

INTISARI

Salah satu upaya untuk mengatasi tingginya resistensi antibiotik di *Low-and-Middle-Income Countries* (LMIC) adalah dengan menerapkan penatagunaan antimikroba di rumah sakit di mana apoteker memegang peranan penting di dalamnya. Penelitian ini bertujuan untuk menggambarkan intervensi yang dilakukan apoteker sebagai anggota PPRA dalam penatagunaan antimikroba di LMICs dengan latar rumah sakit, beserta luaran yang diukur dan efektivitasnya dalam bentuk *narrative review*.

Pencarian literatur dilakukan melalui laman database PubMed, Scopus, Cochrane Library, dan Google Scholar yang diterbitkan dari tahun 2015-2022. Kata kunci yang dilibatkan meliputi “*antimicrobial stewardship*”, “*low- and middle-income countries*”, “*program pengendalian resistensi antimikroba*” dan “*pharmacist*”. Penelitian ini menghasilkan ulasan mengenai intervensi-intervensi apoteker berdasarkan analisis dari literatur sumber.

Telah didapatkan 81 artikel, 58 diantaranya diskriming lebih lanjut, dan 26 literatur diantaranya dianggap relevan dan dibahas dalam ulasan ini. Intervensi apoteker sebagai anggota Program Pengendalian Resistensi Antimikroba (PPRA) dalam penatagunaan antimikroba di rumah sakit di negara berpenghasilan rendah dan menengah dilakukan dengan berbagai macam jenis meliputi intervensi edukasi (meliputi pengembangan dan edukasi panduan klinis, edukasi dan pelatihan penggunaan antibiotik yang rasional, dan edukasi pasien), umpan balik (meliputi audit dan umpan balik resep serta ronde bangsal), restriktif (meliputi implementasi restriksi antibiotik, otorisasi resep, dan penilaian riwayat alergi pasien), dan struktural (meliputi implementasi manajemen kinerja dan *therapeutic drug monitoring* (TDM)). Intervensi yang paling umum dilibatkan dalam beberapa penelitian adalah intervensi umpan balik. Luaran yang diukur dari intervensi apoteker sebagai anggota PPRA dalam penatagunaan antimikroba di rumah sakit di negara berpenghasilan rendah dan menengah terdiri atas luaran penggunaan antimikroba (*defined daily dose* (DDD), kepatuhan, biaya, rasionalitas, jumlah penggunaan, dan *days of therapy* (DOT) atau durasi), luaran klinis pasien (*length of stay* (LOS), kasus kematian atau mortalitas, respon efektif, dan tingkat readmisi), dan luaran mikrobiologi (tingkat *surgical site infection* (SSI) dan tingkat resistensi antimikroba). Berdasarkan luaran yang diukur dalam studi yang dibahas memperlihatkan efektivitas intervensi apoteker yang bervariasi.

Kata kunci: apoteker, penatagunaan antimikroba, LMIC

ABSTRACT

One of the strategies to overcome the high antibiotic resistance in Low-and-Middle-Income Countries (LMIC) is to implement antimicrobial management in hospitals where pharmacists play an important role. This study aims to describe the interventions carried out by pharmacist as antimicrobial stewardship member in the management of antimicrobials in LMICs with a hospital setting, along with the outcomes measured and the effectiveness in the form of a narrative review.

A literature search was conducted through the PubMed, Scopus, Cochrane Library, and Google Scholar database pages published from 2015-2022. The keywords involved included "antimicrobial stewardship", "low- and middle-income countries", "program pengendalian resistensi antimikroba" and "pharmacist". This study produced a review of pharmacist interventions based on an analysis of the source literature.

A total of 81 articles were obtained, 58 of which were further screened, and 26 of which were considered relevant literature and discussed in this review. Pharmacist interventions as antimicrobial stewardship member in the administration of antimicrobials in hospitals in low- and middle-income countries are carried out in various types, including educational interventions (such as clinical guideline development and education, education and training on rational use of antibiotics, and patient education), feedback (such as audit and feedback on prescriptions and ward rounds), restrictive (such as implementation of antibiotic restrictions, authorization of prescriptions, and assessment of patient's allergy history), and structural (such as implementation of performance management and therapeutic drug monitoring (TDM)). The most common intervention involved in several studies is the feedback intervention. The outcomes measured from pharmacist interventions consist of antimicrobial use outcomes (defined daily dose (DDD), adherence, cost, appropriateness, number of uses, and DOT or duration), patient clinical outcomes (length of stay (LOS), mortality, effective response, and readmission rate), and microbiological outcomes (surgical site infection (SSI) rate and antimicrobial resistance level). Based on the outcomes measured in the studies discussed, the effectiveness of pharmacist interventions show variable result.

Keywords: pharmacist, antimicrobial stewardship, LMIC