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### A study to assess the knowledge and attitude on disaster preparedness among people residing in selected areas of Davangere, Karnataka

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#### Abstract

**Background:** Any incident cause an unexpected number of deaths, injury or illness called as disaster. During such instance may destroy local health infrastructure that intern need a team to respond to the emergency. It disrupts the provision of routine health services and preventive activities leading to long-term health consequences in terms of increased morbidity, mortality, adverse effect on the environment, potential risk of communicable diseases and environment hazards.

**Methods:** The conceptual framework for the study is based on general system theory as capsulated by Von.

**Background:** Any incident cause an unexpected number of deaths, injury or illness called as disaster. During such instance may destroy local health infrastructure that intern need a team to respond to the emergency. It disrupts the provision of routine health services and preventive activities leading to long-term health consequences in terms of increased morbidity, mortality, adverse effect on the environment, potential risk of communicable diseases and environment hazards.

Ludwig Bertalanffy. The study is based on quantitative research approach; descriptive research design. Structured knowledge questionnaire and attitude checklist was used for the collection of the data. The research variable refers to knowledge and attitude on disaster preparedness and the socio-demographic variable age, gender, educational qualification, occupation, site of house, attending mock drill on disaster preparedness, and source of information. Study sample were selected by Purposive sampling technique and the collected data was analyzed and interpreted using descriptive and inferential statistics.

**Results:** The study finds that in socio-demographic variables, maximum sample were belongs to 20-24years, females were major subjects, they are studied secondary education, maximum were lying in high areas, and they got receive information maximum from friends and relatives. In relation with knowledge score mean was 13.11 and SD 2.83, and maximum 55% had good level of knowledge, in attitude score mean was 72.33 and SD 10.60.

**Conclusion:** Study was concluded that there is a good level of knowledge and favourable attitude towards disaster preparedness, so administrative officials should take initiation to promote the training to community people how to manage disaster situations, that will benefit the overall society in case of emergency.

**Keywords:** Deaths, injury, illness, disaster, Davangere, Karnataka

#### Introduction

Over the centuries earth has gone through many changes. These changes are majorly due to natural disasters happening throughout time. In addition to this globalization and exploration of natural resources have changed the structure of ecosystem which imbalanced its homeostasis in many ways.

Disasters are classified like earth quakes, cyclones, floods, tidal waves, landslides, volcanoes, hurricanes, tornadoes, fires, epidemics, building collapses, toxicological accidents, nuclear accidents etc. Currently world facing natural and man-made disasters as well as threats of terror attacks, people will be needed to serve in the event of a disaster. Disasters have always occurred throughout history but currently new threat is climate change that has severely increased its risks. Man has to learn that he cannot control nature and his life should revolve around the conditions

present in the environment and not the other way around.

A disaster takes massive human and economic costs. They may cause many deaths, severe injuries, and food shortages. Most incidents of severe injuries and deaths occur during the time of impact, whereas disease outbreaks and food shortages often arise much later, depending on the nature and duration of the disaster. Anticipating the potential consequences of disasters can help determine the actions that need to be started before the disaster strikes to minimize its effects.

Preparedness for a disaster is an ongoing activity performed by multiple teams. Every people have responsibility to manage such type of incidence. Natural events are always are unstoppable but steps can be taken before a disaster strikes to minimize the extent of damage. During disaster people can help each other by providing emotional support, giving information and referring patients to a therapist or

social worker. There is an urgent need to expand their knowledge base and experience in disaster preparedness.

A very old saying is that prevention of diseases is always better than cure is very appropriate to this system. India is one of the recognized countries that also had suffered with hazards like drought, floods, earthquakes and cyclones etc. To manage these natural disasters India is practicing various management techniques and strategies and the same implemented all over India in a cluster form to manage any cases at any time. As the country is advancing in all sectors, the government also shifted to new approaches to solve problems immediately and manage at an early stage. The new approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built into the development process. This new initiative also found that instead of investing in post-disaster management it's better to spend maximum financial funds on how to manage disasters before it happens so that incidence of deaths and other consequences can be prevented efficiently and effectively.

