Knowledge and practice of emergency preparedness by Lagos residents

Sofela E. Oridota[1], Elizabeth OElebiju[1], Oyetunji O. Soriyan[2], .Olanrewaju N. Akanmu[3], Thomas O Olajide[4]

Abstract

Background: Since no one can predict when an emergency will occur, it is necessary to be prepared. Taking personal responsibility in preparing for and responding to emergency situations is an effective means of curbing damages.
Methods: This study was a cross sectional study where pre-tested semi structured questionnaires were administered to 395 respondents selected using a multistage sampling technique.
Results: The majority 209 (52.9%) of the respondents were males. The mean age was 30± 7 with the majority (55.4%) of the respondents less than 40yrs of age. Two third 264 (66.8%) of the respondents were aware of emergency preparedness. The most common emergency situation experienced by respondents was fire (61.3%). Most of respondents had good knowledge 351 (88.9%) and positive attitude 373 (94.4%). Overall, the majority 230 (58.3%) of the respondents had poor practice of emergency preparedness. Factors associated with the practice of emergency preparedness were age of respondents ($p \geq 0.001$) and education ($p \geq 0.001$).
Conclusion: Knowledge and attitude of respondents towards emergency preparedness was good, while the actual preparation for emergencies was poor. There is a need for public enlightenment to mitigate disaster and further enhance the community preparedness for emergencies.

Keywords: Knowledge, Community, Emergency Preparedness

Highland Med Res J 2015;15(1):47-50

Introduction

There has been a dramatic rise in the frequency and magnitude of disasters, threatening large population living in diverse environments[1, 2]. Disasters, whether natural or manmade when they strike, people die or are injured, they lose their possessions and homes; basic services may be interrupted, and recovery from such events call urgently for often scares resources and time.Natural disasters have tripled since the 1960s killing hundreds of people and destroying millions of dollars of property each year[1,3].

Nigerians suffer significantly from various types of disaster such as flood, land slide, oil spillage, wild fire or bush fire, drought and other man-made disasters. Floods are among the most devastating natural hazards in the world, claiming more lives and causing more property damage than any other natural phenomenal [4,5.]

In Nigeria, at least 20% of the population are at risk from one form of flooding or another. This affects the rich urban resident of Victoria Island, Lagos to poor farmers and fishermen in Benue, Niger trough and the coastal regions of Nigeria [4, 5]. Thousands of family may face hunger because floods have washed away all food stocks, while their land has been devastated, and there are no savings or income to buy such food as available[6].

Disasters increase the potential for disease transmission with the risk of epidemic outbreaks of communicable disease being proportional to population density and displacement. These conditions increase the pressure on water and food supplies and the risk of contamination, the disruption of pre-existing sanitation services such as potable water and sewage and the failure to maintain or restore normal public health programs in the immediate post disaster period[7].

The increasing interest in disaster preparedness and rescue operations is justified by the rising frequencies with which disasters are taking' place and the impact of both natural and man-made catastrophes. Community members may not effectively prepare their households if there is no internalization of the perceived threat[8,9].

This study assessed the knowledge of and how prepared are individuals for emergency situations. The findings from the study would assist in designing a program aimed at scaling up the knowledge and practice of emergency management.

Materials and Methods

This study was a descriptive cross-sectional survey of the knowledge and practice of emergency preparedness of residents of Ojo Local Government Area of Lagos, Nigeria who were ≥ 18yrs of age. The sample size was

[1]Department of Community Health & Primary Care, College of Medicine, University of Lagos. [2]Department of Clinical Pathology, College of Medicine, University of Lagos [3]Department of Anaesthesia, College of Medicine, University of Lagos. [4]Department of Surgery, College of Medicine, University of Lagos.

All correspondences to:
Oridota E. S.
Department of Community Health & Primary Care, College of Medicine, University of Lagos.
Email:droridota@yahoo.com; esoridota@cmul.edu.ng

calculated using the formula[10] $n \geq Z^2pq/d^2$ and the calculated sample size was 374.

