



Original Research

A Rasch analysis of a questionnaire designed to evaluate psychiatric patient attitudes and knowledge after attending a pharmacist-led patient medication education group

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Abstract

Background: There are many barriers that prevent persons with mental health disorders from achieving remission, including medication nonadherence. Research on the impact of pharmacist-led patient medication education groups on patient attitudes, knowledge and adherence is limited.

Objective: To evaluate the reliability and validity of the Medication Attitudes and Knowledge Questionnaire (MAKQ).

Methods: A retrospective pre-post questionnaire was distributed to patients. Variables collected included: patient self-reported medication knowledge and attitudes, patient demographics, number of previous psychiatric hospitalizations, whether the patient attended the whole meeting or only a portion, and outpatient pharmacist relationships. Knowledge and attitude items were measured on a 4-point scale with a range of options from “Agree” to “Disagree.” Rasch analysis was conducted to ensure all items measured the same construct and to assess scale and item reliability and validity. Additionally, the Rasch technique evaluated the change in each person’s self-perceived attitudes, knowledge, and confidence in self-managing medications from pre- to post-intervention if the data fit the model. A *z*-test was used to evaluate gaps in content validity.

Results: Sixty patients responded to the MAKQ over the 16-week data collection period. Analysis showed that the 4-point rating scale was not useful and that negatively worded items should be eliminated. Gaps identified in instrument item content were not statistically significant ($p > 0.05$), indicating comprehensive content validity.

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Conclusions: Medication attitudes and knowledge items on the retrospective pre-post questionnaire were valid and reliable.

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Introduction

Psychiatric diagnoses include disorders such as schizophrenia, bipolar disorder, major depression, as well as many others. These disorders do not discriminate based on gender, age, race, or religion. Close to 58 million Americans experience symptoms of a mental health disorder in any given year. This corresponds to 1 in 4 adults.¹ Unfortunately, there are many barriers that prevent persons with mental health disorders from achieving remission. One of these barriers is medication non-adherence.

There are many factors that contribute to patient adherence to medication and, more specifically, to psychiatric medication. Recently, there has been much research into these factors to assess where clinicians can best focus their efforts to improve medication adherence in patients with psychiatric disorders. There are multiple studies that indicate patient medication attitudes are important for adherence in patients with psychiatric disorders and other comorbidities.^{2–12} From these studies it can be concluded that a patient's awareness of their illness may affect medication adherence indirectly by impacting the patient's belief that psychotropic medications are beneficial.

Overall, patients with psychiatric disorders have a medication adherence rate of roughly 50%.^{13,14} Problems with adherence should be treated with both behavior- and provider-focused strategies, such as a medication review focused on medication regimen simplification.¹⁵ To address the problem of medication non-adherence in patients with psychiatric disorders, it is necessary to increase patient knowledge about side effects of medications, change negative attitudes regarding medications, and assist patients in developing skills to take medications as prescribed. This should lead to an increase in patient medication adherence.¹⁶ As medication experts, pharmacists may be in a unique position to influence patient beliefs in regards to medications.

Although there have been some studies conducted, the research on the impact of pharmacist-led patient medication education groups on patient attitudes, knowledge and adherence is limited. A

systematic literature review of over 400 articles from 1974 to 2012 by Norman et al found only 6 studies that evaluated pharmacist-led medication education groups and their impact on patient outcomes.¹⁷ The populations studied included patients with diabetes, asthma, chronic obstructive pulmonary disease (COPD), and psychiatric disorders, as well as geriatric poly-pharmacy. Specifically, in those patients with psychiatric disorders, pharmacist interventions significantly improved patients' depressive symptoms, attitudes toward medications and pharmacists, and knowledge as well as insight into their treatment and medications.^{18–20} However, most of the current research focuses on individual interventions, such as pharmacist counseling at prescription pick-up or upon hospital discharge. Multiple studies demonstrate that pharmacist involvement with individual patients can increase medication adherence, patient knowledge of their disease and medications, and objectively improve disease risk factors.^{21–25} It is unclear if the outcomes of medication education groups provided by pharmacists are similar to the results found with individual intervention due to the small number of studies in this area to date. Furthermore, as pharmacists have particular knowledge and expertise in areas affecting medication adherence (e.g. side effects of medication), it is believed that patient medication education groups led by pharmacists may potentially result in better outcomes than groups provided by other disciplines. However, it is important that a validated instrument specifically targeting the points addressed by pharmacist-led patient medication education groups be used in any future studies comparing outcomes between pharmacists and other professions.

Methods

Design

A retrospective pre-post test study design was used to evaluate the print-based questionnaire. Retrospective pre-post test design is a measure of a subject's self-report at the end of an education or other intervention which evaluates their recollection of how they were thinking before the intervention.²⁶

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