

# **Bacterial isolates in severely malnourished children at Kenyatta National Hospital, Nairobi.**

## **Abstract:**

To identify bacterial isolates and determine antibiotic sensitivity pattern in children with severe Protein Energy Malnutrition (PEM) presenting at the Paediatric Filter Clinic (PFC) of Kenyatta National Hospital (KNH). Hospital based cross-sectional survey. Paediatric Filter Clinic of Kenyatta National Hospital (KNH), a tertiary level teaching institution for the University of Nairobi, Kenya. Children between two and sixty months presenting at the hospital outpatient filter clinic with severe malnutrition. Ninety-one children, forty six female and forty five males, were recruited for the study. Of these, sixty had Marasmus, twenty Kwashiorkor and eleven Marasmic-Kwashiorkor. HIV serology was positive in 43% of study subjects. There were 30 bacterial isolates from 26 subjects. Ten bacterial isolates were gram positive and twenty gram negative. Isolation rates did not vary by HIV serological status. Twenty one out of the 30 isolates were from blood culture. About 1/3 of the gram positive isolates were coagulase negative staphylococci, largely resistant to commonly used antibiotics such as Erythromycin, Ampicillin, Cotrimoxazole, Chloramphenicol and even Oxacillin. More than half demonstrated resistance to commonly used oral antibiotics while 80% of all gram positive and negative isolates were sensitive to Ciprofloxacin. Aminoglycosides, Gentamicin and Amikacin, and third generation Cephalosporins, Ceftriaxone and Ceftazidime, were found to be effective against most gram-negative isolates. Nearly a third (28.9%) of children admitted with severe malnutrition at KNH have concomitant severe bacterial infections; primarily manifesting as bacteraemia. Gram-negative agents are responsible for most severe bacterial infections in children admitted at the KNH, regardless of their HIV serological status. Whenever possible, blood culture should be included in the initial septic screening of severely malnourished children at KNH. In the absence of culture and sensitivity information, ciprofloxacin should be considered among the first line options in the empirical treatment of severe bacterial infections among these children. Clinical trials to further evaluate in-vivo effectiveness of various single or combination antibiotics are recommended