



RESEARCH ARTICLE

EFFECTIVENESS OF COMMUNITY CHANGE AGENTS ON ATTITUDE REGARDING DISASTER PREPAREDNESS AMONG WOMEN RESIDING AT SELECTED COASTAL AREAS OF THIRUKAZHUKUNDRAM, KANCHEEPURAM DISTRICT

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Abstract

Aim & Objective: To assess the effectiveness of community change agents on attitude regarding disaster preparedness among women.

Methodology: Researcher adopted a quasi experimental research design for the study. 414 (experimental-206 & control-208) who fulfilled inclusion criteria were selected by using non probability convenient sampling technique. Researcher obtained written Informed consent from the community change agents and women. Researcher chosen the community change agents and created a favorable attitude towards coastal disaster readiness package (CDRP). Similar training was given to the women regarding home disaster preparedness through the community change agents. Data was collected using a attitude scale.

Results: The study findings showed that the pre test mean attitude score of experimental and control group women was 43.81 with SD of 5.98 and 44.55 with SD of 4.76 respectively. The post test attitude mean score of experimental and control group women was 83.22 with SD of 6.38 and 45.23 with SD of 5.91.

Conclusion: The study concluded that the positive attitude and active participation of community change agents and reinforcement of disaster related education and training is extremely essential for the women living in coastal villages, at regular intervals in order to maintain the sustainability of disaster preparedness measures.

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Introduction:-

A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources. Though often caused by nature, disasters it can even have human origins. (Federal Emergency Management Agency, 2013)

There has been an estimated worldwide increase of natural disasters, by 60% in the past one decade. Almost 2 million people lost their lives, 4.2 million were injured, 3.3 million were left homeless and another 3 million

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affected otherwise by other ways. Men and women have different perception and experience differently, the effects of natural disasters. United Nations Organization Report 2009 stated that women and girls are more vulnerable to natural disasters. Women and girls are particularly exposed to climate-related disaster risk - they are likely to suffer higher rates of mortality, morbidity and economic damage to their livelihoods. And also women, girls and boys have nearly 14 times more chances to die than men during disasters. (United Nations Organization Reports, 2011)

It has been reported that women accounted for 61% of fatalities in Burma, due to Hurricane Nargis of Bangladesh and the next highest Indian ocean Tsunami of 2004 gave a figure of 67 % fatalities. The reasons for the disparity in death rates here in India and elsewhere, are having a direct link to the life cycle factors, are frequency of breast feeding, women's general health and under nourishment affecting their physical strength. During natural disaster, some factors affect the escapism of women such as physical restrictions in movement due to their attire, long hair, lack of practice in swimming and climbing trees and a lack in learning lifesaving skills among others.

Another important reason is about the women being subjected to a number of secondary and so called indirect impact, that arises from these disasters. These include violence, trauma, pressure to marry early, loss of educational opportunities, which end up in Double disaster. Ironically, concern around safety may also have a role to play, as many parents felt that in Bangladesh, felt that cyclone shelters are unsafe for girls and it is not proper to leave them alone, as they are exposed to potential harm, arising out of shared sleeping and lack of sanitary facilities. Another factor is about the women being subjected to sexual abuse during their stay in camps, which rises to very high levels, due to unknown people creating havoc in the camps. (Marren Fordham, 2013)

Natural Disaster emergencies cannot be prevented but can be controlled. Hence, it becomes imperative for the citizen to be prepared at all levels, including individuals, families and organizations. Disaster preparedness is one of the most important elements, that has all the measures, that ensures that resources necessary to carry out an effective response, available before any disaster. Disaster preparedness is the preparation and arrangement of basic necessary items such as storing water, food, preparing household emergency plan, preparation of emergency kit and other activities, that reduce the risk of injury and damage.(Whitaker J, 2015)

Around the world women employ different strategies for their empowerment in disaster preparedness and it is the key for sustainability and capacity building. In turn it helps in speeding up the process of Disaster Risk Reduction Activities. This supportive initiative of preparing women volunteer will act as a community change agent who is the brain child for the family and community. In fact, it is a major boost for forming resilience towards any natural disasters. (UNISDR 2012)

The success stories of women participating in Disaster Risk Reduction have been brought to the public attention for many years, yet women's leadership in building resilient nation and communities has not been adequately highlighted around the world. There are also some obstacles in women's leadership that neglecting role of women in disaster on one hand, was due to the patriarchal attitude towards women and on the other hand due to the authorities and professionals view towards disasters. Despite their vulnerability, women can perform numerous activities including caring, family sheltering, providing relief and other similar things even in unpleasant conditions during and after natural disaster such as floods etc., and they can be help to prepare their society to deal with crisis.

