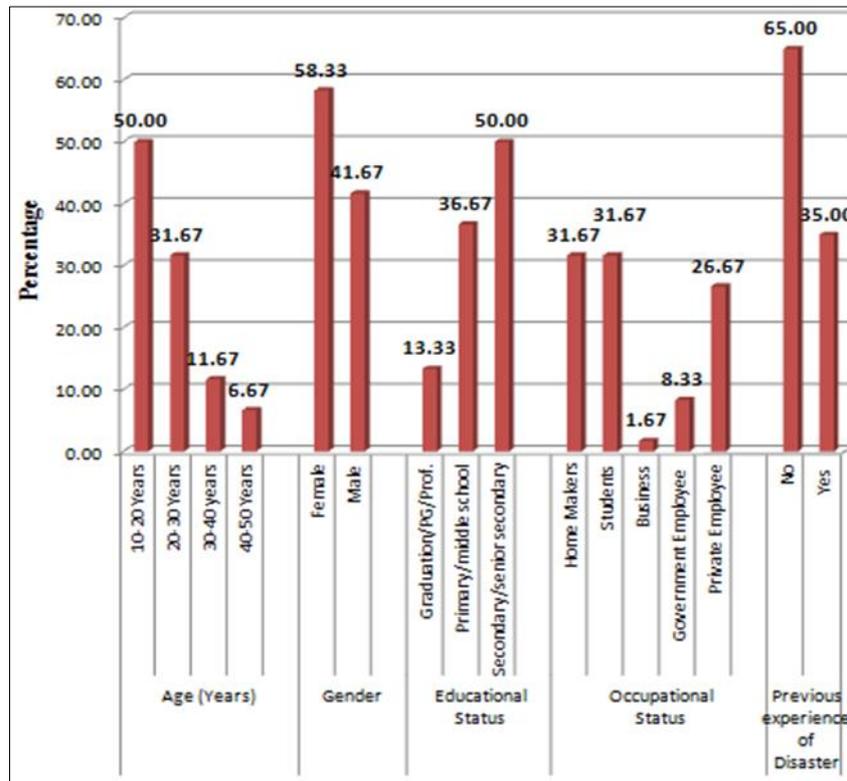
### Results

The findings were organized under the following sections:-  
Frequency and Percentage Distribution of the Community Inhabitants by their Age, Sex, Education, Occupation and Previous Disaster Experience.

Findings Related to the Evaluation of the Effectiveness of Structured Education and Awareness Program on Disaster Preparedness in terms of Knowledge among Community Inhabitants.

**Table 1:** Frequency and Percentage Distribution of the Community Inhabitants by their Age, Sex, Education, Occupation and Previous Disaster Experience.

