

# **Current Journal of Applied Science and Technology**



39(20): 6-22, 2020; Article no.CJAST.58431

ISSN: 2457-1024

(Past name: British Journal of Applied Science & Technology, Past ISSN: 2231-0843,

NLM ID: 101664541)

# **Emergency Preparedness and Response in Tertiary** and Private Hospitals in Yenagoa Metropolis

Ogoinja Amaitari<sup>1\*</sup>, Babatunde Bolaji Bernard<sup>2</sup>, Maduka Omosivie<sup>3</sup> and Chikere Ezeokoro<sup>1\*</sup>

<sup>1</sup>Centre for Occupational Health Safety and Environment, University of Port Harcourt, Nigeria.

<sup>2</sup>Faculty of Science, University of Port Harcourt, Nigeria.

<sup>3</sup>Public Health Consultant, University of Port Harcourt, Nigeria.

#### Authors' contributions

This work was carried out in collaboration among all authors. Author OA designed the study and wrote the protocol. Author BBB supervised the study design, methodology, statistical analysis and result reporting. Author MO supervised the literature searches and general work arrangement. Author CE performed the statistical analysis and wrote the first draft of the manuscript. All authors read and approved the final manuscript.

#### Article Information

DOI: 10.9734/CJAST/2020/v39i2030803

Editor(s)

(1) Dr. Ekpenyong, Christopher Edet, University of Uyo, Nigeria.

<u>Reviewer</u>

(1) I. Wayan Widyantara, Sanglah General Hospital, Udayana University, Indonesia.
(2) Davinder Kaur, Gian Sagar College of Nursing, Baba Farid University of Health Science, India.
Complete Peer review History: <a href="http://www.sdiarticle4.com/review-history/58431">http://www.sdiarticle4.com/review-history/58431</a>

Original Research Article Accept

Received 06 May 2020 Accepted 10 July 2020 Published 27 July 2020

#### **ABSTRACT**

Many Hospitals around the world are functioning at full capacity and ill prepared to cope with sudden influx of large number of patients during emergencies. This study was carried out to assess the emergency preparedness and response in tertiary and private hospitals in Yenagoa Metropolis. It was a descriptive cross-sectional survey that used questionnaire and checklist, key informant interviews and walk through survey to collect data from 400 staff at the selected tertiary and private hospitals. The results showed that the respondents have good knowledge of emergency preparedness with 300(80%) out of 400 participants with good knowledge and only 100(20%) showing poor knowledge but the status of emergency preparedness and response was poor with Federal Medical Centre Yenagoa with 36(80%) of the items assessed lacking. Niger Delta University teaching Hospital scored 16(36%) while 29(64) not available from the assessment. Private facility 1 had a 6(13%) positive response out of the 45 list items with 39(86%) not in place

while the second Private Hospital had a total positive score of 4(10%) with 41(90%) of the components of emergency preparedness lacking. Based on the outcome of the survey, the following recommendations were made: for the hospital management of both the tertiary and private hospitals to constitute an all-inclusive emergency management committee that will develop an emergency preparedness plan in the hospitals; Emergency preparedness and response training of hospital staff to further build their capacity to respond to emergencies or disasters when the need arises; Installation of proper triage unit in the emergency department for decontamination and to sort patients in case of highly infectious disease outbreak or chemical exposure; Collaboration with the State Ministry of Health to have memoranda of understanding with other hospitals to enhance patient transfer in case of disaster events.

Keywords: Emergency response; private hospital; tertiary hospital; Yenagoa.

#### 1. INTRODUCTION

Emergency preparedness and response is the ability of public health, hospitals as well as communities and individuals to prevent, protect against, swiftly respond to, and recover from emergencies related to health, especially from those emergencies that are capable to overwhelm normal functioning. Society is evolving very fast with new threats that has the potential to give rise to emergency situations. preparedness emergency Therefore. response in health facilities is key to the survival of patients in these threatening times with disease outbreaks, disasters such as flooding, earth quake, terrorist attacks etc. that causes a surge in the influx of patients into the hospitals. In such cases, emergency preparedness and response in hospitals becomes a major tool in saving the lives of the victims. The coordinated planning. process and continuous of implementation and evaluation is what makes emergency preparedness relevant.

