

# Self- Management practice Gaps among Patients with Hypertension in KSA: Narrative Review

Areej Mohammed Alhaddad<sup>1</sup>, Samah Mahmoud Sofar<sup>2</sup>, Aisha Alhofaian<sup>3</sup>

<sup>1</sup>Master of Nursing, Medical Surgical Nursing, Faculty of Nursing, King Abdul-Aziz University, Jeddah, Saudi Arabia.  
e-mail: aalhaddad0026@stu.kau.edu.sa

<sup>2</sup>Assistant Professor of Medical Surgical Nursing, Faculty of Nursing, King Abdul-Aziz University, Jeddah, Saudi Arabia.

<sup>2</sup>Assistant Professor of Medical Surgical Nursing Department, Faculty of Nursing, Alexandria University, Egypt.  
e-mail: ssofar@kau.edu.sa

<sup>3</sup>Assistant Professor of Medical Surgical Nursing, Faculty of Nursing, King Abdul-Aziz University, Jeddah, Saudi Arabia.  
e-mail: Aalhofaian@Kau.edu.sa

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## ABSTRACT

**Context:** Hypertension (HTN) is identified as the most common non-communicable diseases. HTN considered one of the causes of premature mortality worldwide.

**Aim:** This review aimed to identify the HTN self-management practice gaps in the Kingdom of Saudi Arabia (KSA).

**Methods:** Search for the narrative review was conducted by using different electronic databases (e.g., Cumulative Index to Nursing and Allied Health Literature, Medical Literature Online, the Excerpta Medica data Base, Elsevier's Science Direct, ProQuest, the EBSCO library database, and PubMed through Saudi Digital, as well as an Internet search using Google Scholar), books and manual search of journals' references lists to find relevant studies. Using title searching generated keywords from the research aim to identify self- management practice gaps among patients with HTN.

**Results:** The review demonstrates that there are HTN self-management practice gaps among patients in the KSA. Despite the knowledge and accessibility of effective drugs, there is low adherence to the recommended self-management practices.

**Conclusion:** The finding of the review indicates there was a lack of local data in self-management practice gaps for patients with hypertension in KSA and there is a need to develop education program to improve self-management practice among patients with HTN. This review could contribute to an improvement in the form of drugs taken, to decrease the severity of side effects, and to create safer health care services.

**Keywords:** Self- management practices, gaps, hypertension, patients

## 1. Introduction

Hypertension, also identified as high or elevated blood pressure (BP), is when the blood vessels have a constant pressure rise. Blood normally carried from the heart to all parts of the body via the vessels. Each time the heart beats, it pumps blood into the vessels. BP generated by the power of blood forceful against both the blood vessel and artery walls as it is pumped by the heart. When the pressure is high, the heart has to work even harder (WHO, 2019). Beginning at BP of 115/75 mm Hg, any increase of 20 mmHg in systolic blood pressure (SBP) or an increase of 10 mmHg in diastolic blood pressure (DBP) is strongly associated with a double risk of death from stroke, cardiac disease, and other vascular disorders (Ripley & Barbato, 2019).

## 2. Significance of the study

Patients reported resistance in HTN self-management, such as inability to recognize their condition, lack of awareness of symptoms, inadequate contact with clinicians, difficulties in adhering to HTN drugs, management of a comorbidity (such as diabetes type 2), and a sense of confusion in using additional drugs as prescribed. A few published studies have addressed self-management practice

gaps among patients with HTN in specific Saudi Arabian populations. Therefore, this narrative review provides an insight into a number of crucial goals for interferences to increase hypertension control.

## 3. Aim of the Review

This is in-depth narrative review aims to identify the HTN self-management practice gaps in KSA.

## 4. The Research Search Strategy

A literature exploration was carried out using different electronic databases to find relevant studies. These databases included Pub Med, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medical Literature Online (MEDLINE), the Excerpta Medica data Base (EMBASE), Elsevier's Science Direct, ProQuest, the EBSCO library database, and PubMed through Saudi Digital, as well as an Internet search using Google Scholar and a manual search of journals' references lists.

The search for this subject was conducted by entering a word or phrase that captured the articles' key concepts (Polit & Beck, 2009). Using title searching generated keywords from the research aim to identify self- management practice gaps among patients with HTN. Additionally, we used the

<sup>1</sup>Corresponding author: Areej Mohammed Alhaddad

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Boolean operator AND as a tool in searching self-management practices and HTN.

Full-text articles were obtained using the keywords “self-management practices”, “hypertension,” and “patients”. The search’s inclusion criteria included all relevant articles from both databases and books originally written in English. Only studies published within the past 10 years were included to ensure current literature. The search process was updated until 2020 and concerned HTN patients. Manual searching was also performed by reviewing each article’s references to find any other relevant studies. Conversely, the search’s exclusion criteria included all published articles in different languages and that about pediatric patients.

After we retrieved the initial literature, a total of 310 studies got. We screened the studies according to the inclusion and exclusion criteria and by using Boolean operators. Afterward, we removed the duplicate literature, reducing the total to 212. The final total comprised 14 studies.

