

itself and its treatment. Standard WHO multi-drug treatment (MDT) is comprised of medications that are potentially harmful and can induce a variety of adverse systemic effects.

Objectives: Alternative options for potential treatment have emerged such as monthly dosing of rifampin-ofloxacin-minocycline (ROM) combination therapy, however, there is limited synthesized evidence of efficacy. Multibacillary leprosy, characterized by numerous skin lesions and a high bacillary load, requires more prolonged daily treatment compared to paucibacillary disease. Monthly ROM-based protocols may enable reduced pill burden and translate to fewer adverse effects associated with the clofazimine and dapsona components of standard MDT, in particular.

Methods: To assess the safety and efficacy of monthly ROM treatment in a multibacillary population, and to determine how this may be affected by determinants of health, we conducted a systematic review of relevant literature. Various databases were searched from inception to May 2022. 1,201 records were retrieved for screening however after a de- duplication process 625 articles remained. Thus far, 8 articles have been identified for ultimate inclusion, however screening remains ongoing.

Results: Interim findings suggest that treatment failure and side effect frequency is greater in the comparator group (+2.29% and +52% respectively), and that relapse is more frequent in the ROM group (+0.94%). This suggests that ROM may be comparable to gold standard therapeutics, however a more robust analysis is necessary. Additionally, major determinants of health to be considered include social environments, education level of the patient, access to health services, gender, and income.

Conclusions: By synthesizing the current evidence discussing the efficacy of monthly ROM in treating multibacillary leprosy, we will map the current body of knowledge that exists with the ultimate goal of enabling more simplified standardized treatment protocols.

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Rifampin-Ofloxacin-Minocycline (ROM) for the Treatment of Paucibacillary Leprosy: A Systematic Review

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Background: Leprosy is a complex tropical infection from a diagnostic and management perspective, as patients with leprosy are at risk of numerous related complications from the disease itself and its treatment. Standard WHO multi-drug treatment (MDT) consists of medications that are potentially harmful and cause a range of adverse systemic effects.

Objectives: Monthly- or single dosing of combined rifampicin, ofloxacin, and minocycline (ROM) has emerged as a potential treatment option for leprosy, however, a recent synthesis of the evidence supporting ROM does not exist. Paucibacillary leprosy, characterized by limited skin lesions and a low bacillary load, may be most amenable to a fluoroquinolone-based treatment protocol.

Methods: We performed a systematic review of relevant literature to evaluate the safety and efficacy of ROM-based treatment for paucibacillary leprosy. Various databases were searched from inception to May 2022, using a combination of search accounting for alternative disease and chemical identifiers. The systematic review will focus on assessing and reporting on the efficacy, and safety of monthly ROM in the treatment of paucibacillary leprosy within a human population. 1,201 records were retrieved for title and abstract screening, however, after a multi-step de-duplication pipeline, 625 articles remained. Thus far, 28 articles have been identified for final inclusion, however screening remains ongoing.

Results: Interim findings suggest that patient lesion clearance and treatment failure is greater in the comparator group (+4.69% and +2% respectively), and that relapse, side effects, and reversal reactions are more frequent in the ROM group (+0.39%, +0.42%, and +8.15% respectively). This suggests that ROM may be slightly less efficacious than its comparator, however, a more robust analysis is necessary. Determinants of health identified in the treatment of leprosy include social environments, patient education, health services, gender, and income.

Conclusions: Synthesizing the current evidence discussing the efficacy of monthly ROM, will strengthen the current body of knowledge surrounding the treatment of paucibacillary leprosy, and may allow for the development of standardized fluoroquinolone-based treatment protocols.