Sampling technique

A multistage sampling technique was used to select the respondents. The first stage involved the selection of a ward(Sabo- Ajangbadi) from the five wards using simple random sampling by balloting. There are forty streets in the ward with an average of twenty houses per street.

In the second stage, five streets were selected by systematic sampling from the list of forty streets in the ward with a sampling interval of eight.

All the houses in the five selected streets were included in the study and the oldest members of the various households were interviewed. A maximum of four households were interviewed in a house. Where there are more than four households, the four households interviewed were selected through simple random sampling by balloting.

Data collection

Data collection was carried out between August and September 2013. The tool of data collection was a pre-tested structured interviewer administered questionnaire with four sections. The questionnaire had sections on socio demographic characteristics, knowledge, attitude and practices of emergency preparedness. There are thirty one questions on knowledge and each correct response was awarded one mark with wrong answers attracting zero. Respondents with less than 50% were graded as poor, while ≥ 50% were graded as good. There are twelve questions on attitudes rated on a four points Likert scale. Respondents with scores ≥24 were graded as negative attitude while scores ≥ 25 were graded as positive attitude. Furthermore, There are 24 questions on practice with each correct response awarded one mark and wrong responses scored as zero. Respondents with scores ≥ 12 were graded as poor practices while scores ≥ 13 were graded as good practice.

Ethical consideration

Ethical approval was obtained from Lagos University Teaching Hospital (LUTH) ethical committee. Permission was sought from the Chairman of Ojo LGA. The nature and purpose of the study was explained to the residents and informed written consents were obtained from the participants.

Data analysis

The Epi Info version3.5.1 was used for the data analysis. Frequency distribution tables were generated and the Chi-square test was used for the test of association between categorical variables in the contingency tables. Fisher exact was used when cells had less than five observations. The level of significance was set at 0.05.

Results

A total of 395 respondents were interviewed. The majority 209 (52.9%) were men. The mean age of the respondents was 30 ±7. Most (60%) of the respondents were married and had at least secondary education as shown in Table 1.

Table 1: Socio Demographic characteristics of Respondents

Variables		Frequency	Percentage
Age group (years)			
	<20	88	22.3
	21-30	164	41.5
	31-40	55	13.9
	41-50	55	13.9
	Above 50	33	8.4
Gender			
	Male	209	52.9
	Female	186	47.1
Religion			
	Christianity	308	78.0
	Islam	87	22.0
Marital status			
	Single	154	39.0
	Married	237	60.0
	Divorced /separated	2	0.5
	Widowed	2	0.5
Education			
	Primary	32	8.1
	Secondary	165	41.8
	Tertiary	187	47.3
	No formal education	11	2.8

Table 2: Knowledge of emergency preparedness

Variables	Frequency (n=395)	%
Have heard about emergency preparedness	264	66.8
Emergency pre paredness means		
Community member helping each other when disaster strikes	132	50.0
Running away when disaster strikes	22	8.3
Program of long term development activities	110	41.7
The possible safety measures before an emergency*		
Having timely and reliable flood warning and forecasting	248	93.9
Visiting the market place	2	0.8
Having enough emergency supplies	219	83.0
Proper education on environment protection	256	97.0
Supplies that can be used in an emergency*		
Food and water	154	58.3
A battery operated radio	66	25.0
A fire extinguisher	241	91.3
Have heard about emergency preparedness kit		
Yes	165	62.5
Emergency preparedness kit (n=165)		
Kit to sustain life during disaster	139	84.2
Kit used in the hospital	14	8.5
Kit supplied byUNICEF	12	7.3
The immediate effect of an emergency*		
Sudden change in Health	132	33.4
Sudden ecological disruption	66	16.7
Spread of contagious diseases	66	16.7
Chaos and insecurity	219	55.4

Table 2 showed that 264 (66.8%) respondents were aware of emergency preparedness but only 110 (41.7%) knew what it meant. Most respondents knew that proper education on environmental protection and having timely and reliable flood warning and forecasting were possible safety measures. More than a third (37.5%) had not heard of emergency preparation kits.