## 5. Literature Review

### 5.1. Prevalence and Pathophysiology of Hypertension

HTN is a popular noncommunicable disease that affects many people worldwide (Tibebu et al., 2017). Globally, close to a billion individuals suffer from HTN (Asiri et al., 2017). According to the World Health Organization (WHO, 2019), HTN considered one of the causes of premature mortality worldwide. Around 1.13 billion individuals have HTN, and less than one in five of those with HTN are under control. Overall, in the United States, there are 78 million people with HTN (Bolin et al., 2018). In China, HTN is a

severe public health issue; it has risen from around 5million in 1980 to around 244.5 million in 2015, resulting in nearly 2 million deaths (Qu et al., 2019).

According to the KSA Ministry of Health (MOH, 2020), BP tends to rise as people get older; it affects 3.2% of those between 15 and 24 years of age, 51.2% of those between 55 and 64, and up to 70% of those 65 years and older. In addition, an increase in prehypertension cases has also been observed since 2017, reaching 46.5% among men and 34.3% among women. All over the world, in any part of every country, and in any culture, high blood pressure is common. It affects the wealthy and the poor, young and elderly, men and women, urban and rural communities, and both educated and illiterate (Neminqani et al., 2013).

HTN may arise from increased cardiac output, peripheral resistance, or maybe both. Although no specific cause can be established for most cases of HTN, it is known that HTN is a multi-factorial disorder. Since HTN is a sign of other health issues, certain causes are more likely to occur. When HTN is to occur, there must be a modification in one or more different factors influencing peripheral resistance or cardiac output (Figure 1). In addition, there may still be an issue with the control mechanisms of the body that track or control the pressure (Brunner et al., 2010).

Single gene mutations associated with pathways used by the kidneys to reabsorb sodium ions have indeed been reported with a few unusual forms of HTN, although most types of HTNs are believed to be polygenic, such as defects in more than one gene. Factors that play a crucial role in HTN pathogenesis include: (a) obesity; (b) stimulation of neurohormonal systems; (c) genetics; (d) vascular endothelial dysfunction; and (e) increased dietary salt consumption (Hinkle & Cheever, 2018).

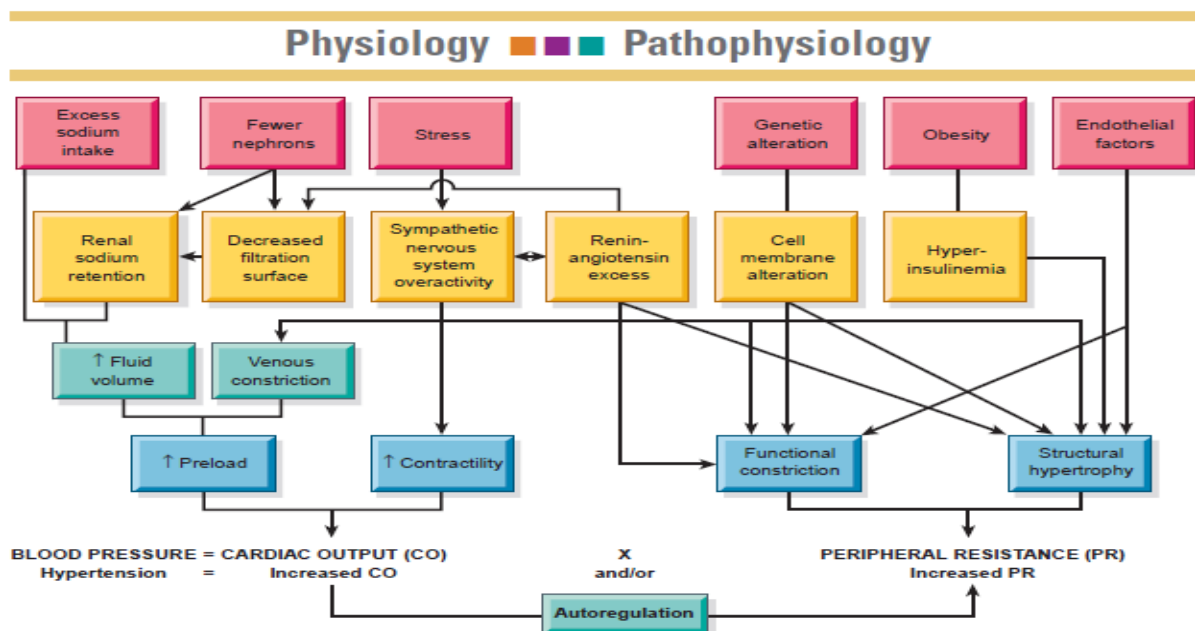


Figure (1): Pathophysiology of Hypertension (Hinkle & Cheever, 2018).

