

Assessment of Human Resources Core Capacity under International--AI Health Regulations 2005 (Ihr 2005) At Ports Of Entry (Poe) In Lagos.

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I. Background

International Health Regulations (IHR 2005) is an international legal instrument that is binding in 196 World Health Organisation (WHO) member countries worldwide that aims to prevent, protect against, control, and respond to the international spread of disease and to cut out unnecessary interruptions to traffic and trade especially in all the member states of World Health Organization (WHO) [1]. The IHR 2005 is also applied to our Country- Nigeria.

The IHR (2005) is a result of the revision of its predecessor, IHR 1969 which did not adapt to the development of international trade and disease spectrum, especially the Public Health Emergency of International Concern (PHEIC). To lower the transmission risk of diseases at international airports, ground crossings, or ports, the IHR (2005) is designed to meet the requirements. [1-2]

As a legally binding global framework, the IHR (2005) aims to prevent, protect against, control, and provide a public health response to the international spread of disease as well as avoid unnecessary interruptions to traffic and trade [2]

We are living in a world today that is highly mobile, interdependent, and interconnected, giving tremendous opportunities for diseases to spread rapidly. Furthermore, the public has been focusing on new health events caused by chemical, nuclear, and sudden environmental changes in the recent past [3]

The countries meeting the IHR 2005 requirements need to develop a minimum particular core public health capacity and to notify the WHO of any event that is considered a public health event of international concern(PHEIC), which should be confirmed and declared by the WHO [4].

At the same time, the IHR clarifies a series of procedures that should be observed by the WHO to protect global public health safety [4]. The revised IHR focuses on public health crisis prevention, which has been expanded from certain “quarantine diseases” to any public health emergencies that may cause international repercussions.

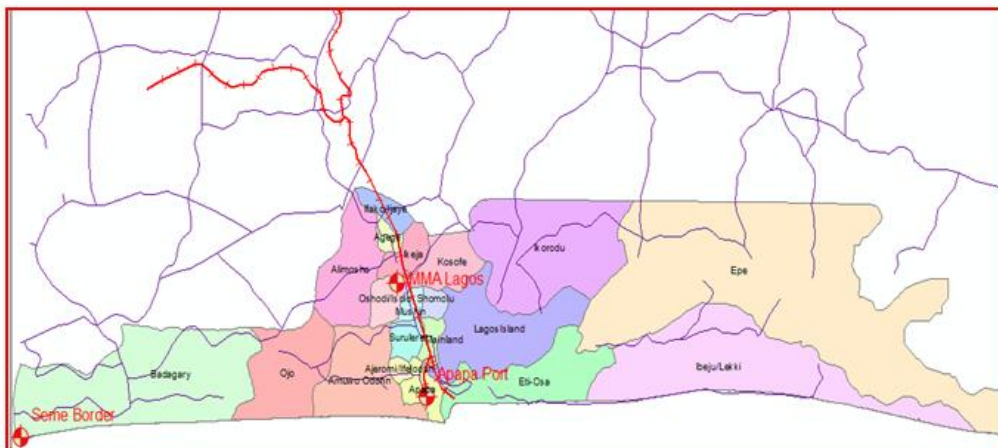
The implementation of the IHR shifts from the passive barrier of entry and exit points to the proactive risk management, aiming at early detection of any international threat before its formation and at stopping it from the very beginning [5]. To meet the IHR requirements, the countries need to develop, strengthen, and maintain core response capacities for public health risk and PHEIC and to meet the related core capacity requirements before June 15, 2012 (within 5 years after the enforcement of the revised IHR). If not, then an extension of the application to 2014 and another 2-year extension afterward for particular circumstances will be approved [6-9].

Following the “One-health approach” of WHO for surveillance, emergency responses, prevention, management and control of infectious disease, it is imperative to assess distribution of personnel by profession at each point of entry so as to determine whether staffing is adequate or otherwise. Hence this study aims at assessing the adequacy or other wise of Human resources needed as frontline workers at PoEs for the implementation of IHR 2005.

II. Methods

Study site

The study sites are located in Lagos [10], a former capital city of Nigeria.



