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Original Research

CLINICIAN SENSITIZATION ON INTEGRATED DISEASE SURVEILLANCE AND RESPONSE IN FEDERAL MEDICAL CENTRE OWO, ONDO STATE, NIGERIA, 2016

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ABSTRACT

Background: For effective Integrated Disease Surveillance and Response (IDSR) all health care workers involvement is required. Most trainings have often neglected the clinicians.

Aim: This study aimed to identify gaps requiring capacity building in preventing infectious disease outbreak among health care workers in Federal Medical Centre, Owo, Ondo State.

Methods: A cross sectional study of clinicians at the Federal Medical Centre, Owo was done. Data was collected using semi structured interviewer administered questionnaire. Data collected were analysed with SPSS version 21. Summary statistics was conducted to identify training need requirements.

Results: The mean age of participant was 43 ± 5.9 years, 14(70%) were male. Respondents who have worked for 10 years and above were 12(60%). In all, 5(25%) respondent understood disease surveillance to be systematic collection of data and analysis in order to prevent diseases. Regarding respondent's knowledge of notifiable diseases. Only 4(20%) of the respondents knew malaria as a notifiable disease, Cholera knew by 11(55%), Ebola by 15(75%) and Lassa by 13(65%). The main factor identified to be affecting prompt disease notification in Federal Medical Centre, Owo was lack of adequate training 12(60%) while communication gap was identified by 7(35%). In all, 18(90%) felt they do not know all that they needed about disease surveillance.

Conclusion: Rapid notification of infectious diseases is essential for prompt public health action and for monitoring of disease trends. Trainings that will improve the level of knowledge of clinician and communication channels will improve disease surveillance and notification.

Key words: IDSR, Clinician sensitization, Emergency preparedness, Outbreak

INTRODUCTION

Infectious disease outbreak are often overlooked and considered a hospital issue yet it can have a huge impact on life, security and global economy. Weak healthcare systems and a dire shortage of health care workers helped make Nigeria vulnerable to infectious diseases like Lassa fever, measles, cerebrospinal meningitis and cholera. The available health care workers are not properly trained to stand in the gap and detect infectious diseases that

have the likelihood of causing outbreak on time. There is a need for preparing communities and health systems to be more prepared for disease outbreak response and also help in response, recovery and resilience of the health systems and the local communities. Getting prepared for possible outbreaks requires a functional surveillance system which is the ongoing systematic collection, analysis, and interpretation of health data. It includes the timely dissemination of the resulting information to those who need them for action. Surveillance is also essential for planning, implementation, and evaluation of public health practice.[1] Disease surveillance has been recognized as an effective strategy in the control and prevention of diseases most especially communicable diseases. An effective surveillance system allows early intervention for the prevention and reduction of the mortality and morbidity that may result from epidemics of communicable diseases.

In Nigeria, Disease surveillance and notification was introduced in 1988 after the outbreak of yellow fever in 1986/87 which claimed many lives in the country and also affected ten out of the 19 states of the country as at then.[2] Before then, there was little or no coordinated system of disease reporting and surveillance in the country as there was no or rather scanty reports sent for documentation. At the onset, 42 diseases were officially designated as notifiable for routinely monthly reporting which was later reviewed to 22 in 1998.[3] Prior to the adoption and implementation of Integrated Disease Surveillance and Response (IDSR) system in Nigeria, many disease control and intervention programmes still rely on their own disease surveillance system making it difficult to improve their ability to obtain reliable and timely data in order to use information for taking action.[4]

IDSR is a strategy and a tool to promote rational use of resources by integrating and streamlining common disease surveillance activities. The system seeks to ensure that effective and functional system is available at each level of the health system for timely action consequently leading to reduction of morbidity, disability and mortality.[3,5] It comprises not only of database but also materials and personnel organized for informed decision making.[6]

