Original Research

Examining the relationship between antihypertensive medication satisfaction and adherence in older patients

Yazed Sulaiman Al-Ruthia, B.Sc. Pharm., Pharm.D., Ph.D. [a],[*],
Song Hee Hong, Ph.D. [b],[**], Carolyn Graff, R.N., Ph.D. [c],
Mehmet Kocak, Ph.D. [d], David Solomon, Pharm.D. [e],
Robert Nolly, M.Sc. [f]

[a]*Department of Clinical Pharmacy, College of Pharmacy, King Saud University, P.O. Box 2454,
Riyadh 11451, Saudi Arabia*
[b]*Pharmaceutical Economics, Policy, and Outcomes Research, College of Pharmacy, Seoul National University,
Seoul, South Korea*
[c]*Department of Advanced Practice and Doctoral Studies, College of Nursing, University of Tennessee Health Science
Center, Memphis, TN, USA*
[d]*Department of Preventive Medicine, University of Tennessee Health Science Center, Memphis, TN, USA*
[e]*Department of Clinical Pharmacy, College of Pharmacy, University of Tennessee Health Science Center,
Memphis, TN, USA*
[f]*Department of Pharmaceutical Sciences, College of Pharmacy, University of Tennessee Health Science Center,
Memphis, TN, USA*

Abstract

Background: The relationship between medication adherence and treatment satisfaction has been consistently positive, however, this relationship has not been examined among older adults with hypertension.

Objectives: The aim of this study was to examine the relationship between medication adherence and treatment satisfaction among a sample of older adults with hypertension.

Methods: This was a survey-based cross-sectional study in which seven community senior centers in the city of Memphis, Tennessee and its surrounding areas were visited. Individuals aged 60 years and older with self-reported hypertension who visited the community senior centers between August and December 2013 were asked to participate. The participants' satisfaction with their antihypertensive medications was assessed using a newly developed scale. The Short Form Health Survey (SF-12v2) was used to assess the

health-related quality of life (HRQoL). The Primary Care Assessment Survey (PCAS) Communication scale was used to assess the satisfaction with health care provider communication. The Beliefs About Medicines Questionnaire (BMQ-General) was used to assess the participant beliefs about medications. The eight-item Morisky Medication Adherence Scale (MMAS-8) was used to assess adherence to antihypertensive medications. And the Single Item Literacy Screener (SILS) was used to assess health literacy. Multiple linear regression was conducted to examine the relationship between medication adherence and satisfaction with antihypertensive therapy controlling for multiple variables.

Results: One hundred and ninety participants with hypertension were included in the study. Most participants were white, women, aged ≥ 70 years, taking ≥ 2 prescription medications and having ≥ 2 medical conditions. After adjusting for age, education, number of prescription medications, race, health literacy, sex, marital status, SF-12v2 Physical Component Summary (PCS-12) and Mental Component Summary (MCS-12), and PCAS-Communication scores, the overall satisfaction score of the antihypertensive medication regimen was positively and significantly associated with MMAS-8 sore ($\beta = 0.262$; 95% confidence interval, 0.007–0.517; $P = 0.043$).
Conclusions: Treatment satisfaction was associated with higher medication adherence among older adults with hypertension.

Introduction

The prescribing of medication is the most common health care intervention and is the main course of treatment for most patients, particularly the elderly.[1] Although most prescription medications are effective in treating health conditions such as hypertension and diabetes, almost 50% of patients do not take their medications as prescribed.[2,3] Patient adherence to the prescribers' recommendations is a complex and individual psychobehavioral phenomenon.[3,4] According to the World Health Organization, adherence to long-term therapy is defined as *"the extent to which a person's behavior – taking medications, following a diet, and/or executing lifestyle changes – corresponds with agreed recommendations from a health care provider."*[5] However, medication adherence can also be defined as *the degree to which patients' or their caregivers' medications administration behavior coincides with their health care providers' advice with regard to timing, dosage, and frequency of administration during the prescribed time window.*[6] Consequences of medication nonadherence include worsening of disease, increased comorbid diseases, increased health care costs, and death.[7,8] This is particularly true among hypertensive patients who do not adhere to prescribed antihypertensive medication regimens.[9]

Medication nonadherence is prevalent among multiple patient populations; however, it is an increasing problem among older adults.[10] The multitude of factors that may influence older adults' adherence to their prescribed medication regimens are variable and can be sociodemographic (age, race, sex, and education), medical (comorbidities, number of medications, and treatment of adverse events), psychobehavioral (beliefs about medicine, understanding of the medical condition, and satisfaction with treatment), or economic (type of insurance, copayments, and coinsurance).[10,11] Furthermore, declining cognitive abilities, dexterity problems, and poor health care provider-patient communications are additional factors that can lead to nonadherence and are common among older adults.[12] Thus, older adults are at higher risk of adverse drug events, medication mismanagement, and poor health outcomes.[13] For example, it was estimated that >10% of unplanned admissions among older adults were related to adverse drug events.[14] Therefore, health care researchers have examined the effects of multiple factors on patient adherence to prescribed medications such as culture, social support, medical status, age, gender, and cost of medications.[15]

According to the latest report published by the Centers for Disease Control and Prevention, the prevalence of hypertension among older adults who are between 65 and 74 years old is about 65% and about 75% among those over 75 years old.[16] Hypertension often represents a treatment