

**OUTCOME OF HIV-INFECTED AND UNINFECTED CHILDREN WITH
SEVERE PNEUMONIA ADMITTED TO PAEDIATRIC WARDS AT
MULAGO HOSPITAL**

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ABSTRACT

Background:

Pneumonia is the leading cause of death in children under 5 years worldwide and contributes the greatest proportion of the global burden of childhood diseases. In Uganda, pneumonia is one of the leading causes of death among children under 5 and is the second major cause of morbidity following Malaria. Pneumonia affects both HIV-infected and HIV-uninfected children; however HIV-uninfected children with pneumonia have been reported to have a better outcome compared to HIV-infected children. Initiation of HAART in HIV-infected children has several benefits including modifying HIV disease progression, reducing morbidity and mortality. The outcome of HIV-infected and HIV-uninfected children admitted with severe pneumonia in the HAART era at Mulago hospital has not been described.

Objective: To describe the outcome and associated factors in HIV-infected and HIV-uninfected children aged 2 months to 12 years admitted with severe pneumonia to the paediatric in patient wards at Mulago hospital.

Study Design: Analytical prospective cohort study.

Study Population: HIV-infected and HIV-uninfected children aged 2 months to 12 years admitted with severe pneumonia in Mulago hospital.

Method: Consecutively, 124 HIV-infected and 124 HIV-uninfected children aged 2 months to 12 years were recruited into this study. A semi structured questionnaire was used to capture information concerning the clinical history and detailed physical exam. Blood was collected for complete blood count for both HIV infected and uninfected children. CD4 T cell measurements were done for the HIV infected children. All participants were followed until death or discharge. Data was entered into the computer using EPIDATA 3.1 and analysed using STATA v 10. Data was analysed as proportions and factors associated with the outcome were

determined using chi square and logistic regression. A p-value of 0.05 was considered to be significant.

Results:

Of the 248 children enrolled in this study 157(64.3%) were hospitalized for less than 7 days, majority of whom (73.4%) were HIV-uninfected children. Four patients did not complete study procedures and were excluded from the study. The mean duration of hospitalization for the HIV-uninfected children was 5.5 days (SD 4.2) compared to 8.1 days (SD 7.1) for the HIV infected children. Fifty five patients (45%) of the HIV-infected children and 33(26.7%) of the HIV-uninfected children had prolonged hospitalization. At multivariate analysis the factors that were associated with prolonged hospitalization for all the children admitted with severe pneumonia were stunting [OR 2.07; 95% CI (1.18-3.62)] p=0.011 and lymphadenopathy [OR 2.39; 95% CI (1.13-4.78)] p=0.021. At multivariate analysis the factors that were associated with mortality of all the children admitted with severe pneumonia were age between 2months to 2 years [OR 0.14; 95% CI (0.02-1.06)] p=0.024, never breast feeding [OR 2.76; 95% CI (1.01-7.50)] p=0.046 and underweight [OR 2.32; 95% CI (1.02-5.24)] p=0.043.

Conclusion: In this study the HIV infected children admitted with severe pneumonia had prolonged hospitalization and higher mortality compared to the HIV uninfected children. The factors associated with prolonged hospitalization were stunting and lymphadenopathy. The factors found to be associated with mortality were age between 2months to 2 years, never breast feeding and underweight.

Recommendation: In order to reduce duration of hospitalization and mortality among children with severe pneumonia the following should be promoted: routine nutritional assessment and rehabilitation, aggressive management of children \leq 2 years, breast feeding and investigation of lymphadenopathy.