Modeling the determinants of child mortality in Bushenyi district

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Background: This study focuses on childhood mortality in Bushenyi district. Childhood mortality is the probability of a child dying between birth and the fifth birthday. The mortality of children is of particular interest to demographers, policy makers and researchers because it is an indicator of social and economic development and shows evidence of its priorities and values..

Data indicate that some 9.7 million children under the age of five die annually in the world as a whole, about half of child deaths occur in Africa (UNICEF 2008). Sub-Saharan Africa is the region most affected and accounts for more than one-third of deaths of children under age of five (Hill et al., 1999). Uganda has anU5MR of 137 per 1000 live births and it's at 114 and 153 in urban and rural areas respectively (UDHS 2006). Nearly three-quarters of the child deaths in the developing world are caused by diseases (predominantly acute respiratory infections, diarrhea and malaria) for which practical, low cost interventions exist, including immunization, ORT use, and antibiotics.

Nonetheless, achieving Millennium Development Goal 4 (MDG 4), which aims to reduce the global under-five mortality rate by two thirds between 1990 and 2015, will require additional effort. Uganda's target is to reduce U5MR by two thirds, between 1990 and 2015, the under five mortality rate (i.e. bring U5 mortality to 31/1000 deaths by 2015). Government needs to undertake a comprehensive review of this goal to establish the real reasons for poor performance, intensify campaigns and provide/allow more funding into the health sector.

The levels of childhood mortality in Uganda are still reported to be high. There is therefore need to increase efforts and improve on chances of child survival.

There is need to provide information on child mortality in order to help reduce high rates of childhood mortality hence improving chances of child survival

However, not a lot of studies have yet been under taken by many researchers to try to find out ways of improving on this ever persistent problem in Uganda. This research will help policy makers in meeting MDG 4 in Uganda by providing data for policy formulation and planning.

Purpose: The main purpose of the study was to find out the determinants of child mortality in Bushenyi district.

Methods: The independent variables investigated include maternal age, marital status and maternal level of education, ethnicity and religion of the mother while the independent variable is childhood mortality.

In the first analysis percentages were computed. At the second stage analysis of variances were used in investigating the effect of an individual variable on the number of children dead.

Chi-square statistic takes the general form below;

$$x^2 = \sum_{i=1}^{r}\sum_{j=1}^{k}\frac{\left(O_{ij} - E_{ij}\right)^2}{E_{ij}}$$

Where; j=1, 2,…………, k.

i=1, 2,…………, r

O_{ij} = Observed frequency.

E_{ij} = Expected frequency.

k = Number of categories of the dependent variable.

r = Number of categories of the independent variable.

At multivariate level, Binary logistic regression was used to model the determinants of child mortality

The binary logistic model that was fitted is of the form below:

$$\log\left[\frac{P_i}{1 - P_i}\right] = b_0 + b_1 x_1 + b_2 x_2 + \ldots\ldots\ldots + b_k x_k + e$$

Where;

P_i…………Probability of a child dying before the 5th birthday

$.b_0$…………is the coefficient of the constant

b_s…………are regression parameter estimates

x_s…………are independent variables

e ………….is the error term.

Results:
It was found out that the determinants of childhood mortality included age at first birth of the mothers, her religion, education level attainment, mothers wealth index, types of place of residences of mothers, sources of drinking water of mothers, and types of toilet facilities used by mothers.

Recommendations:
The researcher was able to come up with some recommendations that would help policy makers and planners to reduce infant and childhood mortality.

On the policy implications, policy makers should analyze the factors that lead to differentials in child mortality among different religions, age groups and maternal educational levels. Education of a girl child should be encouraged at least up to primary level.
Also, there should be concerted efforts to tell people of different religions to seek medical attention from modern medical facilities not to believe in herbs especially the traditional believers. Also people should be taught from their different places of worship to observe high standards of hygiene and therefore reduce on child loss due to sanitation diseases of diarrhea and cholera.

There should also be increased age at marriage so as to reduce on the number of children born and therefore reduce on costs of child rearing and hence reduced child loss. Women should be provided with information about modern family planning methods and also encouraged to use them.

The integrated management of childhood mortality (IMCI) should be funded and implemented in the district. It should be implemented by training health workers and equipping the household with knowledge about health seeking behavior. The programme should ensure that child health and infant and child mortality caused by the six major causes (anemia, ARI, malaria, diarrhea, measles and malnutrition) reduce.