A cross-sectional descriptive study conduct among Health workers working in Murtala Mohammed international Airport, Apapa sea port and Seme land Border all in Lagos state [10] between January- July,2018.

The study population comprises 750 comprising of the following cadre of Health workers: Medical Officers, Pharmacists, Environmental Health Officers(EHO), Environmental Health Technician, Health attendants, Nurses, Medical Laboratory Scientists, A Sample size of 260 was obtained using the formula

$$n = \frac{N}{1+Ne^2} \text{ where } n = \text{desired sample size}$$

$N = \text{population in the sampling frame}$

$e = \text{margin of error} = 0.05$

Respondents were selected using simple random sampling technique in which the staff nominal list served as the sampling frame. Proportionate allocation technique was used to select respondents from the 5 different cadres. A structured, paper based, pretested Researcher administered questionnaire was used for data collection. The questionnaire assessed the demographic profile of respondents, their knowledge and factors influencing the knowledge. The questionnaire was pretested on 15 randomly selected Health workers at another PoE in Calabar, Cross Rivers State Nigeria, a PoE with similar characteristics with the study area and 571 km away from study area. [11]

The administered questionnaires were analysed using SPSS statistical software (version 23). Ethical clearance for the study was obtained from the Research Ethics Committee of Kwara state University, Malete-Nigeria (Reference number: **KWASU/CEERMS/ EC/15/27**). Informed consent were sought from the respondents after the Researchers explained details, and importance of the research work. The respondents were assured that their personal information will be treated with utmost confidentiality.

III. Results.

Out of 260 respondents, 158 or 61% were present during data collection exercise due to the nature of duty of the respondents. Results from the study is here by presented using a table and/or a 2 dimensional graph.

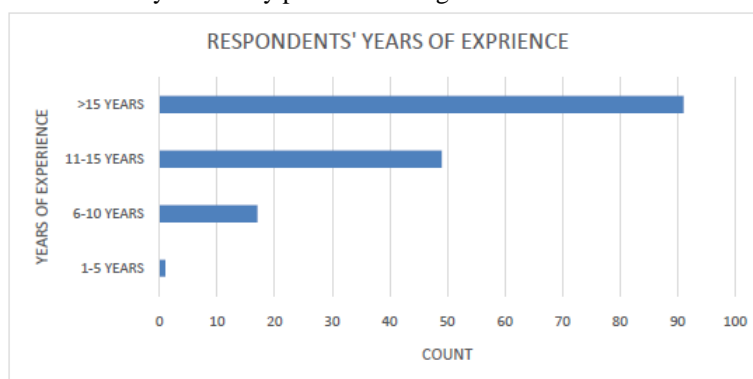


Fig 14: Respondents' years of experience Over ninety (90 %) of the experienced personnel had stayed on the job for more than 15 years and formed bulk of the respondent that participated in the study.