Hospitals like other institutions are vulnerable to disasters and its effect therefore, hospitals require comprehensive preparedness to function effectively durina and after disaster. Preparedness process starts by Hazard, vulnerability and risk assessment [1]. Emergency preparedness consists of the structural, nonstructural, organizational and medical aspects of hospitals in order to develop and implement properly designed plan that will promote their capacity to respond effectively to emergencies [2]. Hospitals are burdened with the surge of patients' influx during emergencies and it is expected to provide essential medical care, this is expected to be carried out in a safe environment for its personnel yet these hospitals are inadequately prepared to respond to these emergencies leading to confusion over roles and

responsibilities as a result of poor training and communication [3].

Emergency preparedness is a continuous process in which action, funding, partnerships and political commitment at all levels must be sustained. It relies on all stakeholders working together effectively to plan, invest in and implement priority actions [4].

#### 1.1 Statement of the Problem

The health ministries of many countries have poor institutional arrangement which is made worse by the dearth of health man power to prepare and respond adequately to emergencies.

In the United States, hospitals readiness to manage emergencies is uneven with some not ready to accept and care for the influx of patients from disasters including disease outbreak [5]. Similarly, in North Western Iran and other Asian countries, emergency response in health facilities are inadequate having a low to moderate level of disaster knowledge, skill and preparedness [6].

Nigeria has had her own share ranging from landslides, terrorist attacks, flooding, mass road traffic accident, collapse of buildings, fire, disease outbreak etc. with varying degree of injuries and deaths which depends on many factors with level of preparedness amongst others [7].

In a study conducted in an emergency department of a tertiary hospital in South – South of Nigeria, out of four thousand and eleven (4011) patients that were seen in the emergency department three hundred and fifty-five mortalities were recorded during the period under study [8].

During the monkey pox outbreak of 2017 in Bayelsa state, the researcher who was part of the Emergency Operations Centre (EOC), discovered that only one hospital was able to prepare a makeshift ward to admit monkey pox cases in the state. This may be an indicator that the health facilities in Bayelsa need to be examined to ascertain the level of emergency preparedness and response.

This study seeks to assess the emergency preparedness and response in tertiary and private hospitals in Yenagoa Metropolis in relation to policies, plans and knowledge at the hospitals. To achieve this aim, a number of objectives which includes: to assess the policy guiding emergency preparedness and response in hospitals in Yenagoa; determine the proportion of health workers with good knowledge of emergency preparedness and response in hospitals in Yenagoa; Assess the attitude of health workers regarding emergency preparedness and response in tertiary and private hospitals in Yenagoa and to describe the status of emergency preparedness and response in tertiary and private hospitals in Yenagoa were set.

#### 2. RESEARCH METHODS

#### 2.1 Study Area

This study area was in Yenagoa Metropolis, Bayelsa State, South – South Nigeria (see Fig. 1). It is located between latitude 4048'46.85" N - 506' 30.28" N and longitude 6011' 5.18" E – 60 2657.69"E and consist of one local government area namely; Yenagoa, LGA. The major language spoken is ljaw language. The physical setting of the state consists mainly of riverine and estuarine; [9].

## 2.2 Scope of the Study

This study on emergency preparedness and response was delimited to the two tertiary hospitals, Niger delta University Teaching Hospital Okolobiri and Federal Medical Centre Yenagoa in addition to selected secondary private hospitals within the same Yenagoa Metropolis.

## 2.3 Research Design

The study used a cross-sectional descriptive survey to assess emergency preparedness and

response in tertiary and secondary private hospitals in Yenagoa Metropolis. The design involves the collection of information from health workers on the emergency preparedness and response in tertiary and private hospitals from the representative sample. This research work was accomplished by survey questionnaires, key informant interviews with selected head of different departments and use of checklist [10].

The target population of the study consist of health personnel in Yenagoa metropolis with focus on health personnel selected from Federal Medical Centre (FMC) Yenagoa, Niger Delta University Teaching Hospital Okolobiri and two selected Secondary Private Hospitals in Yenagoa Local Government Area.

## 2.4 Sample and Sampling Techniques

Non probability (convenience) sampling technique was used first to select hospitals in tertiary and private hospitals in Yenagoa Local Government area for the study. Then a stratified sampling technique was used to categorize workers (doctors. health care pharmacists/ pharmacy technicians, medical laboratory scientists/technicians, administration and others). Simple random sampling technique was further used to select participants from the different subgroups.

