

# Rational prescribing is important in all settings

Imti Choonara

The importance of rational prescribing in low-income and lower-middle-income countries is highlighted by the paper published by Risk and colleagues.<sup>1</sup> The authors evaluated the prescribing practices of health professionals treating children under the age of 5 years in 20 different public health centres in The Gambia. There were over 300 young children seen with diarrhoea, and a similar number seen with an upper respiratory tract infection (cough and cold only). Approximately half the children with diarrhoea or an upper respiratory tract infection received antibiotics, and this is clearly inappropriate. WHO and numerous investigators have raised concerns regarding the irrational use of medicines.<sup>2</sup> WHO has been instrumental in producing an Essential Medicines List in order to help prescribers choose the most appropriate medicines. Additionally, guidelines, both national and international, have been produced in relation to the treatment of a variety of medical conditions. Despite these various initiatives, WHO has estimated that half of all medicines are inappropriately prescribed or purchased.<sup>2</sup> The rational use of medicines in children is an area of research that has been inadequately studied.

It is important, however, that we recognise that rational prescribing for children is not just an issue for low-income and lower-middle-income countries. Prescribing in many high-income countries is often not rational. One example of this is the variation in the prescription of antibiotics between and within different countries. Children in Italy are four times more likely to receive antibiotics than children in the UK, Denmark and The Netherlands.<sup>3</sup> Within the UK, as in many other European countries, newer broad spectrum antibiotics are being used more extensively. Broad spectrum antibiotics are more likely to result in increased antimicrobial resistance.

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It is not just antibiotics that are prescribed irrationally. For example, medicines for infants with gastro-oesophageal reflux are now prescribed very extensively, both in primary care and in hospital, in the UK. In the vast majority of infants, gastro-oesophageal reflux is a self-limiting condition. For infants who do require treatment, thickeners, such as Carobel, have been shown to be effective. Despite this, medicines that are more expensive and more likely to be associated with toxicity, such as protein pump inhibitors, are increasingly being used. This is despite a systematic review showing that protein pump inhibitors are ineffective in reducing symptoms associated with gastro-oesophageal reflux in infants.<sup>4</sup>

Legislation has been introduced in both Europe and the USA to facilitate clinical trials in paediatric patients of all ages. The legislation is to be welcomed if it results in increased scientific evidence to enable health professionals to use medicines more effectively and safely. This was certainly the aim of the health professionals who highlighted the extent of off-label prescribing in children. It is important to recognise, however, that health professionals have a responsibility to use the scientific evidence that is generated to prescribe medicines in a rational manner.

The evaluation of whether medicines are prescribed rationally unfortunately is difficult. There has been insufficient research on developing validated tools to assess prescribing, especially in children. Quality indicators for outpatient antibiotic prescribing have been developed by the European Surveillance of Antimicrobial Consumption project.<sup>5</sup> The majority of the quality indicators relate to adults, but three relate specifically to children. These three quality indicators suggest that no more than 20% of children seen in a clinic with an acute upper respiratory tract infection, acute tonsillitis or acute otitis media should be prescribed oral (systemic) antibiotics. It is only through the development of drug-specific and disease-specific quality indicators for other medicines that one will be able to ensure

children receive the appropriate medicine whenever they see a health professional.

Before prescribing any medicine, doctors should always ask themselves the following questions. First, is there evidence that the medicine is effective in treating the disease that the patient presents with and, additionally, is it effective in the age group of the patient with the disease? Second, do the benefits of treatment outweigh the risks associated with the treatment? We all have a responsibility to our patients to ensure that we use medicines that are both safe and effective, but also that they are used in a rational manner.

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