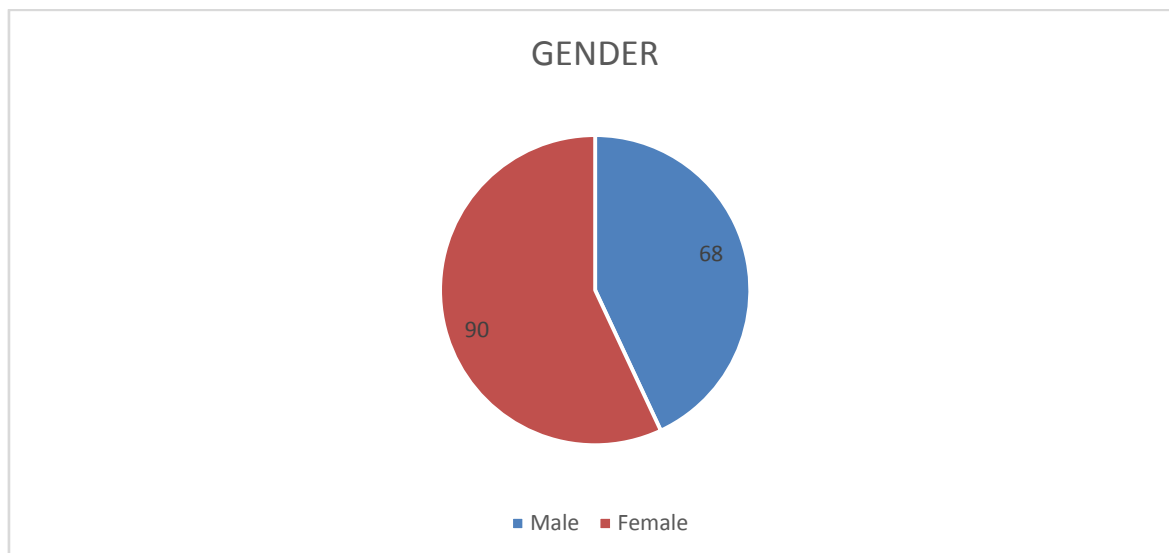
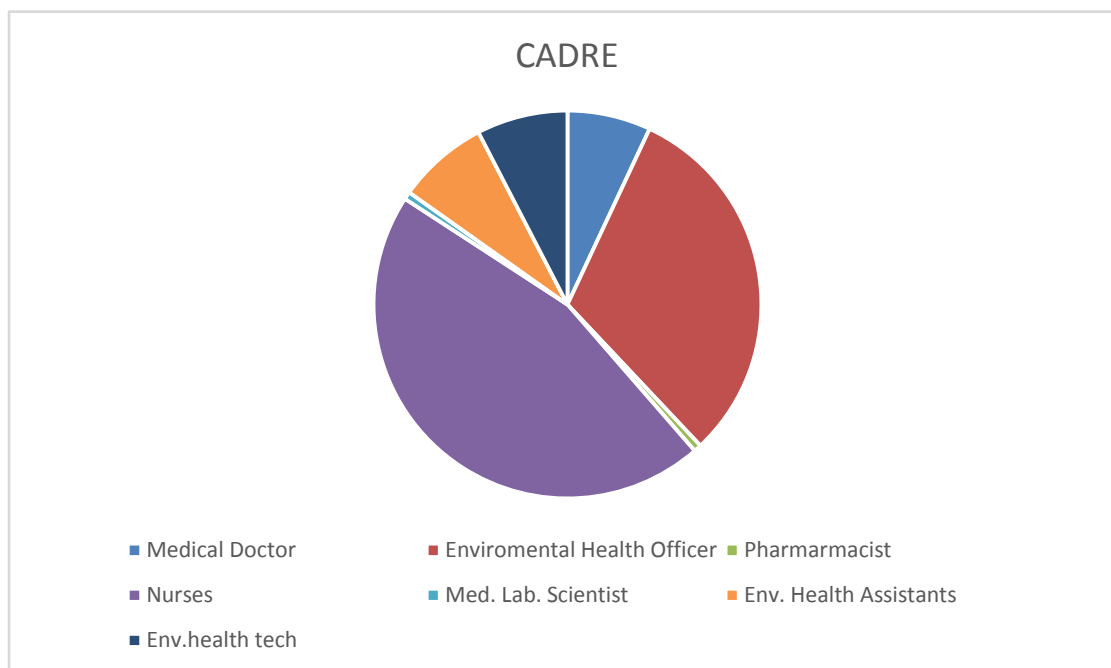


Fig 15: Gender structure of respondents at the point of entry (POEs)

Based on gender structure, there were more male in the system than female. Majority 56.9% (90 / 158) of the



respondents were male while (68/158) 43.1% were female.

Fig 16: Personnel Distribution by Profession at POEs

Staff survey follow the order Nurses > Environmental Health Officer> Environmental Health Assistant > Environmental Health Technician > Medical Doctor > Medical Laboratory Scientist > Pharmacist respectively. From this analysis, it is pretty obvious that Physician, Medical Laboratory Scientist and Pharmacist are in short supply.

Table 4.1. 2: Capacity Development of Core Personnel’s on the content of IHR2005.