Sample size of 422 for the study was calculated based on the Cochran formula presented as

$$n = \frac{z^2(pq)}{d^2}$$

Where,

n = required sample size.

z = level of confidence, for a level of confidence of 95% z = 1.96.

p = estimated proportion of the population (when unknown p = 0.5)

q = 1 - p.

# 2.5 Method of Data Collection/ Instrumentation

Pilot study, key informant interviews using Check list and a four sectioned questionnaire, were used as the instrument for collecting data. A total of 422 questionnaires was distributed and 400 were completed and retrieved.

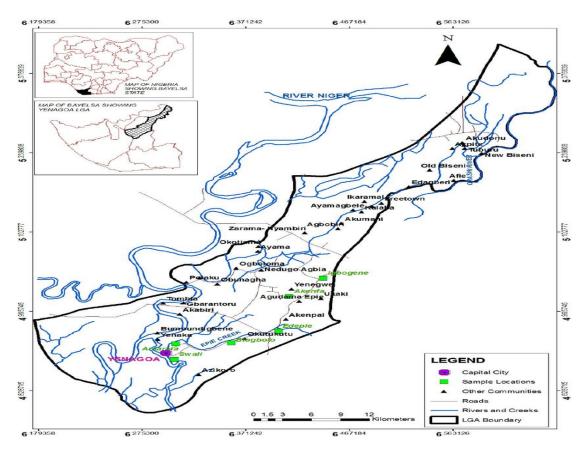


Fig. 1. Map of Yenagoa local government area (Source: Google Map 2018)

## 2.6 Data Analysis

SPSS 20, and Microsoft Excel 2010 software was used to analyse the information generated and data presented in tables and charts. Responses on the proportion of health workers with good knowledge of preparedness and attitude of health workers towards emergency preparedness was be presented using percentage grading as poor (less than 45%), fair (46% – 59%) and good (60% and above).

## 3. RESULTS AND DISCUSSION

# 3.1 Emergency Preparedness and Response Policy in Tertiary and Private Hospitals in Yenagoa

Emergency preparedness policy is scarcely available at the Hospitals in Yenagoa as shown in Table 2 were only 115(29%) out of the 400 respondents agreed that there are emergency preparedness and response policy in place at the hospital as against 285(71%) that said there were no policy. The result further revealed that

though there are emergency preparedness policy at the hospitals, they are not implemented as shown in Table 2, with 261(65%) that said yes while 139(35%) said no to the statement.

These findings are in agreement with the view of WHO/HAC [11], that most of the countries existing emergency preparedness and response policies with African region having the least number countries that reported existing policies.

The result revealed that a high proportion of health workers have good knowledge of emergency preparedness and response in Yenagoa Metropolis, 300(80%) as against 32(3%) with fair knowledge and 68(17%) demonstrating poor knowledge. These findings are in line with the view of previous researches that nurses showed good knowledge on disaster and its management (Rehana et al., 2017). This view is also supported by a study carried out in Hospitals in Northern Nigeria which showed that Nurses had good knowledge of emergency preparedness with more than 60% indicating clear knowledge on emergency preparedness [12].

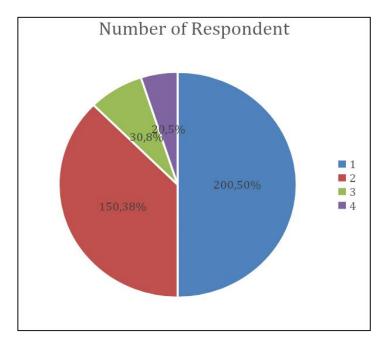


Fig. 2. Percentage distribution of respondents from tertiary and private hospitals

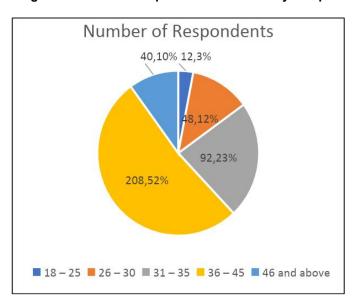


Fig. 3. Percentage distribution of age of respondents

Table 1. Percentage distribution of academic qualification of respondents

S/N	Academic qualification	Frequency	Percentage	Cumulative percentage
1	Ph.D.	0	0	0
2	MBA/MA/M.Sc./M.Ed.	106	26	26
3	BA/B.Sc./B.Ed./HND	206	51	77
4	ND/OND/NCE	58	15	92
5	S.S.C.E.	30	8	100.00
	Total	400	100.00	

