International Child Health Group

G245 ADVOCATING FOR QUALITY LOW-COST MANAGEMENT OF CHILDREN WITH DIARRHOEA IN RURAL BANGLADESH

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Aims Globally, an estimated 0.8 million children under five die of diarrhoea annually. Clear, evidence-based clinical management protocols exist, but their successful implementation in resource-limited clinical settings remains challenging. This clinical audit aimed to evaluate the impact of a simple, novel integrated care pathway (ICP) on standards of assessment and management of children with acute diarrhoea in a rural hospial in Bangladesh, and to assess any cost implication for the family. The ICP includes a simple checklist of clinical symptoms and signs which allow the severity of dehydration to be accurately assessed, and integrates this with the relevant treatment algorithm.

The impact of the new ICP was measured against the 4 endpoints listed in the results section.

Methods Retrospective case notes study of admitted children (1 month to 12 years) with acute diarrhoea in 2012. Patient management was evaluated against hospital guidelines. As the ICP was implemented at the end of May 2012, the patients were split into two cohorts: A (pre-ICP) and B (post-ICP). 183 patients were included in total.

Admission Period	Jan-May (Cohort A – pre ICP)	Jun-Dec (Cohort B – post ICP)
Number of Admissions	115	68

Results

1. Accuracy of Dehydration Assessment: Children diagnosed with degree of dehydration inconsistent with their documented clinical signs were 34 (29%) in cohort A and 3 (4%) in cohort B.
2. WHO rehydration plan: Children rehydrated with recognised rehydration plan (A, B or C) were 38 (33%) in cohort A and 55 (81%) in cohort B.
3. Use of inappropriate IV fluids: Children given IV fluids without severe dehydration were 56 (49%) in cohort A and 13 (16%) in cohort B
4. Cost implications: Average cost for rehydration fluids (oral and IV) was £3.26 for patients in cohort A and £0.92 for patients in cohort B.

Conclusion The implementation of the ICP in this clinical setting improved the quality of acute diarrhoea management. Rates of incorrect dehydration assessment fell by 25%, rates of evidence-based rehydration increased by 48% and rates of unnecessary IV fluid administration decreased by 33%. In addition, there was a 72% reduction in cost of fluids for the family.

G246 MANAGEMENT OF ACUTE MALNUTRITION IN INFANTS AGED <6 MONTHS (MAMI) IN MALAWI: PREVALENCE AND RISK FACTORS IN AN OBSERVATIONAL STUDY

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Aims Severe Acute Malnutrition (SAM) underlies some 500,000 young child deaths per year. For the first time, new (December 2013) World Health Organisation Guidelines recognise SAM in infants <6 months (u6m). Research in this group is however lacking: WHO assessed the quality of current evidence as 'VERY LOW' according to the GRADE framework (Grading of Recommendations Assessment, Development and Evaluation).

In this study we aimed to address a key question highlighted by WHO: how best to identify high risk infants u6m. We did this by:

- Comparing prevalence of infant SAM as defined by current weight-for-length (WFL)-based definitions with proposed new definitions based on mid-upper-arm circumference (MUAC).
- Identifying risk factors for use in future clinical assessment tools.

Methods A cross sectional prevalence survey conducted in two referral hospitals and three community health centres in Malawi. All infants u6m excluding twins attending for either medical attention or routine immunizations were measured and asked about potential malnutrition risk factors.

Results From October 2013–January 2014 we measured 6,787 infants u6m. After data cleaning, we analysed a total of 5,717 infants u6m: 582 from hospitals; 5,135 from health centres.

Defined by WFL <−3 z-scores, 1.6% (90) infants had SAM. Defined by MUAC <110mm, 3.9% (214) had SAM. By MUAC <115mm, an additional 3.5% (188) had SAM. However defined, prevalence was higher in the hospitals than in health centres (3.5% vs 1.4% by WFL; 4.5% vs 3.4% by MUAC).

There were no male/female sex differences. Infants with low birth weight (<2.5kg) were 2.2 times more likely to be malnourished. Those whose mothers reported a breastfeeding problem were 6.4 times as likely to be malnourished.

Conclusion Infant u6m SAM is an important problem, especially in hospital settings, but even in otherwise stable infants attending for immunizations. MUAC identifies more infants as having SAM than does WFL – these differences matter for calculating sample sizes for future intervention studies. MUAC, though not currently used for infants u6m is being actively researched in this age-group; MUAC is well established in older children in identfying those high risk of death. Risk factors identified here are also important towards future studies in this age group.

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