

**A CASE-CONTROL STUDY OF RISK FACTORS FOR SEVERE INFLUENZA AMONG
PERSONS AGED 5 YEARS OR MORE IN A RURAL COMMUNITY IN BONDO
DISTRICT, KENYA**

Maurice Owuor Ope

**A thesis submitted in partial fulfilment for the Degree of Master of Science in Applied
Epidemiology in the Jomo Kenyatta University of Agriculture and Technology**

2008

ABSTRACT

Influenza causes severe morbidity and mortality. It is also responsible for high rates of absenteeism, societal disruption and economic loss. There is still not enough evidence of the groups that can benefit from influenza vaccination in Kenya. This is in contrast to the developed countries where this information is available and is continuously being updated every year. Similarly there is scanty information on the risk factors for influenza in developing countries.

A matched case control study was conducted to identify the risk factors for severe influenza among persons aged 5 years or more in a rural community in Kenya. Cases of influenza were confirmed by real time reverse transcription polymerase chain reaction and controls were matched to case by place of residence. A standardized questionnaire was administered to all study participants and conditional logistic regression used to identify independent risk factors.

A total of 26 cases and 78 neighborhood controls were enrolled. On univariate analysis there was no significant increased risk of influenza among those exposed to indoor smoke [OR_{MH} 1.82, 95% confidence interval (CI) 0.64-5.18, p value 0.3538]. In multivariate analysis there was an increased risk of severe influenza among young adults (less than 30 years old) [adjusted odds ratio (aOR) 40.15, 95% CI 4.42-364.85, p value 0.0010] and those living in household owning cows (aOR 6.76, 95% CI 1.38-33.10, p value 0.0184).

Young adults are at high risk of severe influenza and should be prioritized for influenza prevention and control activities including vaccination depending on the strains in circulation.

There is need to conduct further studies to evaluate the role of cows in predisposing individuals to severe influenza