Case Based Surveillance for Measles in Lagos, South Western Nigeria, September 2011

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Objective

The objective of this study was to describe the performance of the measles surveillance in Lagos, characterize the epidemiologic pattern of measles infection and determine the measles vaccine efficacy.

Introduction

Measles is a vaccine preventable disease that has been successfully eliminated in some parts of the world. It causes high morbidity and mortality with the potential of large outbreaks. About a third of reported measles cases involve one or more complications including diarrhea, pneumonia, otitis media, blindness, post infections encephalitis and subacute sclerosing panencephalitis. It is however, one of the leading causes of childhood morbidity and mortality in Nigeria despite availability of safe and effective vaccines

Methods

We obtained the measles surveillance data for all the 20 Local Governments Areas (LGAs) in Lagos and reviewed all the measles case based investigation forms between the period 1st January to 31st December 2010.The WHO Recommended Surveillance Standards for Measles was used. Data was analyzed using EPI INFO version 3.5.3.

Results

Of the 615 suspected measles cases, 63(10.2%) were laboratory confirmed (measles IGM+) and 3(0.5%) clinically confirmed. Cases investigated within 48 hours was 222 (36%) (target ≥ 80%), 510 (83%) had adequate blood sample collected (target ≥ 80%) and 595 (97%) of sample results were received from the lab within 7 days (target ≥ 80%). The surveillance system sensitivity was 6.5/100,000 (target >2/100,000) with a predictive value positive of 10.73%. The overall attack rate was 0.73/100,000 population with 1 mortality (case fatality rate 1.5%). The Under 1 year attack rate (8.33/100,000) was higher than the 1- 4 years attack rate (3.48/100,000) (p= 0.01). Those vaccinated with at least 1 dose of measles vaccine had a 3 times lower risk of measles infection than the unvaccinated. The proportion of unvaccinated cases was 36%. The measles vaccine efficacy was 60%.

Conclusions

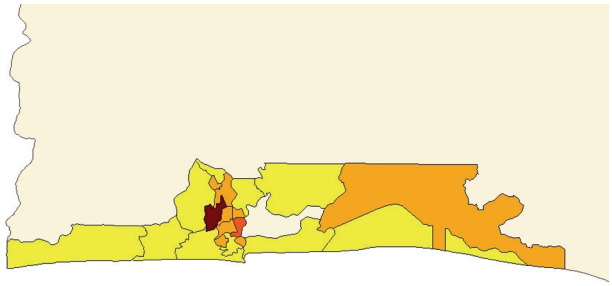
The quality of surveillance need to be strengthened by improving the time lapse between notification and investigation of suspected cases. Measles is still a significant cause of morbidity particularly among the under 1 year age group.The proportion of unvaccinated cases is also high, suggesting a low vaccine coverage among susceptibles.

Prompt investigation of cases, good vaccine coverage and high vaccine efficacy are all vital in eliminating measles from Nigeria.

Morbidity and Mortality rates

AGE GROUP	ATTACK RATES
<1 Year	8.33/100,000
1- 4 Years	3.48/100,000
5 and above	0.11/100,000
overall attack rate	0.73/100,000
CASE FATALITY RATE	1.5%

No of Reported Measles Cases in Lagos, South Western Nigeria by LGA with onset date from 1st January - 31st December 2010



Legend

Keywords

Surveillance; Measles; Case based; Lagos

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Central Public Health Laboratory, Yaba, Lagos.
World Health Organisation, Lagos Office, Ikoyi, Lagos.

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