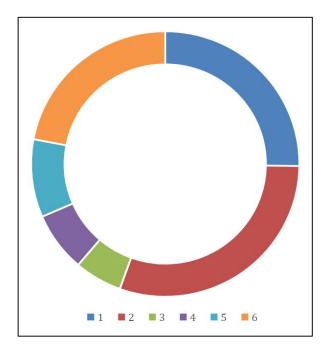


Fig. 4. Percentage distribution of respondents profession

Table 2. Emergency preparedness and response policy

S/N	Statement	Yes (%)	No (%)	Total
9	There are guiding policies in place regarding emergency preparedness and response in the Hospital.	115 (29)	285 (71)	400 (100)
10	There are guiding policies in place regarding the Hospital emergency preparedness and response in hospitals, but they are not implemented.	261 (65)	139 (35)	400 (100)
11	The hospital emergency management policy is reviewed annually and any time the need arises.	254 (64)	146 (36)	400 (100)
12	The hospital emergency policy is visible to all category of workers in the Hospital.	247 (62)	153 (38)	400 (100)
	Total Percentage	219 (55)	181 (45)	400 (100)

Table 3. Percentage distribution of knowledge level of hospital workers on emergency preparedness and response

Serial number	Frequency	Percentage (%)
Good knowledge	300	80
Fair Knowledge	32	3
Poor Knowledge	68	17
Total	400	100

Table 4. Percentage distribution of attitude of hospital workers on emergency preparedness and response

Serial Number	Frequency	Percentage (%)
Good Attitude towards emergency preparedness	276	66
Poor Attitude towards emergency preparedness	134	34
Total	400	100

Table 5. Distribution of status of Emergency preparedness and response in tertiary and private hospitals in Yenagoa

S/N	S/N Variables		CY	NDU	JTH	Private h	nospital 1	Private h	nospital 2
		Yes	No	Yes	No	Yes	No	Yes	No
1	Command and Control	0	4	2	2	1	3	0	4
2	Communication	2	7	3	6	0	9	0	9
3	Safety and Security	2	3	2	3	1	4	0	5
4	Triage	0	4	1	3	0	4	0	4
5	Logistics and supply management	2	2	2	2	1	3	1	3
6	Human Resources	2	2	3	1	2	2	2	2
7	Training and Education	0	4	1	3	0	4	0	4
8	Surge Capacity	1	7	2	6	1	7	1	7
9	Monitoring and Evaluation	0	3	0	3	0	3	0	3
	Total percentage Score	9 (20%)	36 (80%)	16 (36)	29 (64)	6 (13%)	39 87%	4 (10%)	41 (90%)

The findings however are contrary to the view of other researchers like [13,14] which stated that the overall knowledge of emergency preparedness among health personnel is poor. It is therefore important for hospital managers to ensure adequate training of hospital personnel on emergency preparedness and response to enhance good patient outcome in the event of disaster events.

The findings from Table 4 showed good attitude of workers towards emergency preparedness and response attitude of Health workers towards emergency preparedness showed that 276(66%) of the respondents had good attitude towards emergency preparedness while 134(34%) had poor attitude. This is in line with previous researchers' view that health personnel attitude to emergency preparedness and response is good. In a study of assessment of knowledge, attitude and practice of disaster preparedness among workers in Anbessa specialized Hospital Health Care Centre Addis Ababa, Ethiopia. Results showed that the health workers general attitude towards Emergency preparedness was largely positive (64.8%) [15]. A similar study in India public hospital shared the same view that hospital staff were sensitive to emergency preparedness and doctors were reported to have the most positive attitudes towards disaster management [16].

The same view was reported from a study that was carried out in Lagos, Nigeria. 93% of the respondents' attitude towards emergency was generally positive [13].

The health personnel in Yenagoa Metropolis are willing to respond to emergencies and see emergency preparedness as every health personnel affair and the respondents also indicated a strong need for training to equip them to adequately respond to emergencies.

