A Review of Sub-Saharan African Countries Pre-service Pharmacy Curriculum to Identify Training Gaps on Antimicrobial Use, Resistance and Stewardship

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Antimicrobial resistance (AMR) is a major public health concern around the world and has become a major cause of death worldwide, particularly in sub-Saharan Africa. Pharmacists, however, are important members of antimicrobial management teams, responsible for prescribing, dispensing, and administering antimicrobials to patients either in hospitals or during community practice. It then becomes imperative for pharmacy students to be appropriately trained on antimicrobial use (AMU), antimicrobial response (AMR), and antimicrobial stewardship (AMS). The aim of this study was to review the pharmacy pre-service curriculum used in countries in sub-Saharan Africa to identify training gaps on AMU, AMR, and AMS. We conducted a narrative review of evidence to answer the aim of the study. Data reported in this article were first obtained from literature in peer-reviewed journals, using the key terms: "AMR", "AMS", "Undergraduate", "Pre-Service", "Curriculum", "Sub-Saharan", "Stewardship", and "Africa" on 5 databases, including Google Scholar, PubMed, PubMed Central, Web of Science, and Medline. The time limit for the literature search was set from 1st January 2010 to 31st May 2022. Papers were critically assessed for intellectual content, and those that did not meet the inclusion criteria or were irrelevant to the scope of the study were excluded. The authors also snowballed further data to gather information for this review, and narrative synthesis was conducted. Most of the pre-service curriculums used for pharmacy students in Sub-Saharan Africa are not comprehensive enough to equip them with the necessary and required education and training on AMU, AMR, and AMS.

Antimicrobial use and antimicrobial resistance were introduced in the early stages of the pharmacy curriculum in most countries. Pharmacy students in most countries in Sub-Saharan Africa were exposed to definitions of antimicrobials, different classes, their indications, doses, duration, and drivers of resistance. Most curricula do not cover antimicrobial stewardship, disposal of antimicrobials, infection prevention and control (IPC), use of point prevalence surveys, and measurement of antimicrobial consumption. Pharmacists play an important role in the rational practices on antimicrobials and, thus, the current pre-service pharmacy curriculums should be redesigned, refocused, and reoriented to meet the identified gaps in AMR knowledge, skills, and attitudes.