One of the primary goals of a functional disease surveillance and notification system among others is to detect and monitor diseases and other events with potential threat to the health of the public with respect to source, time, person, population and place to guide public health action.[7] In line with disease surveillance and protecting people, the International Health Regulations (IHR) is a framework that helps countries minimize the impact and spread of public health threats.[8] The IHR is coordinated by the World Health Organization (WHO) with the aim to keep the world informed about public health risks and events. The IDSR ensures reliable supply of information to the national level in order to fulfil IHR requirements. Both share common functions of detection, reporting, confirmation and verification, notification and reporting and timely response to disease outbreaks.[1]

A country with a functional surveillance system is expected to use IDSR.[9] In Nigeria, the Federal Ministry of Health (FMoH) have selected 40 communicable and non-communicable diseases and public health related conditions for the IDSR system. These diseases were selected based on the following; top cause of high morbidity and mortality in the country, have epidemic potential, surveillance required internationally, availability of effective

control and preventive intervention for addressing the public health problem they pose, could be easily identified using simple case definition and have intervention programmes supported by the WHO for prevention and control, eradication or elimination of the diseases.[3]

All countries have a responsibility to build healthcare systems that are strong and that work to identify and contain diseases before they spread. This requires trained staff, adequate transport and other logistics for efficiency and effectiveness. The influence of clinicians in outbreak containment cannot be overrated as they are the mainstay of passive outbreak surveillance systems since they are usually the first contact a patient has with the healthcare system. They find themselves identifying the presence of infectious diseases, cases, tracking and notifying designated public health authorities.[4,10]

In line with this, some specific objectives of IDSR aims to strengthen the capacity of countries to conduct effective surveillance activities by training personnel at all levels and also increase involvement of clinicians in the surveillance system so that they are familiar with concepts of the IDSR system in order to be prepared to recognize and respond to all disease outbreaks in a timely manner.[1] Building good working relationships with health workers is a way to make sure that information about health events, especially unusual or unexplained events, reaches Disease Surveillance and Notification officers in time to take action to prevent unnecessary death and illness.

Though the Nigerian government engaged and invested in training, awareness, and response activities on health workers disease reporting skills, there is still gaps in the Disease Surveillance and Notification system that needs to be researched. Most trainings have been targeted at the disease surveillance and notification officers at the local government and state government level while the clinicians are often neglected. No study to date has been published investigating the preparedness of clinicians towards outbreak and knowledge of notifiable diseases in our hospital. With several occurrences of outbreaks such as Ebola, Avian Flu Influenza, Cholera and most recently Cerebrospinal Meningitis a country like Nigeria should always be prepared to contain possible outbreaks. To achieve quick response to potential outbreaks of a new or emerging threat, it is important that health workers are adequately sensitized. This study aimed to identify gaps requiring capacity building among health care workers. This is a pilot study with a plan to translate the needs identified into practice. Data generated will be used for interventions for infectious disease outbreak response in Nigeria.

METHODS

Study area

The study was carried out at the Federal Medical Centre, Owo located in Owo Local Government Area of Ondo State, Nigeria. The levels of care provided in the hospital are primary, secondary, and tertiary. Health care services are provided to the people within its catchment areas which are Ondo, Kogi, Edo, Ekiti and Osun and other surrounding states. The hospital is also a referral centre to patients from many of the states of the Federation because of its strategic location. The centre provides postgraduate (residency) training in Medicine and Surgery. It has 21 clinical and seven non-clinical departments. The centre is a 250-bed tertiary health facility and has a bed occupancy rate of about 70%. The facility is patronised by all ages and manages several health problems. The staff strength of the hospital is about 1200 with 513 working in the clinical

departments; of which 213 are doctors and 300 nurses.

Study design

A cross sectional study design was employed to study all the participants prior to a sensitization on Integrated Disease Surveillance and Response (IDSR) among clinicians at the Federal Medical Centre, Owo.

Study Population

The respondents were made up of hospital consultants, head of departments or their representatives. Participants were from the following departments, Anaesthesia, Community Health, Dental Service, Ear Nose and Throat, Emergency Medical Services, Family Medicine, Internal Medicine, Health Information, Family Medicine, Obstetrics and Gynaecology, Ophthalmology, Orthopaedics, Pathology, Physiotherapy, Radiology and Surgery.

Data collection

Data were collected using semi structured interviewer administered questionnaire. Questionnaires were checked for omissions and errors after collection and correction were made where necessary.

