Cholesterol-Lowering Medication Adherence: The Relationships of Depression, Medication Beliefs, and Illness Control Perceptions.

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Abstract

Medical non-adherence has been recognized as a major public health issue that imposes a considerable financial burden on the health care system, has a major impact on patient health outcomes, and has been especially problematic for cholesterol-lowering medications. Additionally, adherence is multifaceted and has been associated with characteristics of the treatment, setting, and patient. Due to the malleability of patient-related factors, they are best suited as targets of interventions. Therefore, the aims of the current study were to examine depressive symptoms, illness control perceptions, and medication beliefs as correlates of adherence among 36 older adults with high cholesterol. Patients completed questionnaires measuring adherence to medications, illness perceptions, medication beliefs, and depression. Results showed higher levels of depressive symptoms were associated with lower refill adherence (r = -.60) and greater medication concerns (r = .48). Unexpectedly, depression was not associated with medication taking adherence (r = -.27, p = .27), personal illness control perceptions (r = -.19, p = .44), or treatment control (r = .15, p = .55). Overall, this study indicates depression and medication beliefs are associated with medication adherence and future research would benefit by further investigation into the specific roles they play.

Background

High cholesterol is a major contributor to cardiovascular disease, the leading cause of death in the United States[1]. Despite the prevalence of high cholesterol and the cardiovascular risk associated with the disease, roughly half of patients never achieve overall adherence to their lipid-lowering medications[2]. Depression, illness perceptions, and medication beliefs have been independently linked to adherence behaviors; supporting several health models including Andersen's Behavioral and Leventhal's Common-Sense models[3,4]. To best understand the role of patient factors in adherence behaviors, the interactions between these variables should be assessed.

Hypotheses

H1: Higher depressive symptoms are associated with lower medication adherence.

H2: Lower medication necessity beliefs and greater medication concerns are correlated with lower medication adherence.

H3: Higher levels of personal and treatment control are correlated with greater medication adherence.

H4: Lower illness control beliefs are associated with more depressive symptoms.

H5: Higher depressive symptoms are associated with lower medication necessity beliefs and higher medication concerns.

Methods

This study is based on secondary analyses of a previously completed project[5] so the role of depression could be better understood.

Participants

36 participants, with previous high-cholesterol diagnosis and treated with stable dose of stain medication for at least three months, recruited through a participating medical clinic.

Ages 66-94 (*M* = 77)

18 females; 18 males

Methods

Procedures

Completed paper questionnaires about personal and medical history, demographics, coping strategies, perceived social support, adherence, medication beliefs, illness perceptions, depression, and perceived stress. Compensated with $30 gift certificate upon receipt of questionnaire.

Materials

Depression: the Center for Epidemiologic Studies Short Depression scale (CES-D), a 10-item scale, measured depressive symptoms over the previous one week. Items were rated on a four-point Likert scale. Scores were summed with higher scores indicating more depressive symptoms[5].

Illness Perception: the Revised Illness Perception Questionnaire (IPQ-R), a 50-item questionnaire, measured multiple components of illness representation: illness identity, consequences, timeline, personal and treatment control, causation, and emotional representation. Items were rated on a five-point Likert scale. High scores on personal and treatment control represent positive beliefs about controllability and understanding of illness[6].

Medication Beliefs: the Beliefs about Medications Questionnaire (BMQ) consisted of two five-item scales assessing specific beliefs about the necessity of prescribed medications in controlling disease and concerns about possible adverse effects of medication. Each item was rated on a five-point Likert scale Higher scores on necessity subscale indicate high medication necessity beliefs. Higher scores on the concern scale indicate higher concerns about adverse medication side effects[7].

Medication Adherence: the Adherence to Refills and Medications (ARMS) scale was used to assess medication behaviors. The scale consisted of an 8-item medication taking subscale and a 4-item refill subscale. Items were rated on a four-point Likert scale. Higher scores indicated worse medication adherence[8].

