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Influenza Surveillance in Mozambique: Results and Challenges from the First Year of Implementation

Almiro R. Tivane*, Noorbebi Adamo, Neuza Nguenha, Sadia A. Ali, Edma D. Dimbane, Diocreciano M. Bero, Jorfélia J. Chilaúle, Gabriela D. Pinto and tufaria mussa

Virus Isolation Laboratory, National Institute of Health, Maputo, Mozambique

Objective

Analyse challenges of the first year of surveillance implementation in Mozambique, according to samples income, hospital staff performance and available tools

Compare two influenza surveillance approaches

Introduction

In Mozambique about 10% of deaths in children are due to ARI [1]. Although influenza (Flu) virus may be implicated in these infections, little is known about the circulation of this virus in the country. Thus, Mozambique implemented the influenza surveillance based on sentinel sites, facing a great challenge due to several factors. One of them is the proper influenza case definition along with others challenges since its international standardization is difficult. In order to get insights to the epidemiology of flu we reviewed the first year of surveillance implementation monitoring data to improve procedures

Methods

Three hospitals in Maputo (four sentinel sites) were selected and trained for Flu surveillance. Initially, all patients meeting 2012 World Health Organization (WHO) case definitions for ILI and SARI[2] were eligible. This approach was used during 40 epidemiological weeks (27/2013 to 13/2014). A systematic monitoring of each site was performed to evaluate the inputs. The flow and health staff (their perception and respective roles and commitment) at sentinel site level, the available tools, the case definitions criteria and adequate sentinel sites were reviewed. Thus, other approach had been implemented from 20/2014 switching to SARI cases (in the same hospitals) defining as eligible all patients admitted or in medical observation presenting any respiratory infection/disease symptom (not preditive for, with onset within 10 days. Naso and oropharingeal swabs were collected and sent to the National Institute of Health (NHI) for testing using One-Step Real Time RT-PCR. All specimen data were entered in an Access database and the laboratory results were timely reported to the sentinel sites and to WHO

Results

Using the first approach, the Laboratory received and tested 91 specimens from four sites (two specimens/week vs 56 specimens expected), of which 47.3% were from children under 5 years-old. The influenza virus was detected in 16/91 (17.58%) specimens, in which 10/16 (62.5%) were Flu A(H3) and 8/16 (50%) were Flu B. A co-detection of Flu A(H3) and Flu B was observed in 12.5% (2/16) from patients of two and 23 years. most Flu cases were adults (15-50 years) (56.3%). About 60% (57/91) of all the cases and 50% (8/16) of the flu positive cases met all the 2012 WHO case definition. With the second approach, the specimens were collected from three sentinel and the number of specimens increased considerably (nine specimens/week versus 45 specimens). A total of 148 specimens were received within 15 weeks (20 - 34/2014). More than 60% of the specimens were collected from children under five years-old. Only one specimen was positive for Flu A. With this new approach, less than 40% of the cases met the 2012 WHO flu case definition. Individual perception, high turnover, motivation and commitment of the hospital staff, adequate staff (nurse/clinicians) and work overload influenced both approaches

Conclusions

Although flu surveillance is at very early stage, these findings corroborate with previous researches reporting the circulation of flu virus in Mozambique. The first approach seemed to be more specific for influenza virus and should be appropriate for influenza surveillance and the second approach has contributed to increase the number of specimens. However, it seem to have reduced the specifity for Influenza and this strategy may have become costly, since the routine testing is only for flu. Additionally, other respiratory virus should be considered. It is still a big challenge to find out adequate methods, case definition and stuff with awareness and commitment with ARI surveillance in Mozambique, thus further analysis are necessary

Keywords

surveillance system; SARI; awarness/commitment; influenza; specificity/sensivity

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References

1. National Institute of Health (MZ). National Study about Infant Mortality – Summary. Press. Maputo (Mozambique). 2009. Portuguese.
2. World Health Organization. WHO Interim Global Epidemiological Surveillance Standards for Influenza. Press. Geneva (Switzerland). WHO Press. 2012 July. English.

*Almiro R. Tivane
E-mail: artivane@gmail.com