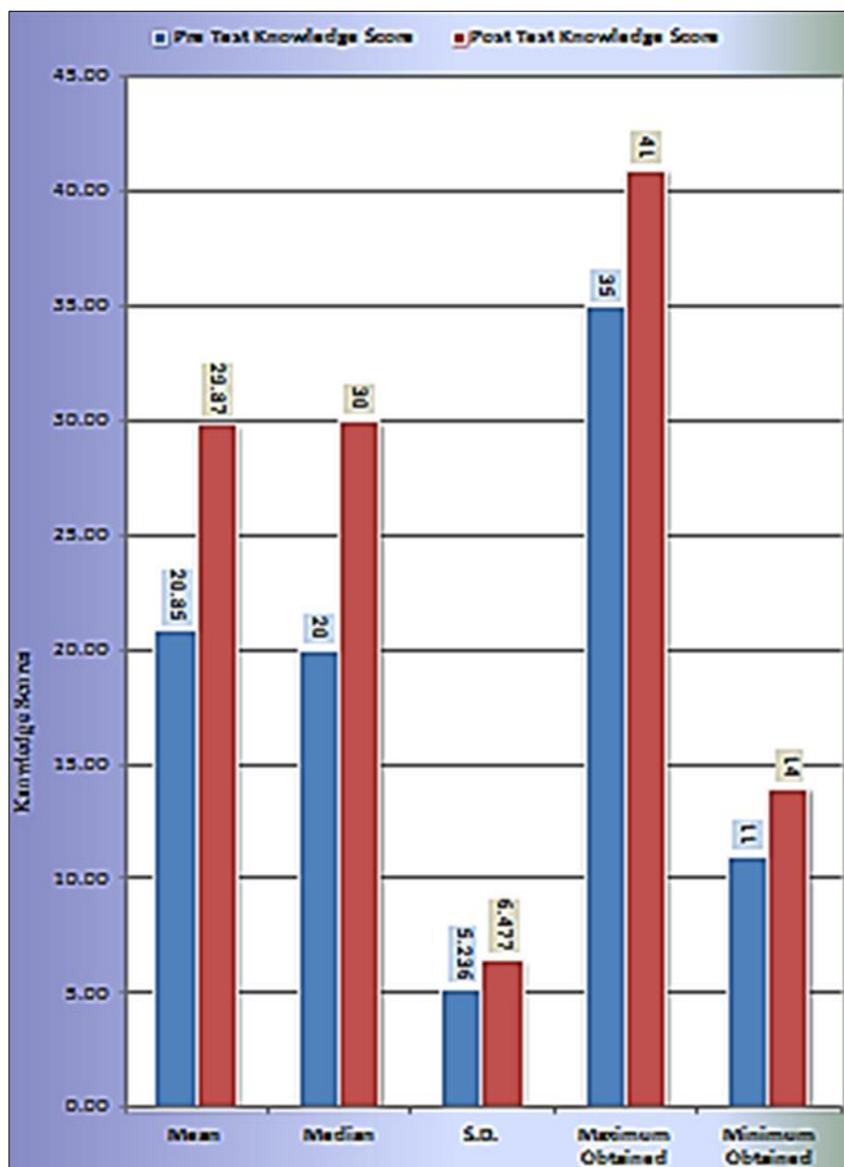
S. No	Demographic Characteristics	Frequency (n)	Percentage (%)
<b>Age (Years)</b>			
1	a) 10-20	30	50.00
	b) 20-30	19	31.67
	c) 30-40	7	11.67
	d) 40-50	4	6.67
<b>Sex</b>			
2	a) Female	35	58.33
	b) Male	25	41.67
<b>Educational Status</b>			
3	a) Graduate/Post Graduate/ Professional	8	13.33
	b) Primary School/middle school	22	36.67
	c) Secondary School/senior secondary	30	50.00
<b>Occupational Status</b>			
4	a) Homemakers	19	31.67
	b) Students	19	31.67
	c) Business	1	1.67
	d) Government Employee	5	8.33
	e) Private Employee	16	26.67
<b>Previous experience of Disaster</b>			
5	a) No	39	65.00
	b) Yes	21	35.00



**Fig 1:** Demographic characteristics of sample

**Table 2:** Possible range of scores, Range of Obtained Scores, Mean, Median, Mean difference, Standard Deviation and Z-value of pre-test and post-test Knowledge Scores of Community Inhabitants Regarding Disaster Preparedness.