Results
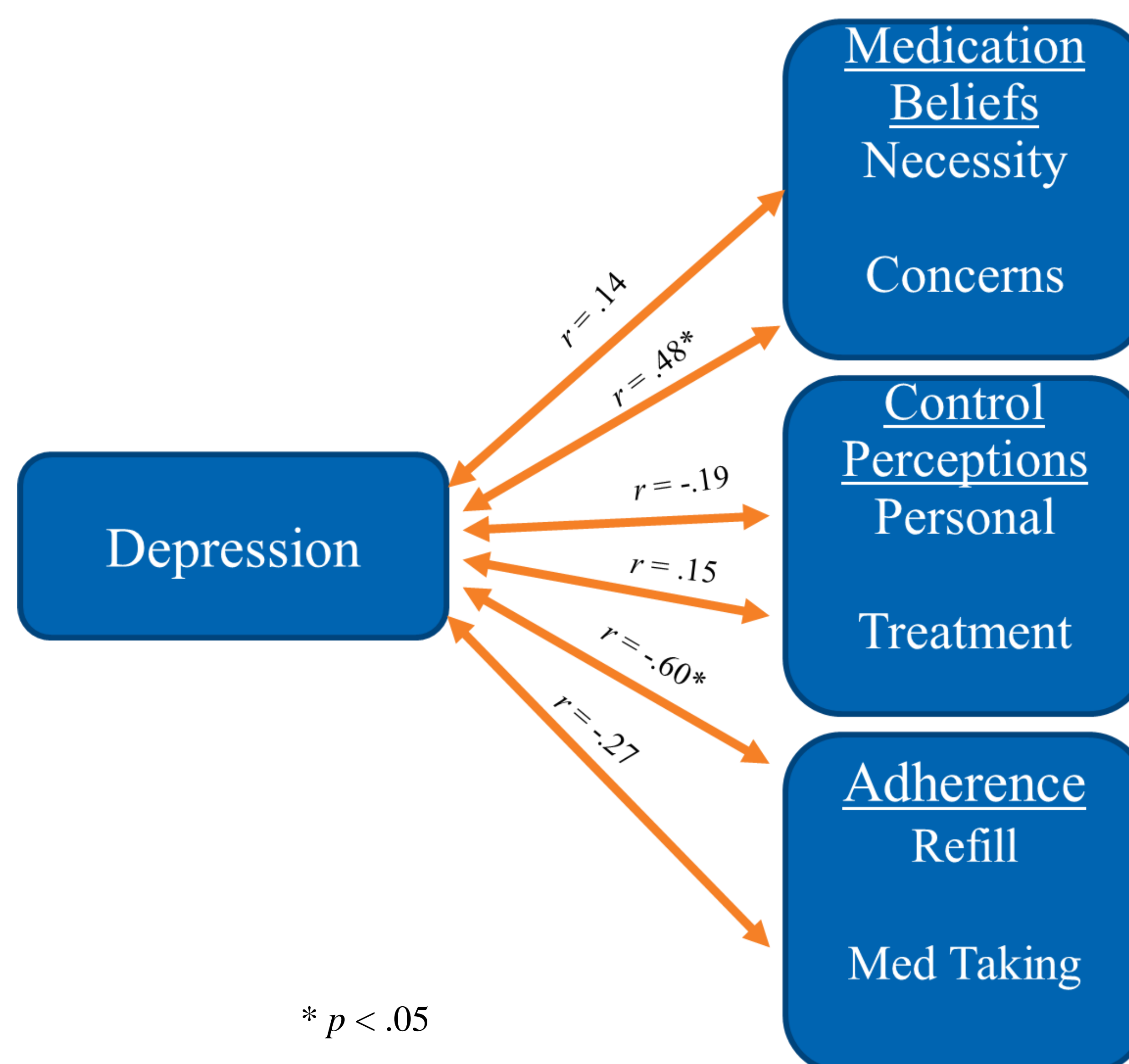
Note: All analyses controlled for difficulty paying bills as an indicator of SES.