Methods & Materials:-

The research design adopted for the study was quasi experimental design. Researcher has obtained permission from the Directorate of Public Health, Head of the Institution, Medical officer Main primary health centre Sadras. The investigator collected the name list of coastal villages, which comes under the main Primary Health Centre Sadras. Researcher has chosen 4 villages (experimental - 2 village, Control - 2 village) with extreme geographical proximity in order to avoid contamination.

The study was conducted in two phases. In the first phase, researcher identified 10-12 women volunteer after obtaining their willingness to be the community change agents (CCA) from each village with the help of village leader and village health nurse. CCA from the experimental group were instructed to come to the health centre for the training programme. The training programme was scheduled for 3 days. On the first day CCA's were made to sit comfortably. Researcher had given complete explanation about the study and informed consent was obtained and confidentiality was maintained. The background data was collected from the women volunteers, which lasted for 10

to 15 minutes and then assessed their attitude on disaster preparedness using attitude scale which lasted for 30 minutes.

On the second day researcher had given training to the community change agents in the experimental group with Coastal Disaster Readiness Package (CDRP) which consisted of disaster related education, mapping exercises by using charts, knowledge on flood safety measures, communicable diseases spread in natural disasters, women health care and preparation of Family Disaster kit with “10 invisible secrets for visible events” which lasts for 20-30 minutes.

Researcher identified 420 women (Experimental-210 and control -210) with the help of community change agents and obtained informed consent from them. Community change agents assessed the pre test attitude regarding disaster preparedness among women in the presence of the researcher. However, community change agents administered CDRP package and assessed the post test attitude on 1st month, 3rd month and 6th month to the experimental group and pre and post test without intervention for control group women. After post test wait list intervention was given to women in the control group. After attrition a total of 414 samples (206 in experimental group and 208 in control group) were included for the analysis.

Ethical Consideration

Ethical permission was obtained from The Institutional Ethics Review Board from Omayal Achi College of Nursing. Permission was obtained from the Directorate of Medical Education and Directorate of Public Health to conduct the study in the selected areas. Informed consent was obtained and detailed explanation about the study was given to community change agents and women. Confidentiality and privacy was maintained throughout the study. The participants were given a full freedom of continuing (or) withdraw from the study at any time. Women's convenient timing and day was chosen to conduct the study.

Statistical Analysis

Statistical analysis was performed using the Statistical package for Social Sciences Programme (SPSS) version 17.0. Descriptive statistics was used to describe the demographic variables. Student Independent “t” test was used to compare the pre and post test level of attitude among women. One way ANOVA and ‘F’ test was used to find the association between the level of attitude and demographic variables.

Results & Discussion:-

86(41.7%) and 92(44.2%) women in the age of 40-50 years in experimental and control group. When analyzing the monthly family income, majority 104(50.5%) and 95(45.7%) were below Rs.5000-10,000 category in both experimental and control group. 157(76.2%) and 165(79.3%) women were belonged to hindu religion in both experimental and control group. Regarding the type of family, majority 145(70.4%) and 143(68.8%) were in nuclear family in both experimental and control group.

The study findings showed that the pre test mean attitude score of experimental and control group women was 43.81 with SD of 5.98 and 44.55 with SD of 4.76 respectively. The post test attitude mean score of experimental and control group women was 83.22 with SD of 6.38 and 45.23 with SD of 5.91.

The pre and post test level of attitude regarding disaster preparedness among women in experimental and control group was depicted in Table 1. Comparison of pretest and 1st month, 3rd month and 6th post test attitude score among women was depicted in Table 2. Association between the knowledge gain score with demographic variables among women in experimental group was depicted in Table 3.

Table 1:- Level of attitude regarding disaster preparedness among women in experimental and control group N=414.