Data management

Data collected were cleaned and analysed with SPSS version 21.[11] Summary statistics was conducted, frequencies and proportions. The other variables include socio-demographic characteristics, perception of respondents about surveillance and training need requirements.

Ethical considerations

Ethical approval for the study was obtained from the Health Research Ethics Committee of the Federal Medical Centre, Owo, Ondo State, Nigeria. Data collected was kept confidential on a password protected computer.

RESULTS

The mean age of participant was 43 years ± 5.9 Standard deviation. Table 1 shows that 11(55%) of the participants were <45 years while 14(70%) were male. Muslims were 4(20%). Respondents who have worked for 10 years and above were 12(60%), 12 (60%) were also hospital consultants. The participants from Community Health Department were 4(20%). Pathology 2(5%) while only one attended from other clinical departments. The departments of participants is shown in figure 1.

Table 1. Socio-demographic Characteristics of Participants at IDSR Sensitization, FMC Owo, Ondo State Nigeria, 2016

Sociodemographic Characteristics	Frequency	%
Age		
< 45	11	55
≥ 45	9	45
Sex		
Male	14	70
Female	6	30
Religion		
Christianity	16	80
Muslim	4	20
Hospital work experience		
< 10	8	40
≥ 10	12	60
Hospital Consultant		
Yes	12	60
No*	8	40

- Assistant Director, Senior Medical Officers

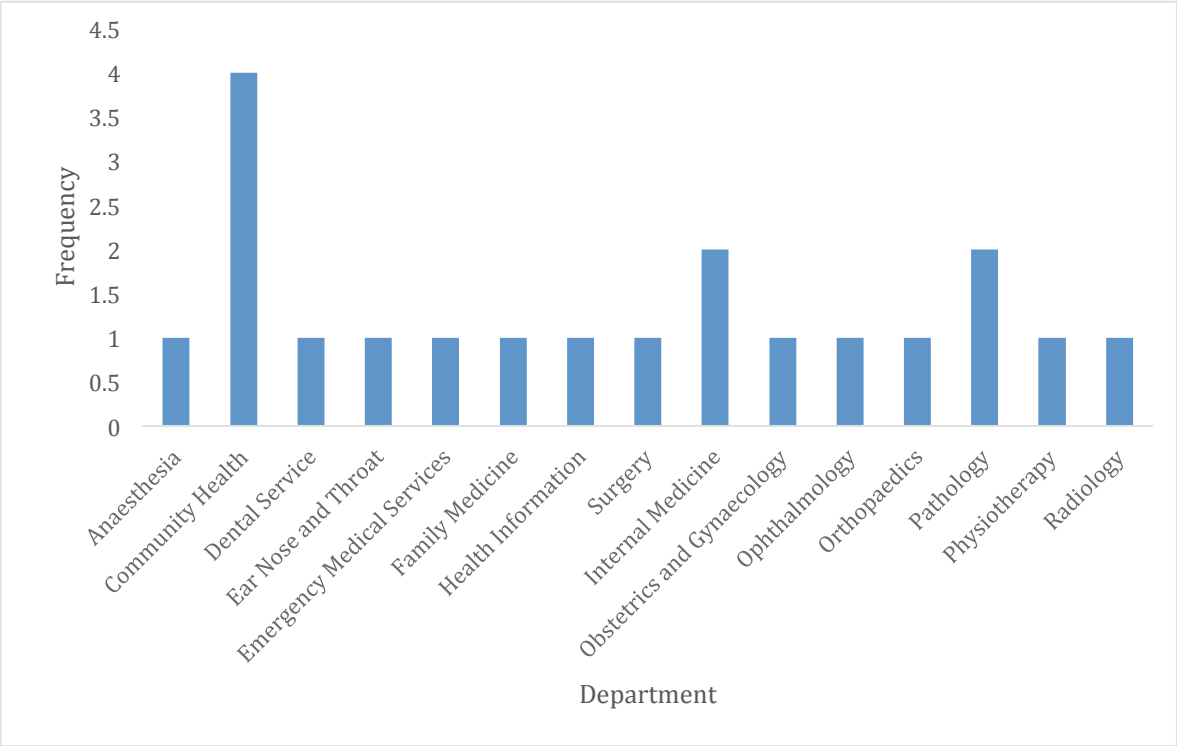

Figure 1. Departments of participants at IDSR Sensitization FMC, Owo, Ondo State Nigeria, 2016

