Effectiveness of public health interventions on improving prescription redemptions and medication adherence among Type 2 Diabetes mellitus patients: Systematic Review and meta-analysis of Randomized Controlled Trials.
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Background: Despite the inadequate filling of prescriptions among chronic care patients have been a problem, little is known about the intervention effect on it.

Objective: The aim of this systematic review and meta-analysis (SRMA) was to investigate the effectiveness of various public health interventions on primary and secondary medication adherence among T2DM patients.

Methods: Searching was done from the major databases; Cochrane Library, Medline/PubMed, EBSCOhost, and SCOPUS. A hand search was made to find grey literature. Articles focused on interventions to enhance primary and secondary medication among type 2 diabetes mellitus patients were included. After screening and checking eligibility, the methodological quality was assessed. Secondary medication adherence was synthesized descriptively due to measurement and definition variations across studies. Finally, a meta-analysis was made using the fixed effects model for primary medication adherence.

Results: 3,992 studies were screened for both primary and secondary medication adherence. Among these, 24 studies were included in the analysis for primary (5) and secondary (19) medication adherence. Pooled relative medication redemption difference was RD=8% (95% CI: 6-11%) among the intervention groups. Age, intervention, provider setting, and IDF region were primary medication adherence determinant factors. About two-thirds of the studies revealed that interventions were effective in improving secondary medication adherence.

Conclusion: Both primary and secondary medications were enhanced by a variety of public health interventions for patients worldwide. However, there is a scarcity of studies on primary medication adherence globally, and in resource-limited settings for the type of adherence.

Keywords- T2DM, medication adherence, intervention, meta-analysis, RCT