

Evaluation of an algorithm for integrated management of childhood illness in an area of Kenya with high malaria transmission

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Abstract:

In 1993, the World Health Organization completed the development of a draft algorithm for the integrated management of childhood illness (IMCI), which deals with acute respiratory infections, diarrhoea, malaria, measles, ear infections, malnutrition, and immunization status. The present study compares the performance of a minimally trained health worker to make a correct diagnosis using the draft IMCI algorithm with that of a fully trained paediatrician who had laboratory and radiological support. During the 14-month study period, 1795 children aged between 2 months and 5 years were enrolled from the outpatient paediatric clinic of Siaya District Hospital in western Kenya; 48% were female and the median age was 13 months. Fever, cough and diarrhoea were the most common chief complaints presented by 907 (51%), 395 (22%), and 199 (11%) of the children, respectively; 86% of the chief complaints were directly addressed by the IMCI algorithm. A total of 1210 children (67%) had *Plasmodium falciparum* infection and 1432 (80%) met the WHO definition for anaemia (haemoglobin < 11 g/dl). The sensitivities and specificities for classification of illness by the health worker using the IMCI algorithm compared to diagnosis by the physician were: pneumonia (97% sensitivity, 49% specificity); dehydration in children with diarrhoea (51%, 98%); malaria (100%, 0%); ear problem (98%, 2%); nutritional status (96%, 66%); and need for referral (42%, 94%). Detection of fever by laying a hand on the forehead was both sensitive and specific (91%, 77%). There was substantial clinical overlap between pneumonia and malaria (n = 895), and between malaria and malnutrition (n = 811). Based on the initial analysis of these data, some changes were made in the IMCI algorithm. This study provides important technical validation of the IMCI algorithm, but the performance of health workers should be monitored during the early part of their IMCI training. Full text Full text is available as a scanned copy of the original print version. Get a printable copy (PDF file) of the complete article (1.5M), or click on a page image below to browse page by page. Links to PubMed are also available for Selected References.