	Response	Lagos Airport	Tin Can Seaport	Seme Land-Boarder
Were you trained on the content of the IHR?	YES	15 (26.8%)	17 (29.3%)	12 (32.5%)
	NO	43 (73.2%)	41 (70.7%)	30 (67.5%)
	Total	58	58	42

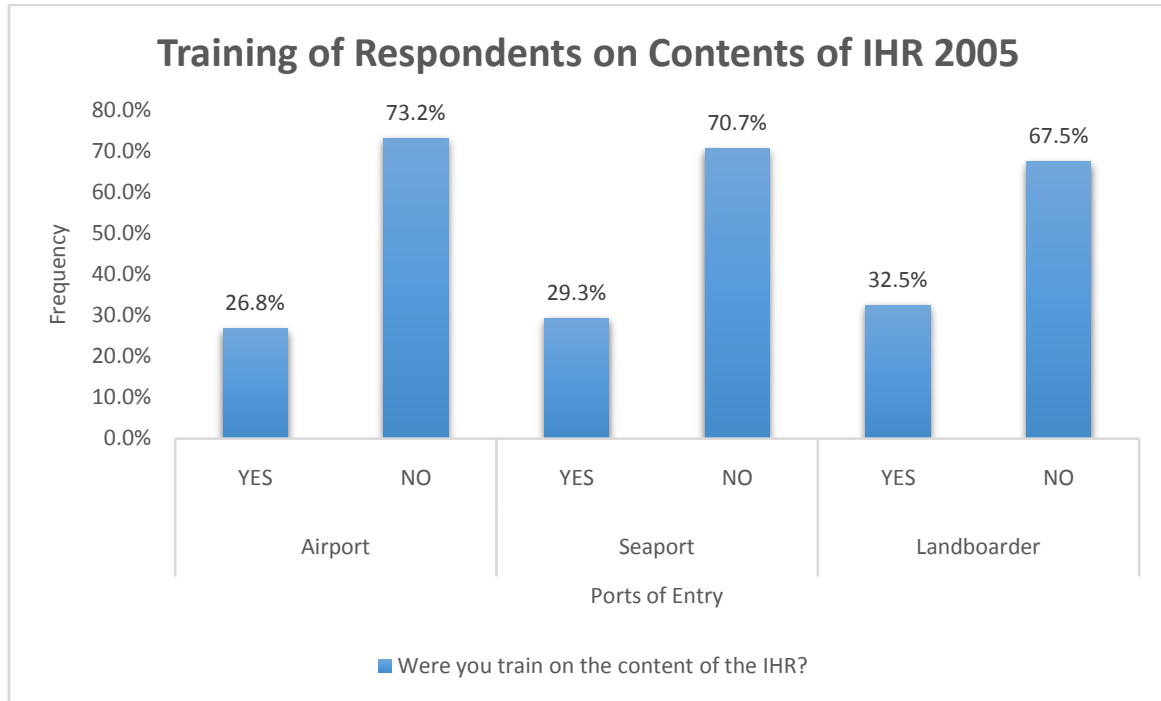


Figure 4.1.2: Multiple bar chart showing training of respondent on the content of IHR2005

The result shows (in figure 4.1. 2 and table 4.1.2) that 26.8% of the respondents at Airport are trained on the content of IHR, while 73.2% of the respondents are not trained on the content of IHR. Similarly, 29.3% and 32.5% of the respondents at Seaport and Land-Boarder respectively are trained on the content of IHR, while 70.7% and 67.5% of the respondents at Seaport and Land-Boarder are not trained on the content of IHR (2005). Capacity developments in terms of training of core-personnel on the content of IHR 2005 across the three POEs were inadequate.