Assessment	Level of Attitude	Group				Chi-square test
		Experiment (n=206)		Control (n=208)		
		n	%	n	%	
Pretest	Poor	154	74.8	152	73.1	$\chi^2=0.15$ p=0.70
	Moderate	52	25.2	56	26.9	

	Good	0	0.0	0	0.0	(NS)
1 st month	Poor	44	21.4	150	72.1	$\chi^2=125.06$ p=0.001 *** (S)
	Moderate	112	54.3	58	27.9	
3 rd month	Good	50	24.3	0	0.0	$\chi^2=228.84$ p=0.001 *** (S)
	Poor	8	3.9	146	70.2	
6 th month	Moderate	103	50.0	62	29.8	$\chi^2=323.49$ p=0.001 *** (S)
	Good	95	46.1	0	0.0	
	Poor	0	0.0	144	69.2	
	Moderate	35	17.0	64	30.8	
	Good	171	83.0	0	0.0	

*significant at $p \leq 0.05$ **highly significant at $p \leq 0.01$ ***very high significant at $p \leq 0.001$

Table 2:- Comparison of pretest and 1st month, 3rd month and 6th post test attitude score among women N=414.

Table 2: Comparison of pretest and 1 st month, 3 rd month and 6 th post test attitude score among women IV-IV.							
Aspects of attitude	Test	Group				Mean Difference	Student independent t-test
		Experiment (n=206)		Control (n=208)			
		Mean	SD	Mean	SD		
Familiarity regarding Coastal Disasters	Pre test	9.99	2.59	10.34	2.41	0.35	t=1.45 p=0.14 (NS)
	1 st month	13.18	1.69	10.38	2.42	2.8	t=13.67 p=0.001***(S)
	3 rd month	15.30	1.59	10.43	2.57	4.87	t=23.17 p=0.001***(S)
	6 th month	17.07	1.35	10.47	2.59	6.6	t=32.46 p=0.001***(S)
Disaster preparedness	Pre test	9.33	1.85	9.48	1.74	0.15	t=0.83 p=0.41 (NS)
	1 st month	12.77	1.91	9.50	1.76	3.27	t=5.69 p=0.001***(S)
	3 rd month	14.82	2.13	9.53	1.86	5.29	t=8.05 p=0.001***(S)
	6 th month	16.90	1.72	9.58	1.93	7.32	t=16.56 p=0.001***(S)
Disaster adoption	Pre test	8.83	1.57	8.94	1.51	0.11	t=0.74 p=0.46 (NS)
	1 st month	12.38	2.37	8.96	1.57	3.42	t=17.34 p=0.001***(S)
	3 rd month	14.52	1.94	8.98	1.57	5.54	t=31.94 p=0.001***(S)
	6 th month	16.74	1.45	9.02	1.68	7.72	t=41.95 p=0.001***(S)
Disaster Awareness	Pre test	7.71	1.38	7.75	1.48	0.04	t=0.2 p=0.77 (NS)
	1 st month	12.54	1.90	7.79	1.57	4.75	t=27.82 p=0.001***(S)
	3 rd month	13.99	1.74	7.85	1.73	6.14	t=35.96 p=0.001***(S)
	6 th month	16.30	1.80	7.90	1.83	8.4	t=46.94 p=0.001***(S)
Disaster Risk Perception	Pre test	7.95	2.06	8.04	2.01	0.09	t=0.43 p=0.66 (NS)
	1 st month	12.49	2.07	8.08	2.06	4.41	t=21.75 p=0.001***(S)
	3 rd month	13.64	1.55	8.16	2.18	5.48	t=29.49 p=0.001***(S)
	6 th month	16.21	1.79	8.25	2.33	7.96	t=39.00 p=0.001***(S)
Overall	Pre test	43.81	5.98	44.55	4.76	0.74	t=1.39 p=0.16 (NS)
	1 st month	63.37	7.73	44.70	5.00	18.67	t=29.21 p=0.001***(S)

	month						
	3 rd month	72.27	6.96	44.95	5.28	27.32	t=45.02 p=0.001*** (S)
	6 th month	83.22	6.38	45.23	5.91	37.99	t=62.86 p=0.001*** (S)

Table 3:- Odds ratio & its 95% CI & 'p' value of influencing factors for attitude of women in experimental group N=206.