Even India like other countries, its landscape is also very different in different places that naturally arouse small- and large-scale devastations that happened all over India. If we list earthquakes in Gujarat, every year floods in Bihar, Arunachal Pradesh, Himachal Pradesh, and Tsunami in Tamil Nadu etc. In the history of our country in the year 1984 Bhopal gas leak has killed more than 20,000 people within a night which is still an unforgettable incident that shaken the whole world in those days. Another incident in the year 2001 Bhuj Gujarat which is the epicenter of a devastating earthquake which almost killed more than 25,000 people and injured another 1,67,000 and collapsed the life of millions of people throughout the Gujarat. In the year December 26<sup>th</sup> 2004, completely unknown to many worlds that is Tsunami hit the southern part of India that is in Tamil Nadu, strangled the whole state that has taken the life of more than 1,000 people.<sup>17</sup> In such type of unexpected situations, quick response is needed to reduce the quantum of lives lost and property damaged. This incident not only killed in Tamil Nadu, even it affected 1,396 villages in five states and union territories of India in this nearly 4,000 people were reported missing and feared dead, most of these missing persons were from Andaman & Nicobar Islands.

In the year 1976, one of the major disaster earthquakes struck Guatemala, their 76,000 sustained injuries and 23,000 got killed. The first 24-hour is crucial to reduce the number of deaths, disability, and to provide proper treatment.

Disasters are the ultimate test of a community's emergency response capability. There are 3 major steps that can be taken to manage disaster which include pre-disaster management, during-disaster management and post-disaster management. The pre-disaster management involves generating data and information about the disasters, preparing vulnerability zoning maps and spreading awareness among the people about these. Apart from these, disaster planning, preparedness and preventive measures are other steps that need to be taken in vulnerable areas.

During disasters, rescue and relief operations such as evacuation, construction of shelters and relief camps, supplying of water, food, clothing and medical aids etc. should be done on an emergency basis. Post-disaster

operations involve rehabilitation and recovery of victims. It should concentrate on capacity building in order to cope with future disasters, if any. These measures have special significance to India as about two-thirds of its geographical area and an equal proportion of its population are vulnerable to disasters. The Government of India has also taken some steps for disaster management such as passing the disaster management bill and the establishment of the National Institute of Disaster Management.

A study was done to recognize the different level of disaster preparedness and management in reducing human suffering in the year 2001 earthquake in Gujarat, India. Nearly 20,000 persons were killed, 1,70,00 were injured and 6,00,000 were rendered homeless. During the two-week mission in the disaster area, the disaster relief provided to the affected population of Gujarat was evaluated through the representatives of major relief organizations involved by interviewing them their relief policies. The evaluation revealed that relief provided to the disaster victims had reduced quality by the following: proper public health indicators had not yet been developed; inefficient coordination was lacking, delayed relief actions because of bureaucracy; and policies on the delivery of disaster relief had not been developed.

### Materials and Methods

A present study is based on quantitative research approach, descriptive design, was adopted in order to achieve the objectives of the study. Based on the feasibility the investigator conducted study at Doddabathi village, Davangere. In this study research variables are knowledge and attitude of people, whereas demographic variables are age, gender, educational qualification, occupation, site of house, attending mock drill on disaster preparedness, source of information. By adopting purposive sampling technique, total 100 people were included in the study with following sampling criteria:

### Inclusion criteria

1. The people aged between 20-40 years at selected area in Maharashtra. The people who can able to read and write Marathi or English.
2. The people who are available at the time of data collection.
3. The people both male and female.
4. Married women who are available during data collection.

### Exclusion criteria

1. Method of selection of group- Not applicable.
2. Matching criteria. The subject for study will match with inclusive and exclusive criteria of the study.

### Data collection tool

Structured knowledge questionnaire and attitude checklist was developed to collect the data from samples, which consist of two parts i.e. Part I: Consists of items on demographic variables like, age, gender, educational qualification, occupation, site of house, attending mock drill on disaster preparedness, source of information. Part II: Consists of knowledge questionnaire to assess the knowledge of people regarding disaster preparedness

consists of 20 items. Attitude Check list to assess the attitude of people on Disaster preparedness consists of 20 items.