Results (continued)

*p < .05
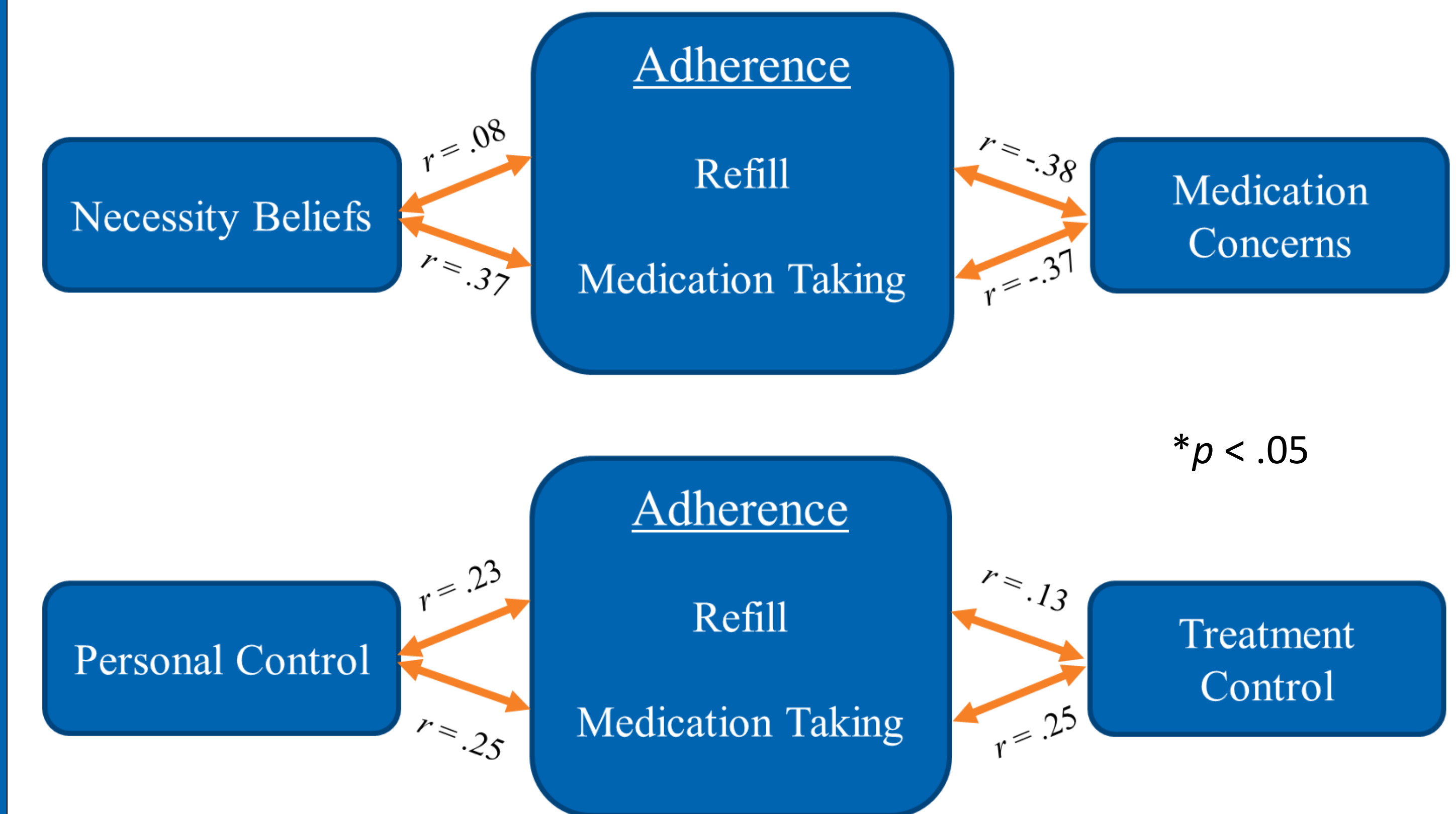
Note: All analyses controlled for difficulty paying bills as an indicator of SES.

Conclusions

Results of the current study indicate depression and medication beliefs are associated with and may play an important role in medication adherence, providing evidence that interventions targeting these specific patient-related factors may enhance medication adherence for individuals diagnosed with high-cholesterol. In addition, depressive symptoms were found to be associated with concerns about medication side effects, indicating a possible relationship between the negative cognition found in depression and negative medication beliefs.

Future Directions

Future work, using a larger sample, would be needed to further examine the specific roles of depression, medication beliefs, and illness perceptions on medication adherence and emphasize the possible mediating roles of illness perceptions and medication beliefs. Specifically of interest would be the possibility that depressive symptoms produce a negative cognitive bias that influences medication beliefs and illness perceptions and, in turn, reduces adherence to medication.

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