

# Effects of Pharmacist Intervention on Medication Adherence

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## Introduction

- Medication adherence is defined as the patient's ability to adhere to prescribed medications dosing regimen (Gast & Mathes, 2019).
- Medication adherence affects the length and quality of a patient's life. Medication nonadherence results in 50% of treatment failures and 25% of hospitalizations (Kim et al., 2018).
- Over 100 million people in the US have a chronic medical condition (Stewart et al., 2022). Over 3 billion prescriptions are written yearly; 20% are never filled and 50% of those that are filled are not taken properly (Guerard et al., 2018, Neiman et al., 2017).
- Medication nonadherence costs an estimated \$100 billion in healthcare costs annually (Kleinsinger, 2018).
- There are 125,000 preventable deaths every year in the US due to medication nonadherence (Kleinsinger, 2018).
- Medicare beneficiaries visit community pharmacies nearly twice as often as their primary care physician. They are the most accessible provider. As the most accessible healthcare provider, pharmacists are in a position to provide disease management and identify barriers to adherence (Marcum et al., 2021).
- The World Health Organization has said that improving medication adherence will have greater effects on disease treatment and management than any other intervention (Adams & Stoelpe, 2016).
- If medication adherence was effectively managed, there would be an annual savings of \$100-300 billion dollars in healthcare in the US (Kim et al., 2018)

## Purpose

Medication adherence is a complex healthcare issue with many variables. The purpose of this systematic review is to determine if involvement of pharmacists in medication adherence interventions will improve adherence and patient outcomes. The conceptual framework used to help guide this project is Albert Bandura's self-efficacy theory. Self-efficacy is a person's belief in their own ability to achieve a goal or task. This theory was used because self-efficacy is important to goal setting and motivation. Motivation and goal setting are important parts of changing behavior and those who are nonadherent with their medications would benefit from behavior changes to improve their adherence to medications and improving their health.

## PICO

In the outpatient setting does pharmacist intervention increase medication adherence when compared to patients who manage their own medications without pharmacist intervention?

## Methods

A systematic review of literature was conducted for this project

- Electronic databases CINAHL, PubMed and MEDLINE were searched
- Key words used included medication adherence, pharmacist, primary care, interprofessional collaboration, medication reconciliation
- Inclusion criteria included
  - Publication date range 2017-2023
  - peer review
  - outpatient setting
  - pharmacist involvement/intervention in medication adherence,
  - full text of studies needed to be available
- Studies were excluded if they were conducted outside of the United States, not written in English. Studies that did not include pharmacist intervention or those set in an inpatient setting were excluded.
- 385 records were screened
- Titles and abstracts were screened for eligibility
- 81 records were assessed for eligibility. 15 full articles were reviewed.
- 7 studies met all criteria. Four were random controlled trials (Choudry et al., 2018; Pinto et al., 2018; Wilson et al., 2023; Wu et al., 2018); 2 cohort studies (Hale et al., 2020; Gatwood et al., 2018) and one prospective multicenter study (Sharaya et al., 2017).

## Results

- 2 studies (Choudry et al., 2018 and Wu et al., 2018) demonstrated fewer ER visits among participants
- 1 study (Hale et al., 2020) demonstrated a positive economic impact. This study showed pharmacist intervention had an impact financially and also on the clinic's STAR ratings.
- 2 studies (Choudry et al., 2018; Gatwood et al., 2018) specifically showed improvement in adherence to hypertension and cholesterol medication.
- The study done by Gatwood et al., demonstrated improved adherence to diabetic medications (Gatwood et al., 2018).
- Overall, 6 of the 7 studies demonstrated improved medication adherence (Choudry et al., 2018, Gatwood et al., 2018; Hale et al., 2020; Pinto et al., 2018; Sharaya et al., 2017; Wilson et al., 2023). The study by Wu et al (2018) did not show any statistically significant improvement of adherence.
- Pharmacist interventions included
  - Group visits consisting of 2 hour educational lectures (Wu et al., 2018).
  - Phone call conversations educating and addressing medication adherence (Choudry et al., 2018; Wilson et al., 2023).
  - Randomized into groups receiving medications via pill bottle, blister pack, pill bottle and medication therapy management and blister pack and medication therapy management (Pinto et al., 2018).
  - Pharmacist reviewed medications for side effects, drug interactions, cost, simplify medication regimen, and dosing intervals (Choudry et al., 2018; Hale et al., 2020; Sharaya et al., 2017).

## Implications for Practice

- Research demonstrates a benefit to interprofessional collaboration with pharmacists on improving medication adherence.
- Opportunity for nurse practitioners to develop clinical guidelines and protocols in regard to improving medication adherence.
- This is an opportunity to improve patient education, patient relationships, and patient outcomes.
- By using pharmacists to the full capabilities of their licenses, this may help with the primary care provider shortage by freeing up valuable time of providers so more patients can be seen.

## Recommendations

- Continued research to determine best pharmacist intervention on medication adherence. Larger size research study is recommended.
- Yearly medication reconciliation by a pharmacist.
- Pharmacist follow up on new daily medications for chronic diseases.
- Improve the identification of medication barriers and take steps to address them.

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