**Operational definitions**

**Assess:** It refers to identification of knowledge and attitude on disaster preparedness among people residing at selected areas of Davangere using structured knowledge question naire and attitude checklist.

**Knowledge:** In this study it refers to appropriate response to the questions asked in structured knowledge questionnaire.

**Attitude:** In this study it refers to the favorable and unfavorable attitude way of attitude on disaster preparedness among people residing in selected areas of Davangere.

**Disaster:** It refers to disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community.

**Preparedness:** Disaster preparedness refers to measures taken to prepare for and reduce the effects of disasters.

**People:** It refers to the individuals residing at selected area of Davangere who seage between 20 to 40 years.

**Information Booklet:** It refers to Systematic organization of scientific information related to disaster preparedness on knowledge and attitude for the people residing at selected are of Davangere.

**Results and Discussion**

The data were analyzed on the basis of the study objectives, using both descriptive and inferential statistics. Findings are organized in the following headings

**Table 1:** Demographic characteristics of people N=100

Age in years	Frequency	Percentage
20-24years	33	33%
25-29years	43	43%
30-34years	7	7%
35-40years	17	17%
<b>Gender</b>		
Male	43	43%
Female	57	57%
<b>Educational qualification</b>		
Primary education	34	34%
Secondary education	41	41%
Intermediate	10	10%
Graduate and above	15	15%
<b>Site of house</b>		
Low-lying	47	47%
High lying	53	53%
<b>Attending mock drill on disaster preparedness</b>		
Yes	19	19%
No	81	81%
<b>Source of information</b>		
Friends and relatives	40	40%
Television, internet, social media	29	29%
Others	31	31%

- **Age in years:** 33% of the people were belongs to the age group between 20-24 years, 43% were in the age group between 25-29 years, 7% were age group between 30-34 years and remaining 17% were in the age group 35-40years.
- **Gender:** 43% of the subjects were males, and 57% of

the subjects were females.

- **Educational qualification:** 34% of the people were completed primary education, 41% of the people were completed Secondary education, 10% of the people were completed Intermediate and 15% of the people were completed Graduate and above.
- **Site of house:** 47% of the people residing in low lying area, 53% of the people residing in highlying area.
- **Attending mock drill on disaster preparedness:** 19% of the people were attended mock drill on disaster preparedness, 81% of the people were not attended mock drill on disaster preparedness.
- **Source of information:** 40% of the people were getting information from Friends and relatives, 29% of the people were getting information from Television, internet, social media, and 31% of the people were getting information from others.

**Table 2:** Knowledge score on disaster preparedness.

Variable	No of items	Range		Knowledge score			
		Min	Max	Mean score	SD	Median	Mode
Knowledge	20	9	19	13.11	2.83	12	12

The data presented in the table shows that minimum range was 9, maximum was 19, mean score was 13.11, Standard deviation was 2.83, Median was 12, and modewas12.

**Table 3:** Distribution of people according to level of knowledge. N=100

Level of Knowledge	Frequency	Percentage
Good	55	55
Average	45	45
Poor	-	-
Total	100	100

The data presented in the table shows that 55% of the people had good knowledge on Disaster preparedness, 45% of the subjects had average knowledge on Disaster preparedness, and none of them had poor knowledge on Disaster preparedness.

**Table 4:** Attitude score regarding disaster preparedness.

Variable	No of items	Range		Attitude score			
		Min	Max	Means core	SD	Median	Mode
Attitude	20	40	92	72.33	10.60	74.5	74

The data presented in the table shows that minimum range was 40, maximum was 92, mean score was 72.33, Standard deviation was 10.60, Median was 74.5, and modewas74.

**Table 5:** Distribution of people according to level of attitude N=100

Level of attitude	Frequency	Percentage
Favorable	84	84%
Unfavorable	16	16%
Total	100	100

The data presented in the table shows that 84% of the people had favorable attitude on Disaster preparedness, 16% of the people had unfavorable attitude on Disasterpre paredness.