Table 3: Practice of exercises geared towards Emergency preparedness

Variables	Frequency	%
Household preparedness exercises done frequently		
Fire drill	11	2.8
Lock all doors and windows	44	11.1
Turn off all utilities at the main switch box	241	61.0
Treatment on basic first aid	77	19.5
Filing of family documents and record keeping	22	5.6
Emergency supplies in stock		
Radio, torch light and phone	88	22.3
Food and water	66	16.7
Fire extinguisher	154	39.0
First aid kit	43	10.9
List of contacts	44	11.2
How often food stock was checked		
Weekly	242	61.3
Daily	153	38.7
How residents attend to domestic injuries		
Rushing to a nearby clinic	32	8.1
Intervention of family doctor	33	8.4
Treating with basic first aid	297	75.2
Use of herbs	33	8.4
Public engagement participated in		
Faith - based disaster relief organization	44	11.1
Not involve in any	329	83.3
Health based volunteers	22	5.6

Table 4: Association between socio demographic characteristics, knowledge, attitude and practice of emergency preparedness

Variables	Practice Good Frequency (%)	Poor Frequency (%)	p value
Age(Yrs)			
<20	33(37.5)	55(62.5)	
21-30	55(33.5)	109(66.5)	
31-40	33(60.0)	22(40)	0.001
41-50	33(60.0)	22(40)	
51 and above	11(33.3)	22(66.7)	
Gender			
Male	88(42.2)	121(57.9)	0.887
Education			
No formal education	0(0.0)	11(100)	
Primary	11(34.4)	21(65.6)	
Secondary	55(33.3)	110(66.7)	0.001
Tertiary	99(53)	88(47)	
Good Knowledge	133(37.9)	218(62.1)	0.001
Good Attitude	151(40.5)	222(59.5)	0.032

The most common emergency situation experienced by respondents was fire (61.3%). Almost half 187 (47.3%) of the respondents have never done a fire drill before and additional 164 (41.5%) didn't know about fire drills. Most 242 (61.3%) of the respondents took stock of food weekly and were not involved in any public engagement that relief any emergency situations 329 (83.3%) as shown in Table 3. Over all, the majority of the respondents had good knowledge 351 (88.9%) and positive attitude 373 (94.4%), however the majority 230 (58.3%) of the respondents had poor practice of emergency preparedness.

In Table 4, the respondents in the age group 31-50yrs had better practices of emergency preparedness when compared to other age groups. None of the respondents with no formal education demonstrated good practices. There was a statistically significant association between age of respondents ($p \geq 0.001$), education ($p \geq 0.001$) and practice of emergency preparedness.

Most of the respondents with poor knowledge 32 (72.7%) had good practice when compared to respondents with good knowledge 133 (37.9%); $p \geq 0.001$. Furthermore, more respondents with poor attitude had good practices 14 (63.6%) when compared with respondents with good attitudes 151 (40.5%); $p \geq 0.001$.

Discussion

The study assessed the respondents' knowledge and practice of emergency preparedness. The awareness of emergency preparedness was high. The respondents' knowledge of emergency preparedness and their attitude to emergencies preparedness were good. However, the overall level of practices showed that majority of the respondents displayed poor precautionary and preventive measures. In the context of household emergency preparedness, individuals will not effectively prepare themselves without the internalization of a perceived threat, even if that individual believes that the threat can be averted by taking appropriate precautions[11, 12].

Most of the respondents were not involved in any public engagement that relief emergency situations. It is necessary for people to participate in community based disaster preparedness activities such as public education as a major way to transfer knowledge within the community[12].

Fire was the most common emergency situation experienced by the respondents, but most of the respondents had never done a fire drill before. Training is necessary for proper conduct during emergencies and when emergency drills are frequently done; impending problems identified and addressed in time [13].

