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Bioavailability for lower respiratory tract infection drugs among neonatal and adults population in kilimanjaro

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Abstract

Lower respiratory tract infection is the leading cause of admission and mortalities for children and adults in developing country like Tanzania. Two summarized reports using qualitative and quantitative approaches for 82 sick neonates admitted to 13 inpatient health facilities and 346 inpatients adult files from the 11 health facilities in the Kilimanjaro region showed the following.

From Neonatal study

None of 13 facilities had a functioning premature baby unit despite calculated gestational age <36 weeks in 45.6% of evaluated neonates. Intravenous fluids and oxygen were available in 9 out of 13 of facilities, while antibiotics and essential basic equipment was available in more than two thirds. Medication dosing errors were common; under-dosage for Ampicillin, Gentamicin and Cloxacillin was found in 44.0%, 37.9% and 50% of cases, respectively, while over-dosage was found in 20.0%, 24.2% and 19.9%, respectively.

From Adult study

There are no specific parameters for assessing the severity of Lower respiratory tract infection. Among those admitted for close follow up in the medical wards. Sputum for AFB was asked 69 times, where 63 files (24.8%) were from the periphery. For Chest x-ray district hospitals presented with 36 files (28.8%) with records, regional hospital 17 files (54.8%), the difference (Pearson chi2(3) = 29.4882 Pr < 0.001). FBP presented with 42 (16.54%) HIV test was asked in 64 files, where 40 files were from peripheral hospitals (15.8%) where district hospitals presented with 23 files (18.4%), the difference Pearson χ^2 3) = 39.56 P value < 0.001. For CD4 count, 5 files (1.9%) were found with 3 files from the district hospitals (2.4%) (Pearson χ^2 (3) = 2.0296 P value = 0.56). Oxygen saturation tests was found in 2 files (0.8%) all of them from the group of district hospitals 2 files (1.6%),Pearson χ^2 (3) = 2.0804 P value = 0.55). Blood culture, Sputum culture and sputum for gram staining was done in 3, 2 and 1 files respectively. ampicillin 56.4%, cloxacillin 7.5%, ampiclox 7.2%, Benzyl penicillin 29.2%, ceftriaxone 14.5%, metronidazole 12.7%, erythromycin 5.2%, gentamycin 10.7% and cotrimoxazole 9.8%.

Conclusion:

Economic setback is not a reason for poor quality of care. It is possible to improve the quality of care through a consistent supply of testing tools. Scale up of trainings for disease specific testing tools is crucial in the HIV era.

Biography:

Bernard Mbwele is 35 years old a medical doctor, a holder of MSc Clinical Research, working for Christian Social Services Commission, CSSC as CQI specialist in HIV/AIDS care and treatment programs funded by PEPFAR. He worked for neonatal care in Kilimanjaro region using qualitative and quantitative approaches designed by experts from London School of Hygiene and Tropical Medicine, LSHTM and Duke University at KCRI. He was trained by the Institute for Quality of Health Care at Radboud Medical University, Nijmegen, The Netherlands where he expects to start his PhD in the next academic year for Continuous quality improvement programmes.