**Table 6:** Chi square value showing association between knowledge score and demographic variables N=100

Sl. No.	Demographic variables	Median knowledge score (12)		$\chi^2$ calculatedvalue	Df	Inference
		$\leq$ median	$\geq$ median			
1.	<b>Age in Yrs</b>			4.26	3	NS
	20-24years	15	18			
	25-29years	28	15			
	30-34years	4	3			
	35-40years	7	10			
2.	<b>Gender</b>			0.008	1	NS
	Male	23	20			
	Female	31	26			
3.	<b>Educational qualification</b>			1.59	3	NS
	Primary education	17	17			
	Secondary education	21	20			
	Intermediate	7	3			
	Graduate and above	9	6			
4.	<b>Site of house</b>			1.10	1	NS
	Low lying	28	19			
	High lying	26	27			
5.	<b>Attending mock drill on disaster preparedness</b>			0.14	1	NS
	Yes	11	8			
	No	43	38			
6.	<b>Source of information</b>			0.60	2	NS
	Friends and relatives	23	17			
	Television, internet, social media	16	13			
	Any others	15	16			

The above table shows that none of the demographic variables that is Age, gender, educational qualification, occupation, site of house, attending mock drill on disaster

preparedness, source of information had shown statistically significant association with knowledge scores of people.

**Table 7:** Chi square value showing association between attitude score and demographic variables N=100

Sl. No.	Demographic variables	Median attitude score (74.5)		$\chi^2$ calculated value	Df	Inference
		$\leq$ median	$\geq$ median			
1.	<b>Age in yrs</b>			3.48	3	NS
	20-24years	17	16			
	25-29years	17	26			
	30-34years	4	3			
	35-40years	11	6			
2.	<b>Gender</b>			1.40	1	NS
	Male	24	19			
	Female	25	32			
3.	<b>Educational qualification</b>			0.52	3	NS
	Primary education	15	19			
	Secondary education	21	20			
	Intermediate	5	5			
	Graduate and above	8	7			
4.	<b>Site of house</b>			0.16	1	NS
	Low lying	24	23			
	High lying	25	28			
5.	<b>Attending mock drill on disaster preparedness</b>			0.74	1	NS
	Yes	11	8			
	No	38	43			
6.	<b>Source of information</b>			1.70	1	NS
	Friends and relatives	17	23			
	Television, internet, social media	14	15			
	Any others	18	13			

The above table shows that none of the demographic variables that is Age, gender, educational qualification, occupation, site of house, attending mock drill on disaster preparedness, source of information had shown statistically

significant association with attitude scores of people.

**Discussion**

This study elucidated the level of knowledge and attitude

about disaster preparedness among people residing in selected areas of Davangere, Karnataka.

According to this study, 43% of subjects aged between 25-29 years were participated. 57% were females. 41% of them completed secondary education, 53% of people residing in high lying areas, 81% of them not attending any training regarding disaster management, 40% of them said they have got information about this from their friends and relatives.

This study revealed that half of the respondents had a good level of knowledge about disaster preparedness. This finding is also showed almost similar results in Japan where the people had more than 50% level of knowledge regarding disaster preparedness, and also there is an association found between the knowledge and practice.

However, some of studies shown that people have weak-to-moderate understanding on disaster preparedness. In addition to this, one of the survey conducted at Kashmir Valley said that there is a vast lack of knowledge among young students regarding disaster. The expected reason for the more than 50% have knowledge regarding disaster preparedness is might be modern source of information and social media and internet.

Furthermore, although the majority of subjects that is 80.3% had heard about disasters, 46% had been taught about how to plan for disaster management. Another study found that above average that is 69.75% of sample understood about disaster preparedness.

This study had some limitations. First, Data collection period was limited to 15 days and the study limited to 20-40 years of aged people. Second, the descriptive research design of the study limits in identifying the 45% people why they have poor knowledge about the problems and the reasons for negative attitude about that. Despite these limitations, this study had much strength. Importantly, it highlighted the knowledge and attitude level of people about disaster preparedness as few previous studies had analyzed this critical issue. The study was done with small number of subjects.

### Conflict of Interest

Not available

### Financial Support

Not available

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#### How to Cite This Article

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