Human Resources

Table 9: Availability of skilled staff across POEs

Response	Airport	Seaport	Land boarder
Is there enough available skilled staff?			
YES	23 (39%)	18 (31.7%)	8 (20%)
NO	35 (61%)	40 (68.3%)	34 (80%)
Total	58	58	42

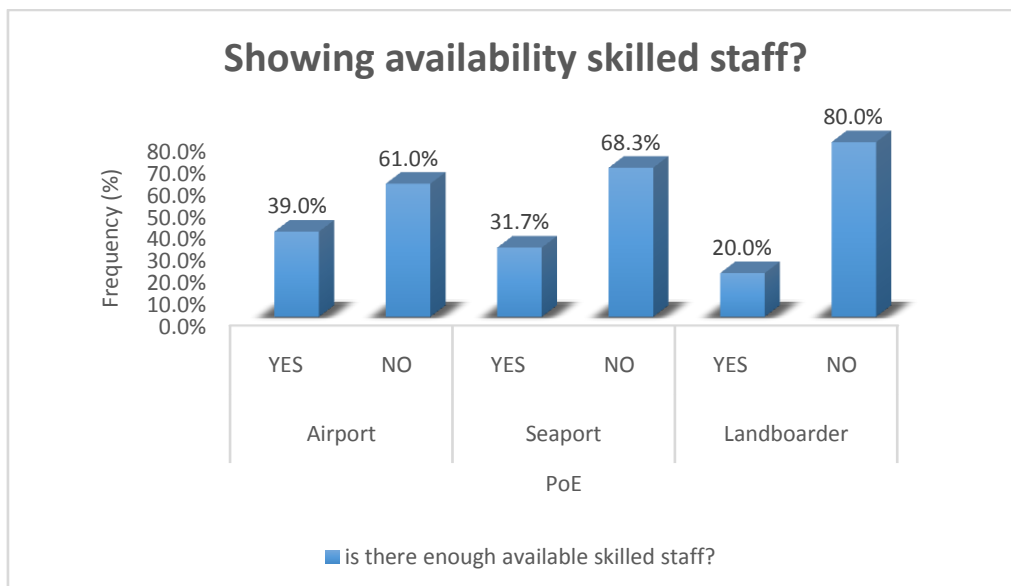


Fig 4.2.9: Availability of skilled staff across POEs'

Obviously, skilled staff is inadequate across the POEs'. However, there are moderately low levels of skilled staff 39% and 31.7% at Lagos airport and seaport respectively.

