Medication Adherence and Health Beliefs Among Patients With Hypertension: A Systematic Review

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Hypertension (HTN) is a Public health concern around the globe that affects around 40% the world’s population aged 25 years and older (Alwan, 2011; WHO, 2013). Antihypertensive medication adherence is fundamental in controlling blood pressure. Evidences on patients with different chronic illness have linked patients’ beliefs about health and illness to their adherence with medications. In hypertension, several quantitative studies, have found that patients’ health beliefs have an influence on medication adherence (Ambaw, Alemie, W/Yohannes, & Mengesha, 2012; Bhandari, Sarma, & Thankappan KR, 2011; Forsyth, Schoenthaler, Chaplin, Ogedegbe, & Ravenell, 2014; Kamran, Ahari, Biria, Malepour, & Heydari, 2014) however, no review to summarize and synthesize the findings of those studies have been established to date. Reviews of literature related to medication adherence in hypertension have only focused on barriers to antihypertensive medication adherence, where they have limited focus on patients’ beliefs as main barriers to adherence (AlGhurair, Hughes, Simpson, & Guirguis, 2012; Khatib et al., 2014). Only one review has examined patients’ beliefs in relation to antihypertensive medication adherence (Marshall et al., 2012); however, this review was limited to qualitative studies. Objective: this systematic review was conducted to review quantitative studies to identify various patients’ health beliefs of patients with hypertension and to identify the nature of the relationship of these beliefs to medication adherence. Method: This review was conducted using PubMed, CINHAL, EMBASE, and PsychInfo databases following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The following Medical Subject Headings (Mesh) and text-words were used in PubMed: adherence [tw] OR compliance [tw] AND (attitude*[tw] OR belief*[tw] OR perception*[tw] OR perceiv*[tw] OR psychosocial [tw]) AND (“Antihypertensive Agents”[Mesh] OR “Antihypertensive Agents” [Pharmacological Action] OR antihypertensive agent*[tw] OR medication*[tw]) AND (hypertension [tw] OR hypertensive [tw]). The search was limited to English, peer-reviewed, and full text research articles with no limitations on geographical location, year of publication, or type of patients’ beliefs as the purpose of this review to include all possible studies matching the purpose of this review. Studies were included only if they are quantitative, conducted in patients with hypertension and no other comorbidities and receiving at least one antihypertensive medication. These studies should measure medication adherence as an outcome variable and address patients’ beliefs. Studies were excluded if they have focused on providers’ beliefs rather than patients’ beliefs. After articles’ titles, abstracts, and full text screening, data from the included articles were extracted in a table. Quality of the studies was examined using Quality Assessment Tool for Systematic Review of Observational Studies (QATSO) checklist (Wong, Cheung, & Hart, 2008) that was slightly modified to fit the review. No studies were excluded based on quality evaluation.

Results: the initial search has identified 1,388 articles. After screening and removal of duplicates, a total of 25 articles were included in the review. These 25 articles appeared between 1980 and 2016, included a sample size ranging from 45 to 1,367 and represented 14 countries across Europe, Americas, Asia, Australia, and Africa. Generally, findings of those studies indicated that patients’ health beliefs have a negative, positive, or no significant relationship with adherence to antihypertensive medications. The most identified beliefs were categorized under the following 1) beliefs about hypertension, 2) beliefs about
antihypertensive medications, and 3) other patient-related beliefs. Specifically, the review has found that medication adherence was significantly higher with fewer perceived barriers to adherence such as, side effects, bad taste, and high cost and with higher self-efficacy. When examining the relationship of beliefs about medication effectiveness and necessity and beliefs about hypertension severity and susceptibility with medication adherence, the findings were mixed. Other patient-related beliefs were reported to influence medication adherence were self-efficacy, internal locus of control, subjective norms, perceived stress, and family support.

**Conclusion:** findings of this review are consistent with other review that examined beliefs in relation to adherence in patients with chronic illnesses. Findings indicated that some beliefs are positively related to adherence, some negatively related to adherence and some have mixed results, which indicate that findings could vary from one culture to another. Therefore, attention to patients' beliefs should be considered by clinicians and researchers in order to improve medication adherence. Moreover, they should account for the variability of the beliefs between and within cultures that might require different strategies to enhance adherence.

