



Original Research

# Concern beliefs in medications: Changes over time and medication use factors related to a change in beliefs

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## Abstract

**Background:** Concern belief in medication is a construct that may characterize patients' attitude toward managing medicines, and this could change with time. Understanding the factors that would impact a change in concern beliefs would be helpful in interventions that could reframe patients' perceptions about their medicines.

**Objectives:** To examine if patient concern beliefs in medications change over time, assess the characteristics of individuals whose beliefs change, and determine what factors might impact a change in patient beliefs.

**Methods:** Secondary data analysis using 2 longitudinal studies. The first study was an Internet-based survey of Medicare enrollees pre-post Medicare Part D. The second study was a randomized controlled trial evaluating a medication management intervention among adults with physical limitations. Respondents were classified as those whose beliefs remained stable and those whose beliefs increased and decreased over 2 separate periods. Chi-square analysis examined significant differences across the groups. Multiple linear regressions examined factors that influence changes in patient beliefs.

**Results:** Among older adults, there were differences in perceived health status ( $\chi^2 = 26.05$ ,  $P = .001$ ), number of pharmacies used ( $\chi^2 = 17.41$ ,  $P = .008$ ), and number of medicines used after the start of Medicare Part D. There were no significant differences among adults with physical limitations. Among older adults, having an increased number of medicines over time and reporting a self-reported adverse effect to a physician were positively associated with an increase in concern beliefs in medication. Having an increase in adherence was associated with a decrease in concern beliefs over time.

**Conclusion:** Concern beliefs in medications may contribute independent information about individuals' response to drug programs and policies. Outcomes of medication use may influence patient anxieties about medicines. The instability of patient concerns in medications that occurs with prescription drug coverage changes, and the emergence of adverse outcomes of medication use may provide insight into the development of individualized interventions.

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**Keywords:** Concern beliefs in medications; Older adults; Adults with physical limitations; Medication use

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## Introduction

Early qualitative studies and considerable emerging research have examined patient ideas about medicines and their relationship to adherence. Powerful negative images of medicines exist, and patient beliefs about medicines and their usefulness may differ from health providers' assumptions. In addition, patient perceptions are associated with how prescribed medications are taken.<sup>1,2</sup>

Beliefs about medicines can be about drugs in general or about specific medicines used to treat a particular disease.<sup>2</sup> To measure beliefs about medicines, the Beliefs about Medicines Questionnaire (BMQ) was developed.<sup>3</sup> Based on this questionnaire, a distinction between general beliefs about medicines and specific beliefs about medicines for specific diseases was made. General beliefs about medicines measure patient beliefs in general and are broader in concept. Specific beliefs about medicines can be used in specific patient groups, and they describe patient beliefs about their specific medicines. The BMQ-Specific comprises the specific-necessity subscale that contains items related to patients' perceived need for taking their medicine to stay healthy and the specific-concern subscale that contains items related to patient concerns about the adverse effects of their medicines. The concern subscale assesses concern beliefs in medication and examines patients' worry about long-term effects of their medicines, becoming dependent on medicines, and having to take medicines, feeling of life disruption from taking medicines, and medicines as a "mystery to me."<sup>2</sup>

Beliefs in medicines have been identified as sociopsychological risk factors that are associated with self-reporting an adverse drug event (ADE).<sup>4,5</sup> In addition, studies have shown relationships of these beliefs to health behaviors such as adherence and symptom reporting.<sup>4-8</sup> Because concern beliefs in medication are related to these health behaviors, further knowledge and exploration of these specific beliefs will contribute to what is known about other patient health behaviors.

Concern belief in medication is an interpersonal sociopsychological variable that could change with time.<sup>9</sup> A recent study showed that general beliefs in medicines appear to remain stable over time, but no study has shown how specific beliefs in medicines such as patients' concerns in their medications might change with time.<sup>10</sup> In addition, an understanding of the factors that would

impact a change in concern beliefs over time would be helpful in interventions that could re-frame patient ideas and perceptions about their medicines. This could lead to better understanding of patient response to illness, treatment and behavior changes in relation to managing their medications, and any adverse outcomes.

Specific beliefs in medicines are formed by patients based on their experience with prior use of similar medications or other treatments used to treat the same condition. Adverse effects and long-term risk related to medications and the extent to which the medications interfere with their day-to-day activities may also shape patient beliefs.<sup>4</sup> Consistent with self-regulatory theory, it can be inferred that factors such as medication use experiences, which influence and shape prior beliefs about medications, may indeed produce changes over time. For example, when taking a medicine to cope with a symptom, an individual appraises the outcome of the medicine, which may affect the patient's perceptions or beliefs in that treatment.<sup>2,11</sup> The appraisal of the outcome of taking the medicine may then inform an individual's concern beliefs in medications. To test the variables that may change concern beliefs in medications, factors related to medication use are therefore important.

This study investigated how concern beliefs in medications behave over time and examined several factors that may be related to the stability. The objectives of this study were to (1) examine if patient concern beliefs in medications changed over time, (2) assess the characteristics of individuals whose beliefs changed, and (3) determine what factors might impact a change in patient concern beliefs in medications. It was expected that patient concern beliefs in medications would change over time. Variables that were hypothesized to lead to a change and were tested included self-reported ADE, self-reported adherence, number of medicines, symptom reporting, and patient-perceived health status.

## Methods

To examine these objectives, longitudinal data from 2 studies were used.

### *Study 1*

#### *Design*

The design was a longitudinal study of baseline and follow-up studies across 2 years. An Internet-based survey of Medicare enrollees was conducted

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