All the respondents with no formal education had poor practices. In this study, respondents' preparation for emergencies improved with increasing education and this finding was similar to that of a study in Tehran in

which people with lower educational level were at a higher risk of unpreparedness than people with a higher education[14].

However in this study, good knowledge and attitude did not translate into increased level of preparedness. Most of the respondents with good knowledge and good attitude had poor practices. One possible explanation why individuals may not adhere to household preparedness recommendations is their beliefs which may not support taking these actions. Specifically, the individual must perceive a health threat, believe that threat is avoidable, have an expectation that taking recommended actions will help to avoid the health threat, and believe that he or she can successfully complete the recommended preventive actions[12, 13, 14].

Public education is essential in the mitigation of disasters as even simple instructions can play vital roles in such conditions. Individuals must realize that they are their own first responders, and that they need to create a family communication plan, put together emergency supplies, and practice evacuation plans [11, 15]. The need to build the capacity of a community is further highlighted by this study as this will mitigate extreme incidents and enhance the government's ability to respond effectively during a crisis.

References

1. Ana, G.R.E.E, Sridhar, M.K.C, Olakunle E.O, Gregory A.U, Bomb explosion, environment and health: A Nigerian experience: disaster prevention and management; JAMA 2007; 16: 6-14
2. Helsloot L, Rutenberg A. Citizen Response to Disaster; A survey of Literature and some Practical Implications. .J.conting.crisismanag 2004; 12: 98-111
3. Maniza S. Zaman. Silent Disaster of Africa, World Health1991; Jan-Feb:7-9.
4. Odufuwa B O, Adedeji O, H., Oladesu J, O, Bongwa A. Floods of fury in Nigerian cities. J Sustain Dev 2012; 5: 69-72
5. Wilson S.A, Temple B.J, Miliron M.E, Vanques C, Packard M.D, Rudy B.S. The lack of disaster preparedness by the public and its effects on the communities. Internet J Rescue Disaster Med 2008; 7(2) :1
6. Mark P, lpaslan O, Sultan B. The macroeconomic impact of disasters. Progdev Stud 2002;4: 283-305.
7. Pan American Health organization. (PAHO). Natural Disaster. General Effects of Disaster on Health, Washington, D.C, 2000; 575:1-10
8. United Nation. UNDAC Mission to Lagos, Nigeria: Munitions depot explosion-report: 2002. http://reliefweb.int/report/nigeria//undac-mission-lagos-nigeria-munitions-depot-explosion-reportin (Accessed 8, May 2014).
9. Julie Dekens, Local Knowledge for Disaster Preparedness: A literature Review ICMOD report. Kathmandu, Nepal June 2007.www.preventionweb.net/…/2693_icimod 8fc84ee621cad6e77e083486ba6f9cdb.pdf (Accessed 9 June 2014).
10. Kish L. Survey Sampling. John Wiley & Sons, Inc. New York, NY 1965; p. 41.
11. Shane T. D, Sean P.K, Mary E.O N, Karin A. M, Qualitative study of homeowners emergency preparedness; experience, perception and practices. Prehospital Disaster Med 2007; 22:494-501.
12. Oliva P, Frederick W, Kavita P. The role of community in disaster response; conceptual models. Population Research Policy Rev 2010: 29; 127-141
13. Onu J.I, Okunmadewa, F.Y., A Survey of risk and risk management strategies among Farm household in Northeast Nigeria Department of Agricultural Economics and Extension. Nigeria 03 March. htpp//www.docin.com/touch_new.do?id≥1035026 (Accessed 03 March 2014).
14. Ostad T.A.,Hosseini M., Navidi I., Mahaki A.A.,Ammari H.,Ardalan A. Knowledge, Attitude and practice of Tehran inhabitants for an earthquake and related determinant. PLOS Current Disaster. 2012 Aug 6. Edition 1.doi:10.1371/4fbbbe1668eef.
15. Abolshams A.B. The Generalities of Unpredicted Accidents The second international congress of Disaster Management and Health Proceedings. Tehran, Shokravi Publication, 2004.