Finding from the study revealed a very poor status of emergency preparedness and response at the tertiary and private hospitals in Yenagoa. It was also discovered that the tertiary hospitals though poor but was seen to be better than the private hospitals.

Table 5 showed that only 9(20%) score was obtained in Federal Medical Centre Yenagoa with 36(80%) of the items assessed lacking. Niger Delta University teaching Hospital scored 16(36%) while 29(64) were not available from the assessment. Private facility 1 had a positive

response 6(13%) out of the 45 list items with 39(86%) were not in place while the second Private Hospital had a total positive score of 4(10%) with 41(90%) of the components of emergency preparedness components lacking.

These findings are in line with WHO report [11] that most countries lack human resources, low preparedness for emergency management and lack of dedicated emergency preparedness and response unit. This view is also supported by [7] and [17] that the health care system in Africa is least prepared to cope with the surge of patients in emergencies and Hospital emergency preparedness is at elementary stage.

Contrarily researches from China showed considerable progress in emergency preparedness and response though some gap still exists. The emergency preparedness and response plan were not comprehensive were it exist, no functional triage except NDUTH that have a dedicated room for it but lacks almost all the features of a triage. None of the hospitals assessed have the surge capacity to contain sudden influx of patients in the event of a disaster, the command and control lines were not clearly defined as such role confusion will cannot not be eliminated in the emergencies. Virtually all emergency preparedness component assessed were grossly inadequate from the data presented above.

# 4. CONCLUSION AND RECOMMENDA-TION

#### 4.1 Recommendations

The following recommendations are made based on the findings.

- The hospital management of both the tertiary and private hospitals should constitute an all-inclusive emergency management committee that will develop an emergency preparedness plan for the hospitals.
- Hospital management should further enhance the capacity of the hospital personnel to respond to emergencies or disasters through emergency preparedness and response trainings on
- Hospital management should install proper triage unit in the facilities emergency department for decontamination and to sort

- patients in case of highly infectious disease outbreak or chemical exposure.
- The hospitals should collaborate with the State Ministry of Health to have memoranda of understanding with other hospitals to enhance patient transfer in case of disaster events in Yenagoa.

#### 4.2 Conclusion

The study showed achieved the following:

- Assessed the policy guiding emergency preparedness and response in hospitals in Yenagoa.
- Determined the proportion of health workers with good knowledge of emergency preparedness and response in hospitals in Yenagoa.
- Assessed the attitude of health workers regarding emergency preparedness and response in tertiary and private hospitals in Yenagoa.
- And described the status of emergency preparedness and response in tertiary and private hospitals in Yenagoa.

## CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

# ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

## **ACKNOWLEDGEMENT**

The lead author wishes to acknowledge her husband Dr. Ogoinja Stanley Zikeyi for his emotional and financial support through out the duration of this research.

# **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

## **REFERENCES**

 Bajow N, Djalali A, Ingrassia PL, Ragazzoni L, Ageely H, Bani I, Della Corte F. Evaluation of a new community-based

- curriculum in disaster medicine for undergraduates. BMC Medical Education. 2016;16(1):225.
- Herbosa, Teodoro. Hospital Preparedness for Emergencies (HOPE) Course Instructors Guide; 2007. Available:http://www.annalsafrmed.org/text .asp?2015/14/3/123/149894 http://www.bioline.org.br
- United Nations International Strategy for Disaster Reduction (UNISDR). Terminology on Disaster Risk Reduction; 2009.
  - Available:https://www.unisdr.org/files/7817 \_UNISDRTerminologyEnglish.pdf (Retrived September 2 2018)
- World Health Organisation. A strategic framework for emergency preparedness; 2017.
  - Available:www.who.int/ihr/publications/978 9241511827/en
  - (Retrieved October 3 2018)
- 5. Barbera JA, Yeatts DJ, Macintyre AG. Challenge of hospital emergency preparedness: Analysis and recommendations. Disaster Medicine and Public Health Preparedness. 2009;3(S1):S74-S82.
- Janati A, Sadeghi-Bazargani H, Hasanpoor E, Sokhanvar M, HaghGoshyie E, Salehi A. Emergency response of Iranian hospitals against disasters: A practical framework for improvement. Disaster Medicine and Public Health Preparedness. 2018;12(2):166-171.
- Aliyu A. Management of disasters and complex emergencies in Africa: The challenges and constraints. Annals of African Medicine. 2015;14(3):123.
- 8. Ugare GU, Ndifon W, Bassey LAE, Oyo-Ita AE, Egba RN, Asuquo M, Udosen AM. Epidemiology of death in the emergency department of a tertiary health centre South-South of Nigeria. African Health Sciences. 2012;12(4):530-537.
- Babatunde AA, Yesuf GU. Risk analysis of arable land to flooding: A case study of Yenagoa and environs, Bayelsa State, Southern Nigeria. 2015;4(8):92–97.
- Chukwu EC, Ugorji JH. Insect pest infestations of five selected vegetables in the Niger Delta, Nigeria. Acta Agronomica Nigeriana. 2011;11(1/2):57-62.
- World Health Organization, Health Action in Crises (WHO/HAC). Global assessment of national health sector emergency preparedness and response; 2008.

