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Prescribing for acute childhood infections in developing and transitional countries, 1990–2009

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Abstract

Background: Evidence of global progress in treating acute paediatric infections is lacking.

Objectives: To assess progress over two decades in prescribing for childhood infections and interventions to improve treatment by reviewing empirical evidence in developing and transitional countries.

Methods: Data were systematically extracted on the use of medicines for diarrhoea, respiratory infections and malaria from published and unpublished studies (1990–2009) in children under 5 years of age. Medians of each indicator were calculated across studies by study year, geographic region, sector, country income level and prescriber type. To estimate intervention effects from studies meeting methodologically accepted design criteria [randomised controlled trials (RCTs), pre-post with control, and time series studies], the medians of the median effect sizes (median MES) were calculated across outcome measures.

Results: Data were extracted from 344 studies conducted in 78 countries with 394 distinct study groups in public (64%), private (22%) and other facilities to estimate trends over time. Of 226 intervention studies, only the 44 (19%) with an adequate study design were used to estimate intervention effects. Over time, use of anti-diarrhoeals for acute diarrhoea decreased significantly (P<0·01). However, treatment of malaria and acute respiratory infection remained largely sub-optimal. Multi-component interventions resulted in larger improvements than single-component ones. The median MES indicated a 28% improvement with community case-management, an 18% improvement with provider education combined with consumer education, but only 9% improvement with provider education alone.

Conclusions: While diarrhoea treatment has improved over the last 20 years, treatment of other childhood illnesses remains sub-optimal. Multi-component interventions demonstrated some success in improving management of acute childhood illness.

Keywords: Drug use, Prescribing, Interventions, Developing countries, Acute respiratory tract infections, Acute diarrhoea, Malaria