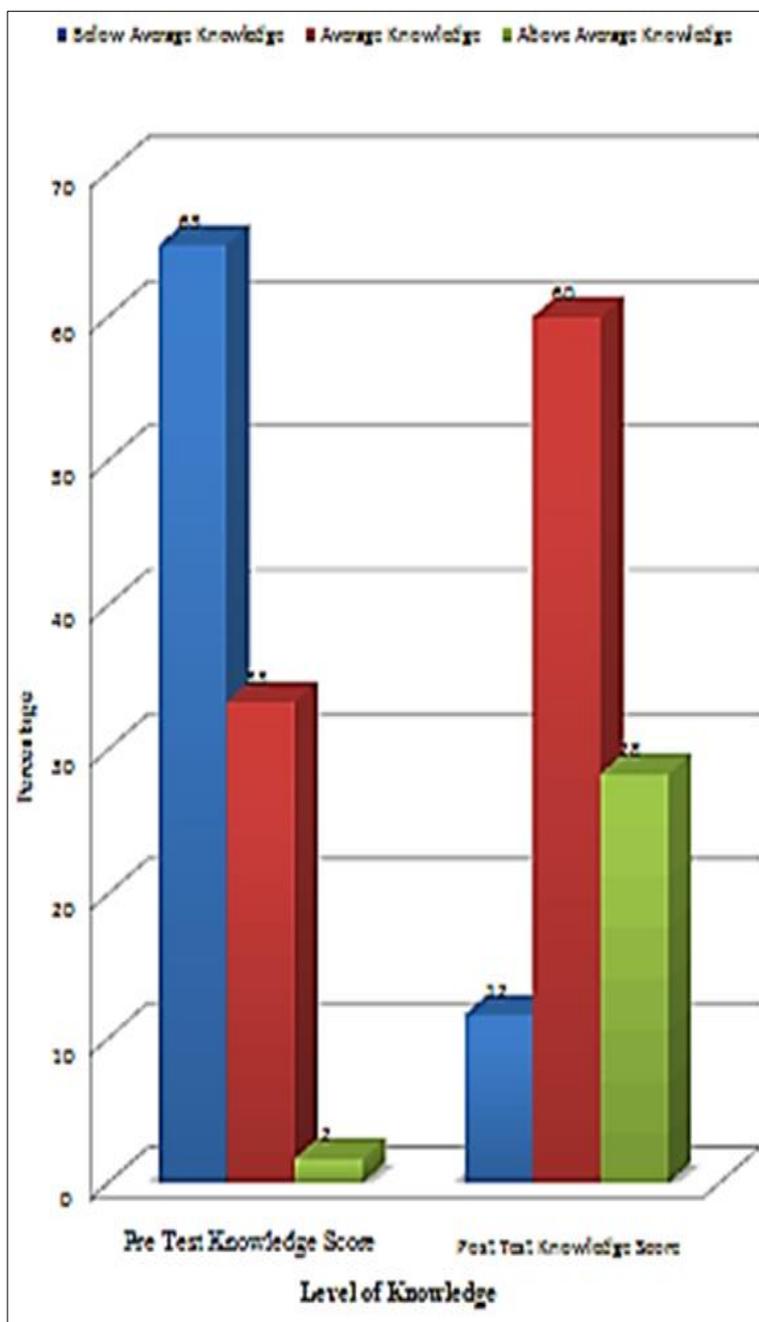
Knowledge Test	Possible Range of Scores	Range of Obtained Scores	Mean	Median	Mean Difference	Standard Deviation	Z Test
Pre-Test	0-50	11-34	20.85	20	9.02	5.236	7.973*
Post-Test	0-50	14-41	29.87	30		6.477	



**Fig 2:** Bar Graph showing Mean, Median, Standard Deviation, maximum obtained, minimum obtained of pre test and post test scores among community inhabitants

**Table 3:** Frequency and Percentage Distribution of Community Inhabitants by their level of Knowledge before and after Administration of Structured Education and Awareness Programme on Disaster Preparedness.

Level of Knowledge	Score Range	Pre-Test		Post-Test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Above Average	33-50	1	1.7	17	28.3
Average	24-32	20	33.3	36	60.0
Below Average	0-23	39	65.0	7	11.7



**Fig 3:** Bar Graph showing Mean, Median, Standard Deviation, maximum obtained, minimum obtained of pre test and post test scores among community inhabitants

**Table 4:** Fisher’s Exact test Showing Association between Age and Post-test Knowledge Scores

Selected Variable	Knowledge Scores			Fisher’s exact test	P Value
	Above Average	Average	Below Average		
<b>Age in Years</b>	<b>Frequency</b>	<b>Frequency</b>	<b>Frequency</b>	4.1	0.085
10-20	11	18	1		
20-30	5	10	4		
30-40	1	6	0		
40-50	0	2	2		

**Table 5:** Fisher’s Exact Test Showing Association between Sex and Post-test Knowledge Scores

Selected Variable	Knowledge Scores			Fisher’s exact Value	P Value
	Above Average	Average	Below Average		
<b>Sex</b>	<b>Frequency</b>	<b>Frequency</b>	<b>Frequency</b>	2.1	0.30
Female	8	24	3		
Male	9	12	4		

**Table 6:** Fisher's Exact Test Showing Association between Education and Post-test Knowledge Scores

Selected Variable	Knowledge Scores			Fisher's exact Value	P Value
	Above Average	Average	Below Average		
Education	Frequency	Frequency	Frequency	5.6	0.788
Graduate/Post Graduate/ Professional	1	6	1		
Primary School/middle school	8	12	2		
Secondary School/senior secondary	8	18	4		

**Table 7:** Fisher's Exact test Showing Association between Occupation and Post-test Knowledge Scores.

Selected Variable	Knowledge Scores			Fisher's exact Value	P Value
	Above Average	Average	Below Average		
Occupation	Frequency	Frequency	Frequency	7.8	0.48
Homemaker	4	12	3		
Students	9	9	1		
Business	0	1	0		
Government Employee	0	4	1		
Private Employee	4	10	2		

