Proposed Model

A framework for pharmacist-assisted medication adherence in hard-to-reach patients

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Abstract

Background: Medication adherence rates are notably lower in hard-to-reach populations than in the general population. Pharmacists are uniquely qualified to address barriers to improve adherence. A number of pharmacist-led interventions have lacked theoretical underpinnings and thus have limited generalizability across disease states and care settings.

Objective: This study aims to create a model for use in patient-centered, pharmacist-led interactions to improve medication adherence.

Methods: The Health Action Process Approach (HAPA), a behavioral change framework, was adapted to known barriers of medication adherence. Semi-structured interviews were conducted with patients from the target population. Thematic analysis was performed after two weeks. Each subsequent interview was analyzed for additional themes.

Main findings: Themes from the interviews fit into the following domains: outcomes expectancies, risk awareness, goals and motivations, planning, and follow through. The framework was then adapted to include thematic data.

Conclusions: The newly developed framework provides a patient centered approach to facilitate and improve pharmacist-patient conversations regarding medication adherence. Its basis in a theoretical model allows for potential application across multiple care settings and multiple medications, regardless of disease state.
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Keywords: Medication adherence; Pharmacist; Hard-to-reach

Introduction

Medication adherence has been associated with decreased long-term health care costs and improved health outcomes. However, it is reported that approximately 50% of medications are not taken as prescribed.[1] There is a considerable

amount of research aimed at improving adherence through different health care professional and lay-person interventions. As one of the most accessible health care professionals and the last step in the process of medication distribution, pharmacists are uniquely qualified to improve adherence. The literature on pharmacist interventions aimed directly at improving medication adherence is rather limited as most interventions target only a specific disease state. Inpatient interventions attempt to improve patient education at discharge, improve medication reconciliation, and/or increase pharmacist follow-up post discharge.[2–7] In outpatient, community, or ambulatory settings, interventions generally include patient education consisting of different combinations of medication counseling, disease state education, and therapeutic lifestyle education.[5,8–18] Other modalities employed included barrier identification,[8,9,12,16] collaboration with prescribers,[5,9,10,15] reminder devices,[13] and individualized adherence plans.[5,13,16,18] The literature documents variable short-term improvement in medication adherence between the treatment and intervention groups and there is limited evidence of long-term impact on adherence. Furthermore, most interventions lack a theoretical foundation, which limits implementation across settings and disease states. Therefore, the need exists to develop a patient-centered pharmacist led intervention with a strong basis in theory which is applicable to multiple disease states and adequately addresses the individualized patient needs in order to address sustainability of the intervention on long-term adherence.

Behavioral change models are theoretical psychological approaches to describe the various social, emotional, and cognitive factors that lead to decisions and behaviors.[19] Many of these theories have been applied to or are specific to health behaviors including diet, exercise, smoking cessation, and medication adherence.[19] Each model attributes different factors to the ultimate end behavior. Such factors include beliefs, attitudes, intentions, social factors, expectations, risks and benefits, and patient's perceptions.[20] One such model is the Health Action Process Approach (HAPA).[21] The main two stages of this theory are the motivation phase and the volitional or action phase. During the motivation phase, task self-efficacy, outcomes expectancies, and risk awareness affect the development of an intention. The volitional phase includes maintenance self-efficacy, recovery self-efficacy, action planning and coping planning.

HAPA has been validated in numerous behavior areas including diet, exercise, whole-body skin self-examinations, and dental hygiene habits.[21–25] A 2012 study by Nelsen et al showed a strong correlation between the model and improved medication adherence in an HIV+ population.[26] The well-founded generalizability to a wide variety of health behaviors, including a recent application to medication adherence, suggests that HAPA is appropriate for the development of medication adherence interventions. The goal of this study was to tailor HAPA to medication adherence with the aim of providing a model for pharmacists to use in patient-centered interactions with hard-to-reach patients.

Material and methods

Study design

HAPA served as the theoretical basis for the framework development. For this study, application to medication adherence in hard-to-reach populations–those patients who frequently have gaps in care and treatment and are therefore difficult to reach by health care providers. The framework was completed for each domain based on identification of what is known from the literature about barriers to adherence and health behaviors from literature review. A qualitative semi-structured interview guide was then designed to gain insight from patients within the hard-to-reach population.

The study was approved by the University of Maryland Baltimore's Institutional Review Board (HP-00059126), and written consent was obtained from all in-depth interview participants prior to data collection. All interviews were audio recorded. No names or other patient identifiers were collected or recorded to protect the patients' anonymity.

Sample and recruitment

Potential interview participants were recruited using a purposive sampling approach. Although patients were not pre-screened, recruitment occurred from patients referred to an embedded clinical pharmacist for anticoagulation services at the University of Maryland Family and Community Medicine Practice in Baltimore. This site was selected for recruitment due to its high proportion of indigent, inner-city patients with complex medical comorbidities who have previously struggled with medication adherence and continuance with follow-up appointments. Saturation was reached