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## RESEARCH ARTICLE

### A PRE EXPERIMENTAL STUDY TO ASSESS EFFECTIVENESS OF A VIDEO AWARENESS PROGRAMME ON DISASTER PREPAREDNESS AND PREPARATION OF FAMILIES' DISASTER PREPAREDNESS KIT FOR URBAN ADULTS OF UDUPI DISTRICT SOUTH INDIA

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#### ABSTRACT

**Background:** Disasters in modern times have transcended borders of nation, class and have devastating impact in terms of human and material losses. Global initiatives for disaster preparedness and reduction should therefore be given highest priority by the international community. Various types of disasters, natural as well as manmade are faced by human beings since beginning of human evolution. As disasters cannot be prevented, contingency planning for disaster management involving preparedness is essential

**Objectives:** To assess the existing knowledge on disaster preparedness among adults, determine the effectiveness of a video in terms of improvement in knowledge and compliance on families' disaster preparedness kit, find relationship between knowledge and compliance on disaster preparedness kit.

**Materials and Methods:** One group pretest posttest experimental design with video as intervention was used to get the data from 60 adults using structured questionnaire and observation checklist. Frequency, percentage, median, Paired 't' test, Karl-Pearson correlation coefficient were used for analyzing data.

**Results:** Median posttest score was (12.5) higher than median pretest score (10) with a posttest of standard deviation of 2.375 and pretest standard deviation of 2.167, Karl Pearson correlation coefficient ( $r=0.78$ ) between knowledge and compliance on disaster preparedness and kit preparation.

**Conclusion:** Video awareness programme was effective in terms preparation regarding families' disaster preparedness kit and improving knowledge on disaster preparedness.

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#### INTRODUCTION

1. Various types of disasters, natural as well as manmade faced by human beings since the beginning of human evolution. Disasters are unforeseen events which transcended borders of nation, class and have devastating impact (<http://www.ndmindia.nic.in/EQProjects/goiundp2.0pdf>). Disasters recently become undeniable grim future to existence of living beings. The Tsunami on December 26, 2004 which killed 10,000 persons, and survivors still facing posttraumatic psychological problems (<http://www.director@nrso.gov.in>). Time bounded transition from disaster response to community based preparedness after the Kashmir earth quake in 2005 in India. Disasters the "wrath of nature", due to unplanned and unforeseen life style of urban adults leads to helplessness while the time of disasters. Aftermath of every disaster is similar in series losses on quality of life, livelihood and economic independence (<http://www.dr.gfdr.org/imgs/pdf/draftstudy>).

Here lies the importance of transition from disaster preparedness in families. Disaster preparedness is a process of long term development activities whose goals are to strengthen the overall capacity and capability of a country to manage efficiently at all types of emergency. It should bring about an orderly transition from relief through recovery and back to sustained development (Park, 2011). Preparation of Disaster preparedness kit is a slowly emerging practice in India. In disaster preparedness kit; inclusive essential and emergency items for all members in a family such as important documents, nonperishable food items, sanitation items and other essential general items such as flash light, portable radio candle, clothing, paper and pencil etc, which has to be kept ready by the family for facing any unexpected disaster (URL:<http://www.FDMA.org>).

#### Objectives of the study

- To assess the existing knowledge regarding families disaster preparedness among the adults.
- To determine the effectiveness of a video awareness programme on families disaster preparedness in terms of :

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- Gain in post test knowledge regarding disaster preparedness.
- Compliance regarding preparation of family's disaster preparedness kit.
- Find the association between knowledge on disaster preparedness with study variables.
- Find the relationship between knowledge and compliance regarding preparation of families disaster preparedness kit.

**Hypotheses :** will be tested at 0.05 level of significance.

**H<sub>1</sub>:** There will be significant difference in median pretest and posttest knowledge scores on families' disaster preparedness.

**H<sub>2</sub>:** There will be significant association between pretest knowledge categories and demographic variables.

**H<sub>3</sub>:** There will be significant relationship between post test knowledge scores and compliance scores regarding preparation of families disaster preparedness kit.

## MATERIALS AND METHODS

The sample comprised of 60 urban adults of age group 20-60 years permanently residing in Saralabettu area of Udupi Municipality, Udupi District were selected by using non-probability purposive sampling technique. An evaluative approach with one group pretest posttest design was adopted to evaluate the effectiveness of a video programme on family disaster preparedness. The tools used for the study included demographic proforma to get back ground information. To assess effectiveness of video programme, structured knowledge questionnaire and observational checklist regarding preparation of families' disaster preparedness kit was used. Validity of the was established by giving the tools to experts. Reliability of knowledge questionnaire was established by split half , spearman brown prophecy formula( $r=0.88$ ) and observational checklist by inter rater reliability( $r= 1$ ).A video awareness programme on disaster preparedness with duration of 12 minutes was prepared in Kannada with the help of Manipal University Audio visual unit. Validity was established by giving to experts. Pretesting and pilot study were conducted in Manipal and Eshwarnagar area of Udupi Corporation respectively. Study conducted after getting permission from institutional research committee (IRC) and administrative permission from Udupi Municipal Commissioner, written consent taken from each of the participants after ensuring confidentiality.