**Table 8:** Fisher's Test Showing Association between previous Disaster experience and Post-test Knowledge Scores

Selected Variable	Knowledge Scores			Fisher's exact Value	P Value
	Above Average	Average	Below Average		
Experience	Frequency	Frequency	Frequency	4.1	0.61
No	11	22	6		
Yes	6	14	1		

## Discussion

The data indicate that, before administering structured education and awareness program, 39 (65%) community inhabitants had below average knowledge, 20 (33.3%) had average knowledge and only 1(1.7%) had above average knowledge regarding disaster preparedness. After administering the Structured Education and Awareness Program, 17 (28.3%) community inhabitants showed vast improvement in knowledge by scoring above average, 36 (60.0%) had average knowledge and only 7 (11.7%) had below average knowledge, which is comparable to other study in which before teaching programme majority (72.5%) had inadequate knowledge, (27.5%) had moderate knowledge on disaster management and after teaching programme increased moderate knowledge (60%) and adequate knowledge (35%)<sup>[40]</sup>. The result reveals 32% have mild knowledge and 53% have moderate knowledge regarding disaster preparedness. Study concludes that people have inadequate knowledge regarding disaster preparedness. The majority of subjects 30 (50.0%) were in the age group of 10-20 years and only 4 (6.67%) were in the age group of 40-50years which is comparable to other study in which majority (55%) were in the age group of 21-30 years and only (17%) were in age group of 41-50 years. 35 (58.33%) were female and 25 (41.67%) were male and 30(50%) had studied up to senior secondary school and majority of subjects 19 (31.67%) were homemakers which comparable to other study in which majority of subjects (26%) were graduate and (50%) were working in private sector. 39 (65%) had no previous experience to disaster and 21 (35%) had previous experience to disaster which is comparable to other study in which (79%) subjects had no previous experience to disaster and (21%) had previous experience to disaster and there was no significant association between post-test knowledge scores and demographic variables *i.e.* age, sex, education, occupation and previous experience of disaster. The results revealed that there was an increase in knowledge level regarding disaster after the structured teaching programme.

## Conclusion and recommendation

The study concluded that the structured education and awareness program was effective in enhancing the knowledge of community inhabitants on disaster preparedness. There was no significant association between post-test knowledge scores and demographic variables age, sex, education, occupation and previous disaster experience. The study can be replicated on a large sample to make generalizations and can be undertaken with a control group to compare gain in knowledge. A comparative study can be undertaken to find out the knowledge of community inhabitants in urban and rural setting. A follow-up study can be conducted to evaluate the effectiveness of Education and awareness program in retention of knowledge of community inhabitants. The effectiveness of education and awareness program may be compared with other innovative teaching/instructional strategies, such as self-instructional module, pamphlets, video films etc. Training Need Assessment Surveys may be carried out to identify the learning needs of nursing personnel regarding disaster management.

## References

- Menon K, Venkatachalam A, Thakur P. An introduction to disaster management for class 8. New Delhi: CBSE; c2003.
- Kangabam RD, Panda PC, Kangaba M. Disaster Preparedness among the Resident Community- A Case Study of Rajiv Gandhi University, Itanagar, India. 2011;2(3):46-97. Available from: [www.ipublishing.co.in/ijesarticles/twelve/articles/voltwo/EIJES3153.pdf](http://www.ipublishing.co.in/ijesarticles/twelve/articles/voltwo/EIJES3153.pdf)
- Allen KM. Community-based disaster preparedness and climate adaptation: local capacity-building in the Philippines. [Internet]; c2006. [cited 2014 Jan 20] Available from: [www.ncbi.nlm.nih.gov/pubmed/16512863](http://www.ncbi.nlm.nih.gov/pubmed/16512863)
- Dorasamy M, Raman M, Muthaiyah S, Kaliannan S. Disaster Preparedness in Malaysia: An Exploratory

- Study [Internet]; c2010. [cited 2014 Jan 15]. Available from: [www.wseas.us](http://www.wseas.us).
5. Gilmore GD, Schwan WR, McLaughlin MK. An assessment of emergency preparedness in Western Wisconsin [Internet]; c2007. [cited 2014 Feb 12]. Available from: <https://www.ncbi.nlm.nih.gov/sites/entrez?Db>