Among the respondents, the knowledge of the definition of surveillance fits into three different categories as reflected in table 2. Nine consider surveillance to be limited to data collection, analysis and interpretation, while 5(25%) understood it to be systematic collection of data and analysis in order to prevent diseases. Concerning the importance of surveillance, early detection and prompt treatment was reported by 8(40%), while 6(30%) suggested prevention of outbreak.

Table 2. Respondents' perception of surveillance and its importance at IDSR Sensitization FMC, Owo, Ondo State Nigeria, 2016

Questions	Frequency	%
What Surveillance is		
Epidemiological practice by which the spread of disease is monitored	6	30
Data collection, analysis and interpretation	9	45
It is a systematic collection of data and analysis in order to prevent diseases	5	25
Importance of Surveillance		
Early detection and prompt treatment	8	40
It helps in disease eradication and control	4	20
It prevents the spread of infective disease	2	10
Prevention of outbreak	6	30

Respondents' knowledge of notifiable diseases

Regarding respondent's knowledge of notifiable diseases. Only 4(20%) of the respondents knew malaria as a notifiable disease, Cholera 11 (55%) more people knew Ebola (n=15, 75%) and Lassa (n=13, 65%).

Factors affecting prompt disease notification in FMC Owo

The main factor identified to be affecting prompt disease notification in Federal Medical Centre, Owo was lack of adequate training on IDSR 12(60%) while communication gap was identified by 7(35%). Incessant health workers strike was mentioned by 1(5%) as a factor mitigating disease notification.

Respondents training requirement on disease surveillance

Majority of the respondents 18(90%) felt they do not know all that they needed about disease surveillance, they believe that sensitization will be beneficial to them. Regarding respondents need for capacity building 14 (70%) wanted to know about diseases included in Surveillance Response while 12(60%) wanted to know about strategies for conducting active surveillance and the role of clinicians. Eleven (55%) participants requested to know about specimen collection. Other training requirements are as shown in figure 2.

