

https://dspace.org/

Incidence and mortality of childhood non-traumatic coma of unknown cause in Kilifi County between 2002 to 2018

Odipo, Emily

2021
https://hdl.handle.net/10539/32326

Downloaded from a DSpace repository. https://dspace.org/

Incidence and Mortality of childhood Non-traumatic coma of unknown cause in Kilifi County between 2002 and 2018

ABSTRACT

Background: Acute non-traumatic coma (aNTC) is a neurological emergency often seen in paediatric presentation in sub-Saharan Africa and is associated with high morbidity and mortality. Malaria and invasive bacteria were often linked to the etiology of aNTC but the etiology of a significant proportion of children admitted with aNTC remains unknown. These children with coma of unknown cause (CUC) are at a higher risk of death and long-term sequelae compared to those with known cause. Despite this, up-to-date population-based data on the incidence, etiology, severity, and outcome of CUC in children is lacking especially in Low and middle income (LMIC) settings. Such data are a prerequisite for informed provision of healthcare resources for this patient group. The objective of this study was to determine the incidence, mortality, and temporal trends of childhood admissions with CUC in Kilifi County Hospital located on the Kenyan Coast.

Methods: We reviewed Kilifi County Hospital coma admission records for children aged 2 months to 13 years between 2002 to 2018 (Blantyre Coma Score<3). Patients with CUC were identified among the non-traumatic coma cases after excluding those defined as having cerebral malaria (CM) and meningitis. The incidence for CUC was restricted to within the Kilifi Health and Demographic Surveillance (KHDS) geographical area residents. Trend of acute non-traumatic coma (aNTC) admissions was explored and a logistic model was fitted to determine the risk factors associated with CUC mortality among children.

Results: During the study period, there were 3590 (6.5%) children admitted with aNTC. Of these, 74 (2%), 1507 (42%) and 1496 (41%) were due to Meningitis, CM and CUC respectively. Additionally, 540 (15%) were ungrouped due to missing data. The average Incidence of CUC was 36 per 100,000-person years. Age specific analysis showed that younger children had a higher incidence rate of CUC as compared to older children. During the study period 325 CUC cases died with the risk of death showing inverse relation with age: <1yr (44%), 1-2yrs (30%), 3-5yrs (13%) and 6-13yrs (13%). Trend analysis showed significant decline in admissions with CM and meningitis and a significant rise in CUC during 2002-2018 - a period of declining malaria and introduction of conjugate vaccines against *Hemophilus influenza* and

Streptococcus pneumoniae. In multivariate analysis, MUAC, hypoxia, lymphadenopathy and irregular respiration were found to be risk factors associated with CUC mortality within the CUC group.

Conclusion: With the decline in malaria transmission and introduction of vaccines against *Haemophilus influenza* and Pneumococcus, there has been a decline in hospital admission due to CM and Meningitis. These declines have been accompanied by a significant increase in admissions due to CUC. Therefore, understanding the etiology of CUC is critical in improving diagnosis and treatment, and in developing preventive measures which can ultimately reduce incidence and improve hospital outcome.