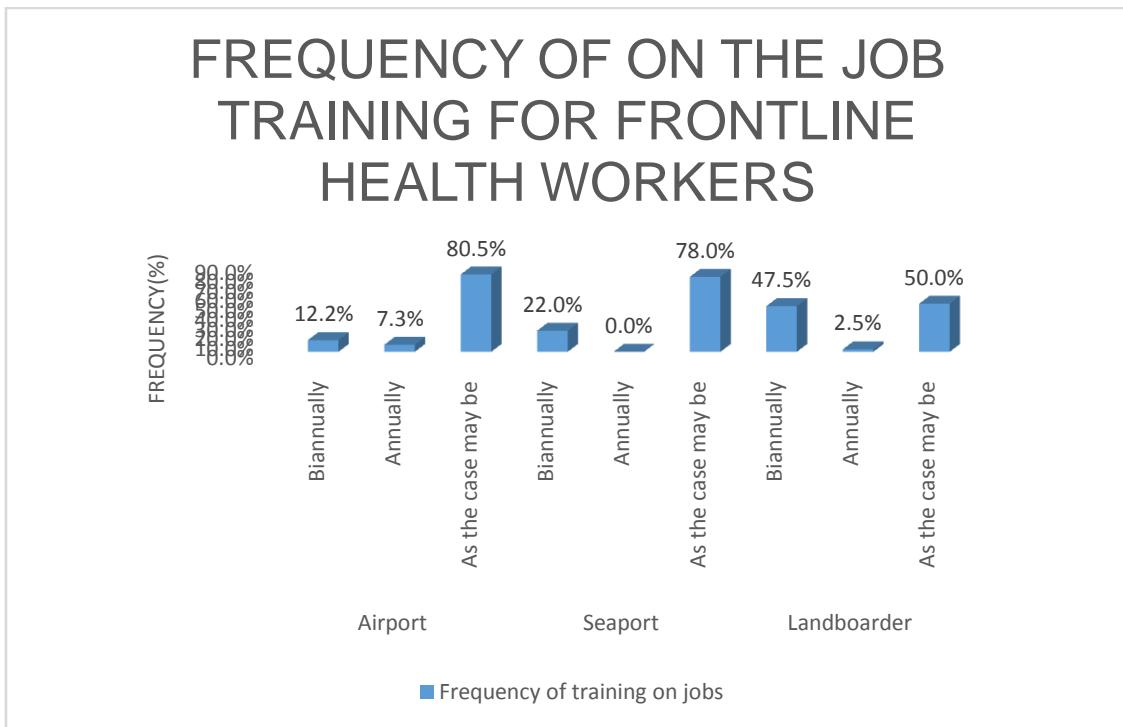


Fig 4.2.10: Frequency of training of frontline health personnel across POEs

The frequency of training delivered to improve job deliverables was poor. Training for frontline health workers was scarcely and sparsely scheduled.

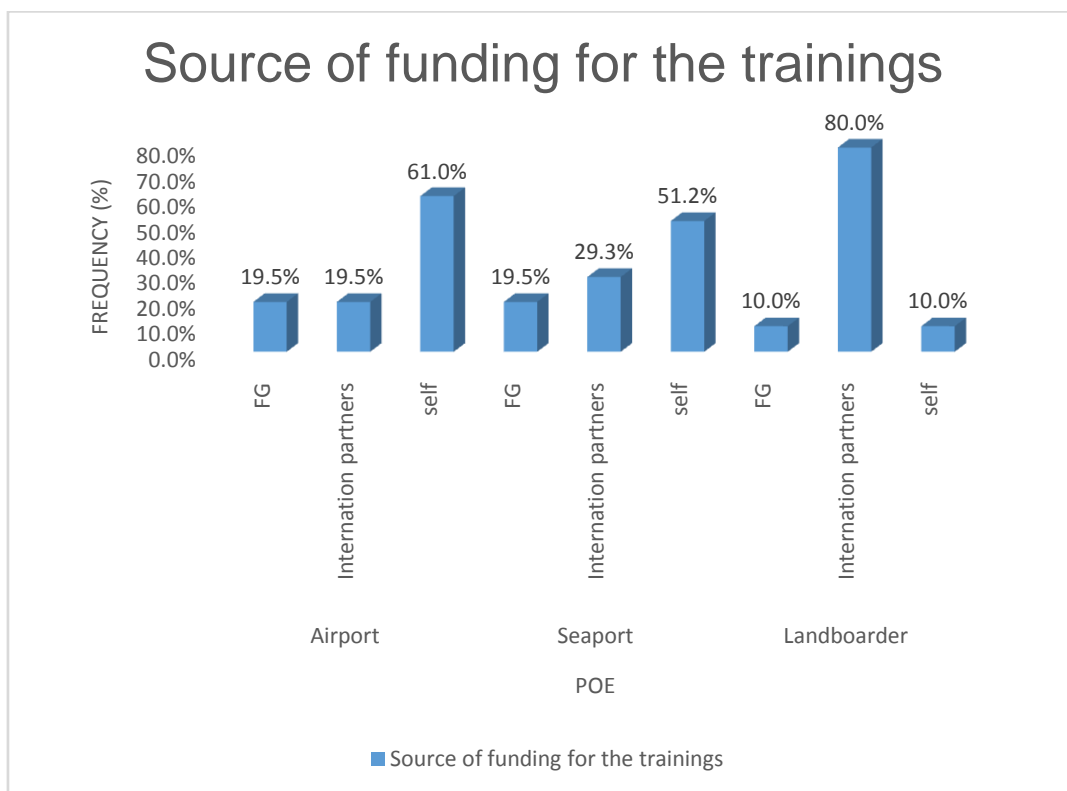


Fig 4.2.12: Source of funding across POEs'

The international partner is the major source of funding for capacity development at the Semen land border. Self-personal funding was declared as a strategy for research and development at both the airport and the seaport respectively.