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**Title:**
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**Keywords:**
beliefs, hypertension and medication adherence

**References:**


**Abstract Summary:**
Participants attending this session will gain a knowledge related to various patients’ health beliefs that could negatively or positively influence medication adherence among patients with hypertension.

**Content Outline:**

1. **Introduction:**
   - Illustrate that hypertension and poor medication adherence are current issues and challenge globally.
   - Medication adherence is a key to control blood pressure.
   - Different factors affecting medication adherence.
   - Patients’ beliefs are some main factors influencing medication adherence in different chronic illnesses including hypertension.
   - Provide evidences why this review is conducted based on the Gap in the literature
   - Objective of the review.

2. **Methodology:**
   - Method used for search using guidelines and databases and method of evaluating the quality of the study.

3. **Results:**
   - Finding of the studies included in the review by grouping the findings into 3 categories (beliefs about hypertension, beliefs about antihypertensive medications, and other patient-related beliefs).
   - Illustrate specific findings under each category on specific beliefs with mentioning how many studies found negative, positive, or non-significant relationship.

4. **Discussion:**
   - Discuss findings in relation to other literature and provide brief explanation on possible reasons.
   - Limitation of the review and studies included.
   - Implications for practice and research considering that beliefs could vary from one culture to another.

5. **Conclusion**

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Author Summary: Dr. Huda Al Noumani an assistant prof in college of nursing in Sultan Qaboos University, who graduated with PhD from university of North Carolina at Chapel Hill. Her field of interest is health beliefs and medication adherence in hypertension. Her other areas of research interest are: CVD risk reduction and Improving self-care management of patients with CVD. Her teaching focus on adult health and critical care Nursing.

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Professional Experience: Jia-Rong Wu PhD, RN is an Assistant Professor in the School of Nursing. She is a nurse researcher whose research interests include medication adherence, health disparities, and psychosocial and environmental factors that influence medication adherence and health-related outcomes in patients with heart failure. She has a PhD from the University of Kentucky and a MSN in adult nurse specialist from the University of Pennsylvania. In my doctoral program, I verified the importance of medication adherence on outcomes by using the Medication Event Monitoring System (MEMS), an objective measure of adherence that is generally acknowledged to be “the best” measure of medication adherence in research settings. And I also used mixed methods to identify predictors of medication adherence and barriers to adherence that need to be targeted in educational counseling interventions to improve medication adherence in patients with HF.

Author Summary: I am working with two interdisciplinary research teams whose members are involved in research on management of HF and hypertension using a variety of approaches including self-care strategies, health literacy, improving medication adherence, reducing health disparities, and manipulating psychosocial and environmental factors that influence medication adherence and outcomes in patients with HF and hypertension. I am experienced in conducting intervention studies in patients with heart failure, most recently a pilot study of the FamLit intervention.

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**Author Summary:** Dr. Esra AlKhasawneh, Associate Professor, Women’s Health, has contributed immensely to promotion of women’s health of Arab-Muslim women. She has published research in areas of HIV, anemia, labor, breast cancer, and urinary incontinence. Her passion towards women’s health resulted in her becoming one of the few nursing scholars who received the ‘His Majesty Strategic Trust Fund Grant’ in the Sultanate of Oman. She is also an Editorial Board Member of Sultan Qaboos University Medical Journal.

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**Professional Experience:** Gwen D. Sherwood, PhD, RN, FAAN, ANEF is Professor and Associate Dean for Global Initiatives at the University of North Carolina at Chapel Hill School of Nursing. She works globally to advance nursing education and leadership capacity. Her scholarship examines caring relationships relative to patient satisfaction with pain management outcomes, the spiritual dimensions of care, and teamwork as a variable in patient safety. She is co-investigator on an RWJF grant that funded QSEN to transform curricular to prepare nurses in quality and safety consistent with practice expectations, a GSK grant related to interdisciplinary team training, and descriptions of how providers work together. She is involved in many professional activities including a long history of leadership roles with Sigma Theta Tau International.

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**Author Summary:** My research involves the development of new statistical methods and the application of those new methods together with existing methods to the analysis of health science data. My research interests include adaptive methods for statistical model selection, modeling and analysis of electronic monitoring data, modeling and analysis of family data, statistical evaluation of survey instruments, and applications of statistics to nursing research.