### Data collection procedure

Final data was collected from 60urban adults residing in Saralabettu area of Udupi Municipal Corporation. On day one tool on back ground information was administered to samples; pretest was given by administering structured knowledge questionnaire. A video awareness programme was administered to samples on disaster preparedness. On day seven, post test was conducted to assess gain in knowledge using the same knowledge questionnaire and the compliance were assessed regarding preparation of families' disaster preparedness kit using observational checklist.

### Data analysis

The SPSS (version 16.0) statistical package was used for the analysis of the data. Descriptive and inferential statistics were used to analyze the data.

## RESULTS

### Description of sample characteristics

Analysis of the data related to the demographic proforma is depicted in Table 1

**Table 1. Description of sample characteristics**

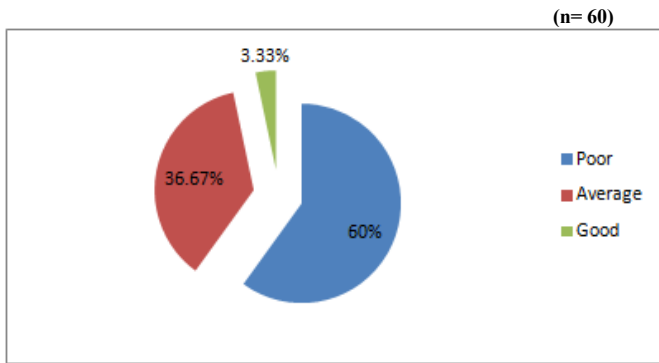
Samplecharacteristics	f	%
(n= 60)		
<b>1. Age in years</b>		
20-30	15	25
31-40	15	25
41-50	19	31.7
>50	11	18.3
<b>2.Gender</b>		
Male	23	38.3
Female	37	61.7
<b>3.Education</b>		
Primary	07	11.7
Secondary	17	28.3
P.U.C	16	26.7
Graduate	12	20.0
Postgraduate	08	08
<b>4. Occupation</b>		
Coolie	06	10
House wife	21	35
Private employee	13	21.7
Government employee	07	11.7
Business	07	11.7
Others	06	10
<b>5.Type of family</b>		
Nuclear	55	91.7
Joint	05	8.3
<b>6.Family income</b>		
5000-10000	12	20
10001-15000	36	60
>15001	12	20
<b>7.Previous experience or witness of disaster</b>		
Yes	09	15
No	51	85
<b>8.Information source on disaster</b>		
Electronic	37	61.7
Printed materials	18	30
Friends	05	8.3

Majority 31.7% of samples were in age group of 41-50 years, 61.7% were female and 91.7% belongs to nuclear family and 60% were having a family income between Rs.10001-15000 per month. Regarding disaster 85% had no previous experience and 61.7% got information on disaster from electronic media.

### Description of knowledge of adults regarding families disaster preparedness

Among 60 samples majority 60% had poor knowledge on and 36.67% had average and only 3.33% had good knowledge on disaster preparedness (Fig 1)

**Description of knowledge of adults regarding families disaster preparedness**



**Figure 1. Pretest knowledge on families disaster preparedness**

**Effectiveness of video awareness programme on families disaster preparedness**

Effectiveness of awareness programme was assessed in terms in comparison of pretest and posttest knowledge scores and compliance on families’ disaster preparedness kit. The data did not follow normal distribution (0.01), Wilcoxon sign rank test computed to test the hypothesis. Pretest and posttest knowledge score on disaster preparedness has been presented in the table 2.

**Effectiveness of video awareness programme on families disaster preparedness**

**Table 2. Pretest and posttest knowledge score of adults on family disaster preparedness**

Group	Mean	Median	Standard deviation	I.Q.R	‘Z’ value	‘P’ value
Pretest	10.90	10.00	2.375	2	5.570	0.001*
Posttest	12.50	12.50	2.167	2		

Regarding the effectiveness of video awareness program, results shown that median posttest score was (12.5) higher than median pretest score (10) with a posttest of standard deviation of 2.375 and pretest standard deviation of 2.167. It indicates that there was significant gain in the knowledge scores of participants after attending awareness programme. Thus it is inferred that the video awareness program was effective in improving knowledge on family disaster preparedness.

**Table 3. Correlation between post test knowledge and compliance score on disaster preparedness kit.**

Karl Pearson correlation coefficient was computed to determine the correlation.

