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Co-morbidity Factors Associated with Influenza in Nigeria

Aishatu B. Gubio*[1], Saka J. Muhammad[2], Aisha Mamman[3], Ado Zakari[4] and Oladayo Biya[1]

[1]Nigeria Field Epidemiology and Laboratory Training Program (NFELTP), Federal Capital Territory, Nigeria; [2]Department of Epidemiology and community Health University of Ilorin, Faculty of Clinical Science, College of Medicine, Ibadan, Nigeria; [3]Ahmadu Bello University Zaria, Zaria shika, Nigeria; [4]Kaduna State Ministry of Health Kaduna, Kaduna, Nigeria

Objective

To analyze Influenza surveillance data from 2009 to 2010 the Northern, Southern, and Western zones in Nigeria and determined co-morbidity factors associated with influenza in Nigeria.

Introduction

Influenza is viral illness that affects mainly the nose, throat, bronchi and occasionally, the lungs. Influenza viruses have been an under-appreciated contributor to morbidity and mortality in Nigeria. They are a substantial contributor to respiratory disease burden in Nigeria and other developing countries. Nigeria started influenza sentinel surveillance in 2008 to inform disease control and prevention efforts.

Methods

We conducted a cross sectional study on secondary data analysis of Influenza surveillance data from January 2009 to December 2010 obtained from Nigeria's Federal Ministry of Health. Epidemiological data were obtained for suspected ILI and SARI cases defined in accordance with WHO Regional Office for Africa's guidelines. Laboratory confirmation for presence of influenza viruses was done using real time PCR assays.

Standardized case investigation forms used for sample collection were analyzed using Epi-Info software to generate frequency and proportions.

Results

Of the 5,860 suspected influenza cases reported between 2007 and 2011 from all the influenza sites in Nigeria, 1104 (18.8%) and 2,510 (42.8%) of the total cases were recorded in 2009 and 2010 respectively. A total of 296 (7.3%) were positive for Flu A, while 147 (2.9%) for Flu B. The Northern zone recorded a total of 1908(AR: 2.6/100,000) suspected cases while the Southern zone recorded 554(AR: 1.48/100,000) and the Western zone reported 549(2/100,000) suspected cases. Of the 443 that were positive 43 (1.5%) were health workers, 446 (8.0%) had co infection of chronic respiratory tract disease, 50(3.7%) had co infection with heart disease. Exposure to poultry was 2797(98.2%).

Conclusions

Co-morbidity factors associated with influenza viruses are an important contribution to the burden of respiratory illnesses in Nigeria predominantly affecting children less than 5years and adults 25years and above. Additional years of data are needed to better understand the co-morbidity factors associated epidemiology of influenza viruses in Nigeria.

INFLUENZA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

INFLUENZA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)	Influenza with COPD N (%)	Influenza only N(%)	Total
A/H1	0 (0.0)	12 (100.0)	12 (100.0)
A/H3	10(11.2)	79 (88.8)	89 (100.0)
All Negative	551 (11.1)	4392 (88.9)	4943 (100.0)
pdmA/H1N1	14 (9.3)	137 (90.7)	151 (100.0)
pdmA/H1N1	10(5.6)	170 (99.4)	180 (100.0)
Total	585(10.9)	4790(89.1)	5375(100.0)

Only 585 (10.9%) had chest indrawing, with majority of the influenza subtype pdm A/H1N1 cases 14 (9.3%) had chest indrawing.

INFLUENZA AND CHRONIC CHEST DISEASE

Influenza Sub-type	Influenza with Chronic Shortness of Breath N (%)	Influenza cases without Chronic Shortness of Breath N(%)	Total
A/H1	0 (0.0)	16 (100.0)	16 (100.0)
A/H3	1(0.9)	115 (99.1)	116 (100.0)
All Negative	56 (1.1)	5204 (98.9)	5204 (100.0)
pdm A/H1N1	0 (1.3)	152 (98.7)	152 (100.0)
Un-subtype-able	0 (0.0)	181 (100.0)	181 (100.0)
Total	57(1.0)	5668(99.0)	5725(100.0)

Less than 5% of the respondents with influenza cases had chronic shortness of breath

Keywords

Surveillance; Influenza; Nigeria; Co-morbidity

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*Aishatu B. Gubio
E-mail: yabintu@gmail.com