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Demographic variables		Level of Attitude gain score				Total	Chi square test	Odds Ratio (95%CI)
		Below average (≤39.41)		Above average (>39.41)				
		n	%	n	%			
Age in years	>28	87	55.1	71	44.9	158	χ ² =6.95 P=0.01**	1.8(1.0 -3.4)
	18-28	16	33.3	32	66.7	48		
Education	Upto Elementary	46	60.5	30	39.5	76	χ ² =5.33 P=0.02*	2.2(1.2 -4.1)
	Above Elementary	57	43.8	73	56.2	130		
Occupation	Others	77	55.0	63	45.0	140	χ ² =4.36 P=0.04*	2.4(1.3 -4.3)
	House Wife	26	39.4	40	60.6	66		
Family monthly income	≤ Rs.5000	43	61.4	27	38.6	70	χ ² =5.53 P=0.02*	2.9(1.2 -7.1)
	> Rs.5000	60	44.1	76	55.9	136		
Type of family	Nuclear Family	80	55.2	65	44.8	145	χ ² =5.24 P=0.02*	2.4(1.3 -4.4)
	Joint /extended	23	37.7	38	62.3	61		
Family members	< 4 members	70	51.9	65	48.1	135	χ ² =4.84 P=0.02*	2.3(1.1 -4.9)
	> 4 Members	33	46.5	38	53.5	71		

*significant at $p \leq 0.05$ **highly significant at $p \leq 0.01$ ***very high significant at $p \leq 0.001$

The study findings were consistent with the study conducted by Robelita Negradas et al (2017) on knowledge, attitude and practices on disaster risk reduction and management, among the Barangay officials of Baler, Aurora in Philippines. A total of 118 respondents participated. The findings showed that 75%-42% of the respondents had reached tertiary level of education. The knowledge on activities of disaster preparedness was 71%-75% and most of the respondents had positive attitude towards disaster risk reduction and management. This implied that most of them had prior experiences in managing the community and were more familiar with the dynamics of the area and they were aware of what to do during disasters. The author recommends that these strengths of the respondents can be sustained by continuous education, communication campaign on Disaster Risk Reduction Management (DRRM) training and drills related to its programs and guidelines, by collaborating with Government and Non-Government agencies.

Another study conducted by Mohammad Asadzadeh et al(2013) aimed to find out the relationship between the knowledge and attitude of managers, with preparedness of the Health care centres, in Rey Health network against Earthquake risk. The data was gathered by a questionnaire on knowledge assessment, attitude study and preparedness of the centres. The results revealed that, the managers mean score of knowledge was 43%, the mean score of disaster preparedness was 40.7% and the preparedness of Health care centres was about 40%, which was found lower than the expected levels, despite the managers having a good attitude. However, the author attributed the reason for the disparity in results due to insufficient training sessions, lack of regular monitoring and evaluation of nonappropriated funds and facilities.

Another study conducted by Bagrinao R T et al (2017) conducted a survey involving 577 households, that were selected purposively in a floral prone area in Laguna, Philippines. This survey was conducted from May to June

2015 to determine the household's attitudinal responses on disaster preparedness strategies. The reviewed results showed that more females (76%) had participated in the survey than male respondents (24%). Only 18 % of the respondents had finished a higher education of the disaster strategies. It also revealed that, the purchase of the disaster supply kit received the lowest number, i.e. 79 out of 577 respondents. Hence, the author has attributed the reason for this is to the household's lack of income. Poor households usually prioritized food, in the allocation of household income.

Also Halim, R.E (2015) had indicated that, the poor households had to allocate their income, in categories of consumption, related to housing and household facilities, various goods and services, clothes and rice. Moreover 94% of the respondents showed a positive attitude towards attending disaster preparedness training. Hence, the attitude should be motivated by disaster preparedness training and awareness raising activities, to enhance the culture of preparedness among the households as stated by Seneviratne (2011) In addition, most of the respondents (97%) had agreed to follow the advice of the local authority during a disaster. It could also be noted that, more household respondents (96%) had indicated sharing their disaster preparedness plan with all members of the family. Positive attitude could help every member of the household to prepare well for a disaster and the success of the management impact of disasters by households depends greatly on the level of preparedness and co-ordination of the family members.

Conclusion:-

The study found that the women living in coastal areas had negative attitude towards disaster preparedness. The study also proved that the intervention given to the women was much effective in changing the attitude through the Community Change Agents. Furthermore the study concluded that the positive attitude and active participation of community change agents and reinforcement of disaster related education and training is extremely essential for the women living in coastal villages, at regular intervals in order to maintain the sustainability of disaster preparedness measures.

Conflict of Interest:

None declared.

Funding:

None.

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