- Available:http://www.who.int/hac/about/Global\_survey\_inside.pdf
- Ayuba SB, Danjuma A, Nassa YG, Joseph I, Matthew AW, Micheal SN. Role of the nurse in emergency preparedness: A survey of secondary health facilities in Northern, Nigeria. World. 2015;3(3):54-60.
- Adenekan BA, Balogun MR, Inem V. Knowledge, attitude and practices of emergency health workers toward emergency preparedness and management in two hospitals in Lagos. Journal of Clinical Sciences. 2016;13(1):23.
- Naser WN, Saleem HB. Emergency and disaster management training; knowledge and attitude of Yemeni health professionals-a cross-sectional study. BMC Emergency Medicine. 2018;18(1):23.
- 15. Habte A, Addisie A, Azazh A. Assessment of knowledge, attitude and practice of disaster preparedness among Tikur Anbessa specialized hospital health care workers, Addis Ababa, Ethiopia. American Journal of Nursing Science. 2018;7(1):39-48.
- 16. Singhal YK, Bhatnagar R, Lal B, Paliwal B. Knowledge, attitudes and practices of medical internship students regarding disaster preparedness at a tertiary-care hospital of Udaipur, Rajasthan, India. International Journal of Medical Science and Public Health. 2016;5(8):1613-1617.
- Gerald N. T. Chimenya. University of Free State, Disaster Management Training and Education Centre for Africa Health. Special volume 2016. 10.4119/UNIBI/SEEJPH-106; 2016.

## **APPENDIX 1**



# RESEARCH ETHICS COMMITTEE FEDERAL MEDICAL CENTRE, YENAGOA. CLEARANCE CERTIFICATE

Application form number: FMCY/REC/ECC/2018/OCT/123.

Project Ti. EMERGENCY PREPAREDNESS AND RESPONSE IN TERTIARY AND PRIVATE HOSPITALS IN YENAGOA METROPOLIS, BAYELSA STATE, NIGERIA.

Principal Investigator: OGOINJA, AMAITARI.

Department/Institution: HEALTH SAFETY AND ENVIRONMENT, INSTITUTION OF PETROLEUM STUDIES, FACULTY OF ENGINEERING, UNIVERSITY OF PORT-HARCOURT RIVERS STATE NIGERIA.

Date considered: 15th October, 2018.

Decision of the Committee: Approved

Chairman. Dr. Madubuike Chinyere

Signature & Date: 15/15/2018

Notes: This ethical clearance certificate is valid for only this research protocol.

### **DECLARATION BY INVESTIGATOR(S)**

Protocol Number:

To be completed in duplicate and one copy returned to the secretary. Research and Ethics committee Federal Medical Centre, Yenagoa.

I/we fully understand the conditions as stated in the ethical aspect of this project design and I/we guarantee that, I/we will ensure compliance with these conditions. Should any departure be contemplated from the research procedure as approved, I/we undertake to resubmit the protocol to the Research and Ethics Committee.

