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# Exploratory Research in Clinical and Social Pharmacy

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## Letter to the Editor

### Antibiotic use in paediatrics



Antibiotics have been described as medicines used to prevent and treat bacterial infections. Antibiotics play an important role in the treatment and management of bacterial infections; thus, the issue of rational use of antibiotics and monitoring of possible resistance to antibiotics cannot be overemphasized. The concern for the management of antibiotic resistance in many countries has led to the introduction of various measures to monitor and ensure the rational use of antibiotics. Such initiatives include World Health Organization (WHO) model Essential Medicine List for children [EMLC] introduced in 2017, which attempted to improve antibiotic stewardship by streamlining their use and classifying antibiotics into three broad classes: Access, Watch, and Reserve [AWaRe], this was updated in 2019.<sup>1</sup> In this classification, **Access** antibiotics refer to the first line or second line antibiotics for key infections, which should be widely available at low cost, **Watch** antibiotics are considered as those with high susceptibility to resistance, and **Reserve** are antibiotics of last resort and should be used as a contingency under specialist guidance and monitoring.

Centres for Disease Control and Prevention (CDC) statistics indicated that each year at least 2.8 million people contracted an antibiotic-resistant infection in the USA, and more than 35,000 people of the infected individuals die as a consequence of antibiotic resistance. Antibiotic resistance remains one of the principal public health issues in the world.<sup>2</sup> The issue of antibiotic or antimicrobial resistance is only one component of the problem arising from antibiotic use and probably the most publicized aspect of the use of antibiotics. The other part of the ever-growing challenge with the use of antibiotics is the aspect of adverse drug reactions (ADR) associated with antibiotics; such events might include idiosyncratic reactions, and other known and unknown adverse events that might occur in patients. Vulnerable populations like the paediatrics and elderly might be affected more by the scourge of antibiotic/antimicrobial resistance, thus leading to infections requiring alternative or reserved antibiotics.

Namibia, a developing country in sub-Saharan Africa (SSA), has limited studies done on the use of antibiotics in the paediatric population. While the national antibiotics guideline is still been developed, the Namibia Standard Treatment Guidelines has provided guidance on the use of antibiotics as first, second or third line. The Namibia Essential Medicine List [Sixth Edition, 2016], provides for the classification of antibiotics according to levels of care, and includes a number of antibiotics that can be used in paediatrics for common infections.

Antibiotic stewardship, which is the effort to improve antibiotic use so that these medicines are only used when needed and, when needed, the right antibiotic is used correctly; becomes a very important task for all health care workers and patients.<sup>3</sup> Antibiotic stewardship programmes

have been instituted in various private and public healthcare settings in Namibia, with the view of curbing the growth of antibiotics resistance among the Namibians, especially, with the continued rise in MDR-TB and XDR-TB infections.<sup>4</sup>

Paediatrics constitute a large proportion of populations in low- and medium-income countries (LMIC), as seen in Africa, thus, the use of medicines and antibiotics use in particular, in this population becomes a critical issue that requires constant monitoring and analysis. Analyses of antibiotic prescription practices can provide the basis for development of diagnosis-specific antibiotic prescribing guidelines, which contribute to appropriate use of these life-saving medicines.

Microbiological investigations can be useful in confirming definitive indication for antibiotics, invariably, their rational use in children; however, this poses a challenge in LMIC where limited laboratory facilities/testing are available. In the absence of requisite microbiological sensitivity tests (MST), these infectious conditions are treated based on symptoms, using broad-spectrum antibiotics such as amoxicillin, by clinicians or other prescribers such as nurses.

In other to achieve the goals of antibiotics stewardship programmes among the paediatrics in Namibia, there is a need to create awareness and promote political will aimed at mitigating the burden of infections in paediatrics and dangers associated with irrational antibiotic use. Efforts in this area should not neglect the primary stakeholders, who are the paediatric patients and other drivers of health systems improvement initiatives such as the healthcare workers, Non-Government Organisations (NGO) etc.

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