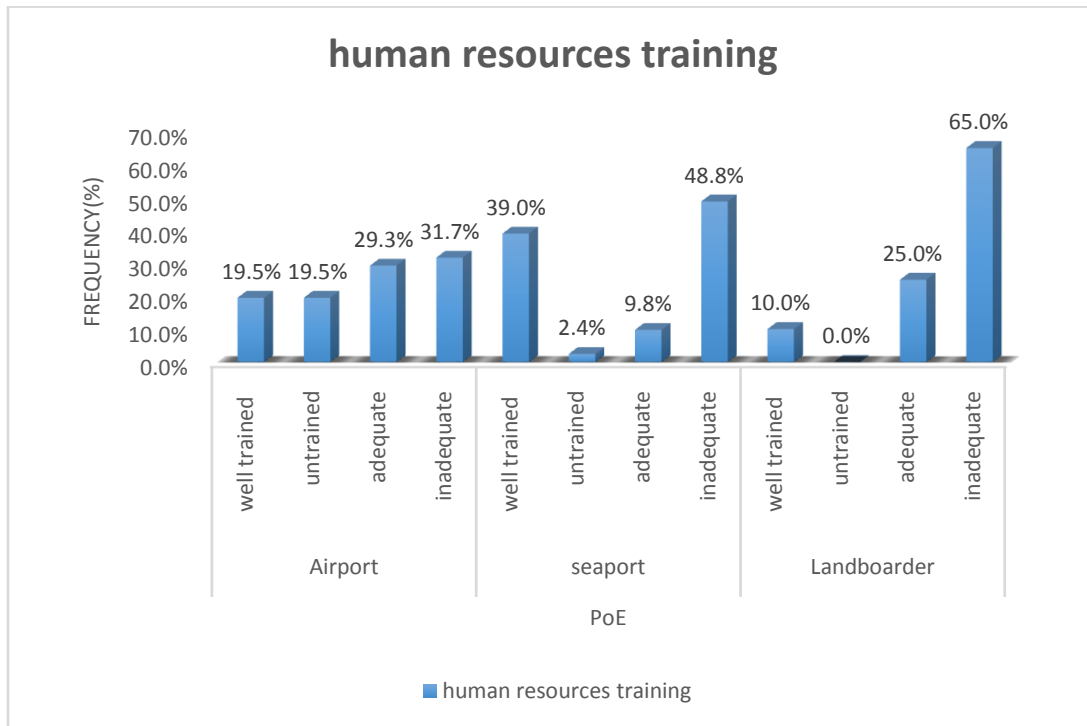


Fig 4.2.13: Human resources training across POEs'

Human resources training were inadequate across the POEs. However, appreciable levels of well-trained personnel were documented at the sea and airport respectively.