Signature:

Date: 15/16/2018



## **SECTION A:**

### **QUESTIONAIRE SAMPLE**

## **RESPONDENTS PROFILE**

	Name of Hospital or tertiary institution (Optional)  Gender: Male ( ) Female ( )
3.	Age: 18-25 ( ) 25-30 ( ) 30-35 ( ) 35-45 ( ) 45 and above ( )
4	Marital status: Married ( ) Single ( )
	Divorced ( ) Separated ( ) Widow ( ) Widower ( )
5.	Academic qualification: Ph.D. ( ) MBA/MA/M.Sc./M.Ed. ( )
	BA/B.Sc./B.Ed./HND ( ) ND/OND/NCE ( ) S.S.C.E ( )
6.	Category of workers – Management staff ( ) others ( )
7.	Type of health institution: Tertiary ( ) Private ( )
8.	State your profession

## **SECTION B: Emergency Preparedness and Response Policy**

Statement	YES	NO
9. There are no guiding policies in place regarding emergency		
preparedness and response in the Hospital		
10. There are guiding policies in place regarding the Hospital		
emergency preparedness and response in hospitals, but they are		
not implemented.		
11. The hospital emergency management policy is reviewed		
annually and any time the need arises.		
12. The hospital emergency policy is visible to all categories of		
workers in the Hospital.		

# SECTION C: Knowledge of emergency preparedness and response

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Undecided
13. Emergency preparedness and response refers to the ability					
of health care systems, communities, and individuals, to					
prevent, protect against, quickly respond to, and recover from					
health emergencies.					
14. Hospital emergency preparedness plan consists of					
structural, non-structural, functional and human resource					
components.					
15. There is an emergency preparedness and response plan at					
the hospital and I know where to access it.					
16. Over the past two years, I have participated in educational					
activity(training) dealing with emergency preparedness and					
response.					
17. Emergency Operations Centre (EOC) is a predetermined					
location chosen for the Emergency Operations.					
18. The steps to follow in the hospital when there is an					
emergency that causes sudden influx of large number of					
patients is well documented in the emergency plan and well					
understood by staff at the hospital.					
19. I have competence to carry out accepted triage principles					
used in disaster incident.					

# SECTION D: Attitude of Health Workers to emergency preparedness and response

Statement	Strongly Agree	Agree	Disagree	Strongly disagree	Undecided
20. I need to know about disaster plans					
21. Disaster planning is for everybody in the hospital					
22.Potential hazards likely to cause disaster should be identified					
and dealt with.					
23. Emergency preparedness and response is for doctors and					
nurses only					
24. I will willingly participate in emergency response including					
infectious disease outbreak whenever the need arises.					
25. I will willingly participate in emergency response including					
infectious disease outbreak without incentive.					
26. The attitude of health personnel to emergency preparedness					
and response in the hospitals is very good.					
27. Lives and properties are lost during emergencies due to				_	
untrained personnel in hospitals.					

## **APPENDIX 2**

## **HOSPITAL EMERGENCY PREPAREDNESS CHECKLIST**

Adapted from the WHO Hospital emergency response checklist.

Instructions: i) Indicate with an (X) in the relevant column showing whether the component is available or not. ii) Write your comment in the space provided. iii) Where possible, conduct a physical check of the hospital to find out if the listed component or facility is available and make comments in the space provided.

A. COMMAND AND CONTROL	Yes	No	Comment
1. Is there a designated hospital command Centre, i.e. a			
specific location prepared to convene and coordinate			
hospital-wide emergency response activities and			
equipped with effective means of communication?			
2. Is there a designated individual (focal point) to ensure			
the appropriate management and coordination of related			
response activities?			
3. Do the Hospital Consult core internal and external			
documents (e.g. publications of the national health			
authority and WHO) related to hospital emergency			
management to ensure application of the basic principles			
and accepted strategies related to planning and			
implementing a hospital incident action plan?			
4. Is there Implementation or development of job action			
sheets that briefly list the essential qualifications, duties			
and resources required of EOC members, hospital			
managers and staff for emergency-response activities?			
B. COMMUNICATION			
1. Is there an indication of what communication systems			
are to be used during disasters?(Please note which ones)			
2. Are there any provisions for alternative communication systems in the event that the normal systems ( for			
example telephone, cell phones) are overloaded and are			
unserviceable during disasters?(note which ones)			
Does the plan utilize an organized runner or			
messenger system as back-up during disasters?			
4. In the event of a power outage, does the plan detail			
what forms of communication systems will be used?			
Are there any arrangements with local			
telecommunications companies for provision of adequate			
uninterrupted communication systems during disasters?			
6. Are there standardized messages for alerting hospital			
staff with descriptions of each stage?			
7. Does the plan specify who is responsible for activation			
of the plan?			
8. Are there specifications under which the plan can be			
activated?			
9. Does the plan specify how staff members will be			
notified?			
C. SAFETY AND SECURITY			
Does the hospital have hospital security team			
responsible for all hospital safety and security activities in			
collaboration with the hospital Incident command group (ICG) identify areas where increased vulnerability is			