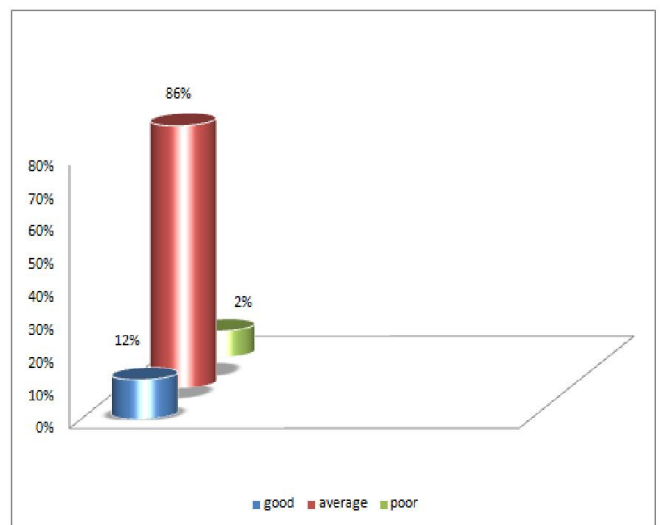
Variables	Mean	Median	Range		Standard deviation	r value	P value
			Minimum	Maximum			
Knowledge	13	12.50	9	19	2.167	0.78	0.592
Compliance	12.88	13	7	17	2.163		

**Description of compliance score among adults on preparation of families’ disaster preparedness kit**

Compliance on disaster preparedness kit was assessed by using observation checklist. Majority of samples 86% and 12% were having average compliance score regarding preparation of family disaster preparedness kit. Only 2% of samples were poor compliance score. So it indicates there is impact of video programme on disaster preparedness kit by having satisfactory compliance. (Fig: 2)

**Description of compliance score among adults on preparation of families’ disaster preparedness kit.**

Compliance on disaster preparedness kit was assessed by using observation checklist



**Figure 2. Compliance score on preparation of family disaster preparedness kit**

**Correlation between post test knowledge and compliance score on disaster preparedness kit**

Karl Pearson correlation coefficient was computed to determine the correlation.

The data presented in table 3 show that there was a weak positive relationship (r= 0.78) between knowledge and compliance on preparation of disaster preparedness kit. Thus it is inferred that the increase in post test knowledge will also

**Table 4. Association between pretest knowledge and demographic variables**

Sl. No.	Sample characteristics	(n=60) Knowledge category		$\chi^2$ value	df	p value
		Below median	Above median			
1	<b>Age in years</b>			5.404	3	0.133
	20-30	9	06			
	31-40	1	14			
	40-50	5	14			
	51 and above	5	06			
2	<b>Gender</b>			0.0204	1	1
	Male	16	07			
	Female	27	10			
3	<b>Education</b>			5.792	4	0.241
	Primary	05	02			
	Secondary	14	03			
	P.U.C	13	03			
	Graduate	08	04			
	Post graduate	06	02			
4	<b>Occupation</b>			8.073	5	0.196
	Coolie	03	03			
	House wife	17	04			
	Private	12	01			
	Government	06	01			
	Business	06	01			
	Others*	06	00			
5	<b>Type of family</b>			3.564	01	0.094
	Nuclear	47	08			
	Joint	03	02			
6	<b>Family income</b>			8.889	2	0.02
	5000-1000	08	04			
	10001-15000	04	32			
	15001 and above	10	02			
7	<b>Personal experience or witnessed to disaster</b>			0.044	1	1
	No	08	01			
	yes	09	42			
8	<b>Source of information about disaster</b>			3.423	2	0.264
	Electronic media	29	08			
	Printed material	16	02			
	Friends	05	00			

increase the compliance on preparation of families' disaster preparedness kit. (Table :3)

**Association between pretest knowledge and demographic variables**

A significant association was found between knowledge and family income ( $\chi^2 =8.889$ , P=0.02) and there was no association between knowledge and other variables such as age, sex, education, occupation, type of family, previous experience and source of information. It is inferred that knowledge was dependent on the family income. (Table:4)

**DISCUSSION**

Present study revealed that 37% samples had good knowledge on disaster preparedness while rest of the samples 63% had poor knowledge on disaster preparedness in pretest. The is indicates that lack of community preparedness against disaster. This study is supported by study conducted among health professionals. The findings reported that 60% of cohorts were inadequately prepared to face disasters (<http://www.ncbi.nlm.nih.gov/sites/entrez>). In the present study there was a significant improvement in knowledge on disaster preparedness and compliance regarding preparation of families' disaster preparedness kit. This is supported by study done by students and faculty of Texas

Christian University on effectiveness of the educational intervention to increase knowledge regarding personal disaster preparedness (Liane, 2004). The present study reveal that the video awareness programme is effective in improving knowledge on disaster preparedness and compliance on preparation of families disaster preparedness kit. This finding is supported by the study done by Bartley B, Fisher J and Stella J conducted a study to test whether an instructional video of edited footage from a disaster drill is effective in educating registrars on the hospital disaster plan. 40 hospital registrars were shown a 15 minute video based on footage obtained at a simulated mass casualty incident. Findings justified a significant improvement in the post video survey with an absolute increase in knowledge level and preparedness by 82% (Bartley et al., 2006).

**Conclusion:** The study concluded that Video awareness programme is effective in improving knowledge regarding disaster preparedness and in preparation of families' disaster preparedness kit.

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