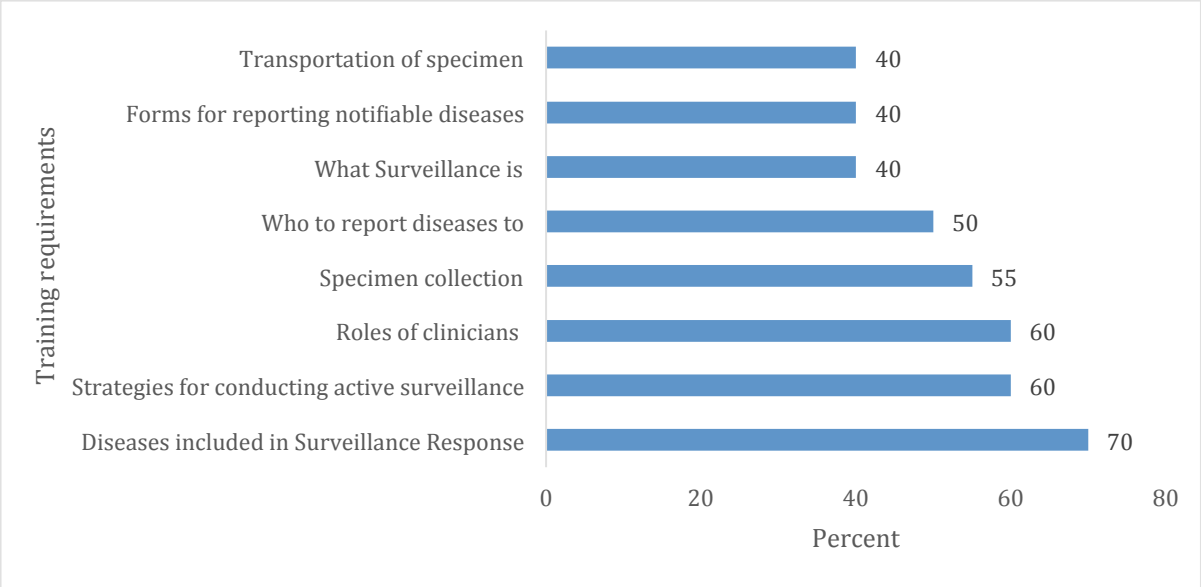

Figure 2. Training requirements on disease surveillance, FMC Owo, Ondo State Nigeria, 2016

DISCUSSION

The findings of this study revealed the knowledge of the surveillance system among clinicians. Majority of the respondents (45%) defined surveillance to be limited to data collection, analysis and interpretation. This low level of knowledge correlates with findings that there was insufficient awareness of the disease surveillance system among health workers as reported by other studies.[12,13] It is also similar to findings of a study conducted in northern Nigeria which revealed only 38.2% of health-care personnel studied were aware of the national disease surveillance system.[13] However, the report from the Eastern part of the country showed that about 90% of the respondents were aware of the Disease Surveillance and Notification system though the depth of knowledge was poor.[6]

This present analysis presents poor knowledge of notifiable disease among the respondents with only 30% listing measles

as a notifiable disease which is not consistent with previous reports.[10] In conformity with other studies which showed poor knowledge of health workers on reporting of infectious diseases and notifiable conditions[12,14,15] only 20% of these respondents know that malaria is one of the notifiable diseases. This might be due to the common perception that malaria is '*ordinary'* in the Nigerian society.

Also, in a study of knowledge of disease notification among doctors in government hospitals in Benin City, Nigeria only 11.9% of respondents had a good knowledge of disease notification.[16] Interestingly over 60% of the respondents listed Ebola and Lassa as notifiable diseases similar to a cross sectional survey that reported 99% of the respondents who identified Avian Influenza as a disease worthy of notification. These might be because these diseases are perceived to be of high severity and deadly. Lack or poor knowledge is a major factor affecting Disease Surveillance and Notification and the consequential effect is the inability of health workers to detect and notify the occurrence of diseases of public health importance.

Timely dissemination of information is an integral part of public health surveillance and outbreak response system, therefore, feedback is paramount to the success of Disease Surveillance and Notification. Out of the respondents, 35% identified communication as one of the factors affecting prompt disease notification in Federal Medical Centre, Owo. This finding is similar to that of a Nigerian study where only 21.8% of respondents were shown to have received feedback on diseases they notified.[14] This also supports finding by Freund et al[17] who reported lack of communication between potential data users and those collecting the data, particularly at the local level. Other studies conducted in Germany and the United States of America[18] also emphasized the importance of communication to the success of the disease surveillance and notification system.[19,20] In correlation with this study, the challenges of the surveillance system in developing countries like Nigeria include lack of awareness, lack of feedback, ignorance of current regulations and the list of notifiable diseases by the health personnel.[14,16] Good communication does not only boost motivation and confidence in the reporting system it also encourages correct practice of disease surveillance and notification.

The finding of this study was similar to another study which reported lack of training on disease surveillance as one of the factors affecting disease report.[14] Capacity building and training of Disease Surveillance and Notification officers has demonstrated a positive impact on IDSR and notifiable disease reporting.[6] The most important factor in any system is manpower which must be adequate in quantity and competent in quality which incorporates attitude and training issues. This reflects in the desire of majority of the respondents yearning to have their capacity built around the Disease Surveillance and Notification system to discharge their duties better and be prepared in the event of an outbreak.

Though the number of surveyed participants were few. This paper has key strengths: The participants are the head of all the departments or their representatives. Another strength of this study is the occurrence of low level of knowledge this emphasises the need for more efforts on sensitizing clinicians on IDSR.

Rapid notification of infectious diseases is essential for prompt public health action and for monitoring of disease trends at the local, state and national levels. Sensitization trainings that will improve the level of knowledge of clinicians and

guide them on communication channels will improve disease surveillance and notification.

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