- anticipated (e.g. entry/exits, food/water access points, pharmaceutical stockpiles.
- 2. Does the plan detail how pedestrians and vehicular traffic will be controlled?
- 3. Does the plan show how staff will be identified during a disaster?
- 4. Are there details of personal protective equipment and precautions to be taken in the event of a possible infectious disease or when victims need decontamination?
- 5. Does the plan show how healthcare workers from outside the hospital will be identified and registered so as to facilitate safe and qualified patient care?

#### D. TRIAGE

- 1. Do the hospital have an experienced triage officer to oversee all triage operations (e.g. a trauma or emergency physician or a well-trained emergency nurse in a supervisory position).
- 2. Have key areas been identified and selected? (Please indicate where they are located in relation to the emergency department)
- 3. Is there a separate entry for contaminated patients into the emergency department
- 4. Does the decontamination area have hot and cold water with run off that can be contained, with isolated ventilated area and a device for decontamination?

## E. LOGISTICS AND SUPPLY MANAGEMENT

- 1. Is there stockpiling of drugs and other clinical equipment for use during disasters?
- 2. Is there supply of Personal Protective Equipment for staff members?
- 3. Are Catering services, Supply of clinical equipment, Supply of non-clinical equipment the following areas included in the disaster planning?
- 4. Does the hospital conduct an evaluation of supply and equipment levels that are available during normal times?

## F. HUMAN RESOURCES

- 1. Does the Management Update the hospital staff contact list?
- 2. Is there an established clear staff sick-leave policy, including contingencies for ill or injured family members or dependents of staff?
- 3. Is there an Established system of rapidly providing health-care workers (e.g. voluntary medical personnel) with necessary credentials in an emergency situation, in accordance with hospital and health authority policy?
- 4. is there an adequate shift rotation and self-care for clinical staff to support morale and reduce medical error

## **G. TRAINING AND EDUCATION**

- 1. Does the plan indicate who is responsible of training and educating staff?
- 2. Does the plan show how hospital staff will be familiarized with their roles during disasters?
- 3. Does the plan indicate the need for formal training of staff in emergency medicine?
- 4. Does the hospital conduct workshops to facilitate staff awareness?

## H. SURGE CAPACITY

- 1. Has there been a review of Calculated maximal capacity requirement for patient admission and care based not only on total number of beds required but also on availability of human and essential resources and the adaptability of facility space for critical care?
- 2. Do the hospital estimate the increase in demand for hospital services, using available planning assumptions and tools?
- 3. Is there an Identified method of expanding hospital inpatient capacity (taking physical space, staff, supplies and processes into consideration)?
- 4. Are there designated care areas for patient overflow (e.g. auditorium, lobby)?
- 5. Can the hospital increase capacity by outsourcing the care of non-critical patients to appropriate alternative treatment sites (e.g. outpatient departments adapted for inpatient use, home care for low-severity illness, and chronic-care facilities for long-term patients?
- 6.Is there a contingency plan for interfacility patient transfer should traditional methods of transportation become unavailable
- 7. Does the facility Identify potential gaps in the provision of medical care, with emphasis on critical and emergent surgical care. Address these gaps in coordination with the authorities and neighbouring and network hospitals?
- 8. Do the facility adapt hospital admission and discharge criteria and prioritize clinical interventions according to available treatment capacity and demand?

### I. MONITORING AND EVALUATION

- 1. Does the plan show the measures for monitoring and evaluating the disaster preparedness process?
- Are any of the following included in the plan? a)
   Disaster drills b) Table top exercises c) Drills involving other organisations in the region dealing with Emergencies?
- 3. Does the plan show specific aspects that need to be tested?

© 2020 Amaitari et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/58431