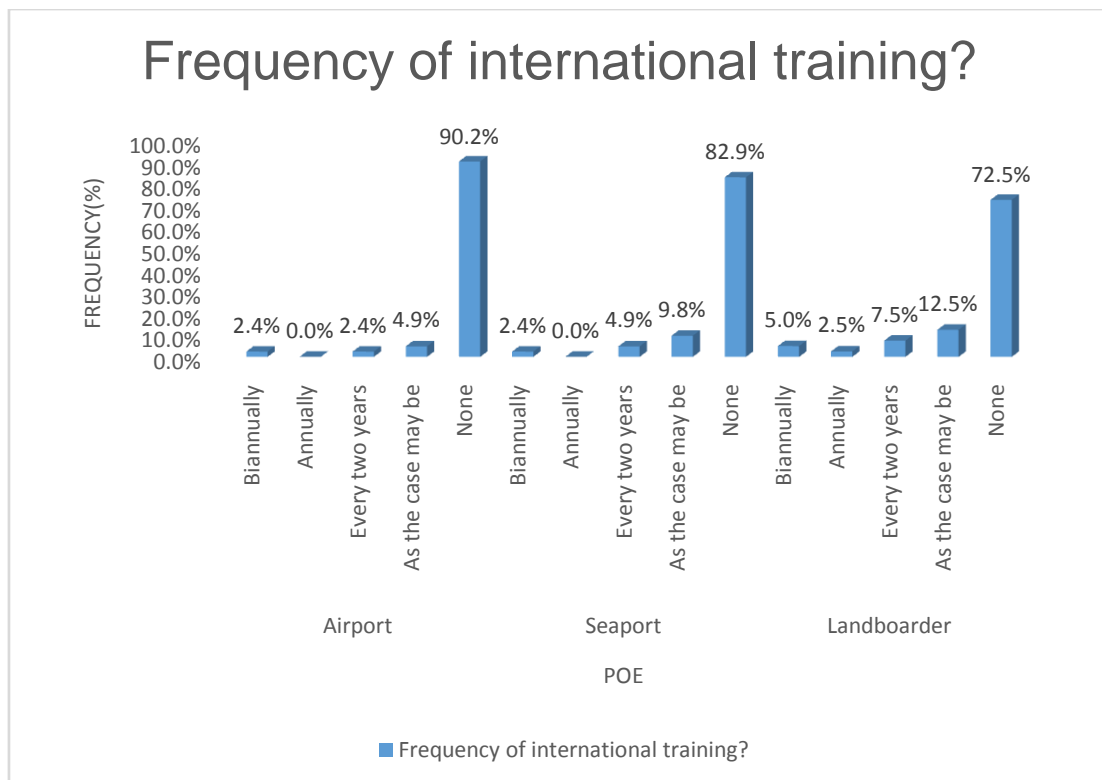


Fig 4.2.11: Frequency of international training across POEs'

IV. Discussion

According to Joint external evaluation document of June, 2017, “Workforce development is important in order to develop a sustainable public health system over time by developing and maintaining a highly qualified public health workforce with appropriate technical training, scientific skills and subject-matter expertise”. [13].

States Parties are required to have adequate skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005). [5,13]

In this study it was found that Staff survey follow the order Nurses > Environmental Health Officer> Environmental Health Assistant > Environmental Health Technician > Medical Doctor > Medical Laboratory Scientist > Pharmacist respectively. From this analysis, it is pretty obvious that Physician, Medical Laboratory Scientist and Pharmacist are in short supply, this corroborate with the findings of the joint external evaluation of WHO conducted in the country in June,2017 [13]

Analysis of results on sources of funding for training manpower shows that even when such funding was provided, it was usually grossly inadequate to serve any meaningful purpose as it concerns implementation of the IHR requirements. Respondents reported that the normal practice was for the various POE port health services to send work plan containing funding requirement to the government through the ministry of health. Several studies have reported needs for countries to identify and mobilize the required technical, financial and human resources from all possible available sources to focus on the implementation of IHR (2005) to meet core capacity requirements. [14]

In this study, Human resources training were inadequate across the POEs. However, appreciable levels of well-trained personnel were documented at the sea and airport respectively.

Assessment conducted in countries in the South East Asia Region (SEAR) revealed that in the implementation of IHR (2005) at POE more resources is needed particularly finance for training of human resources etc. [14-15]. Finding across the different categories in this study revealed skilled human resources were grossly inadequate to manage events at the respective POEs were reported. This result of this like is similar to the outcome of assessment of core capacity at JNIA in Tanzania [15]. About 70% of the respondents across all categories in this study said they have not attended any training on content of IHR requirements, this confirmed Uganda study on training needs considering the IHR (2005) multi hazards approach had not been undertaken [14].

V. Conclusion

Improving the knowledge and skills of related staff is important in the process of developing, strengthening, and maintaining the core public health capacity hence under scoring the need that Training efforts should be increased to build the legal and scientific sense to deal with health emergencies at the PoEs under study. Frontline Health works are expected to be aware of basic theories, methods, and skills for processing and should apply them in practice in order for them to be able to implement the provisions of IHR 2005.

Government on its part should continue its commendable efforts of health workforce development as noted in the report of the Joint External Evaluation, June 2017. What is left as seen in this study is the inadequate number of Physicians, Medical Laboratory Scientists and Pharmacists at PoEs under study. This needs to be address in keeping with the global One Health approach mantra

Competing interests

Authors declare that they have no competing interests.

Authors' contributions

Study concept and design (MSU, HOS OAO); acquisition of data (MSU and OAO); analysis and interpretation of data (MSU); drafting of manuscript (MSU, HOS and OAO); critical revision of the manuscript for important intellectual content (HOS and OAO); administrative, technical, or material support (MSU); supervision (OAO).

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