## 5.2. Types, and Classification of Hypertension, and Risk Factors

Primarily, HTN is classified into the following two categories: primary and secondary. Primary HTN is sometimes referred to as essential HTN; most hypertensive adults are in this type. Despite years of work on HTN, an exact cause has not been identified. The condition appears to be familial and is likely to be the result of associations among environmental and genetic factors. Rising incidence of essential hypertension can be seen with age, and those with elevated BP in middle age are at greater risk for the eventual development of HTN (Rivera et al., 2019).

Despite, the absence of a specific cause for the majority of cases of elevated BP. However, several risk factors have been identified. The most clearly confirmed modifiable risk factors for primary or essential HTNs include: Heavy sodium intake, obesity, lack of physical exercise, and excessive alcohol intake. Non-modifiable factors often play crucial roles, including age, ethnicity, family history, and likely unclear genetic factors (Ferdinand & Nasser, 2017).

Secondary HTN has a known and potentially reversible cause. The secondary type is rare, occurring in only about 5% to 10% of the population; however, it is more common among young people—an additional 30% of those 18 to 40 years of age have secondary HTN (Rivera et al., 2019). The most major underlying causes of secondary HTN include (a) renovascular HTN (common), (b) renal parenchymal disease, (c) primary hyperaldosteronism, and (d) obstructive sleep apnea. However, uncommon causes of secondary HTN, such as pheochromocytoma, oral contraceptives, and Cushing syndrome, all can boost BP within the usual range, but they also can cause secondary HTN (Charles et al., 2017).

The updated guidance from the American College of Cardiology and American Heart Association offers a new BP categorization, which includes four levels based on average BP measured in a health care setting: (a) first level, normal (SBP <120 mmHg and DBP <80 mmHg); (b) second level, elevated (SBP 120–129 mmHg and DBP <80 mmHg); (c) third level, Stage 1 HTN (SBP 130–139 mmHg or DBP 80–89 mmHg); and (d) fourth level, Stage 2 HTN (SBP ≥140 mmHg or DBP ≥90 mmHg) (WHO, 2013).

HTN is a main metabolic risk factor of cardiovascular (CV) illness. A variety of factors lead to the progress of HTN and, consequently, its complications: (a) socioeconomic determinants such as urbanization, globalization, ageing, education, income, and housing that drive (b) behavioral risk factors: stress, unhealthy lifestyle, physical inactivity, unhealthy alcohol use, and tobacco use, which in turn impact (c) metabolic risk factors: HTN, diabetes, obesity, and elevated blood lipids. Added to these considerations are instances when there is no known cause of HTN, where hereditary factors or secondary causes (renal disorder, endocrine disease or blood vessel malformation) need to be removed (WHO, 2013).

High BP pushes the heart to pump blood harder to flow, which ultimately induces thickening of the heart muscle. With the heart, nevertheless, a greater muscle doesn't

inherently convert into increased strength. The blood flow to the heart muscle also does not rise to the same degree, and the heart weakens with time, being a less powerful pump, a disorder called heart failure. In a manner that facilitates atherosclerosis, elevated BP often destroys artery walls. In fact, the greater the BP of an individual, the greater the likelihood of cardiac damage, heart attack, kidney disease and stroke (Mahmood et al., 2019).

## 5.3. Clinical Manifestation of Hypertension

People with HTNs could be asymptomatic for several years and remain so. When particular signs and symptoms occur, however, they typically suggest vascular injury, with relevant manifestations associated with the organs supported by the vessels concerned. No abnormalities other than an elevated BP can be detected through physical exams. Retina shifts, such as hemorrhages, exudates, arteriolar narrowing, and spots of cotton-wool, sometimes occur. Papilledema can be found in extreme HTN (Brunner et al., 2010).

Usually, clinical manifestations will appear in patients at risk for HTN, and patients may gradually complain of recurring headaches that are encountered from time to time by other patients. Headaches, though, are one of the HTN symptoms and signal the need to get a BP check. Dizziness is among the frequent criticisms of people with high BP levels; dizziness can accompany even low BP levels. It is important to undergo a checkup from a health professional if dizziness is encountered. In addition, other HTN symptoms include fatigue, palpitations, flushing, blurred or double vision, or epistaxis (Hinkle & Cheever, 2018).

## 5.4. Management of Hypertension

Effective diagnosis and treatment of HTN allow physicians and patients to work together to coordinate pharmacological and nonpharmacological therapies to avoid target organ damage (Rivera et al., 2019). For patients with Grade 1 HTN, effective lifestyle modifications can be appropriate to postpone or eliminate the need for drug therapy. Healthcare professionals may also enhance the impact of BP-lowering treatment, but in patients with HTN-mediated organ damage or an elevated degree of CV risk, they can never prolong the initiation of drug therapy (Williams et al., 2018).

### 5.4.1. Nonpharmacologic Therapy

The importance of a healthy lifestyle in lowering BP for those with proven HTN and prehypertension is confirmed by current evidence. A healthy lifestyle increases the effectiveness of antihypertensive medications, decreases the overall risk of CV disease, and improves people's general health, which is the foundation of HTN treatment. Therefore, in an initial medical consultation and follow-up appointments, a lifestyle evaluation of individuals with prehypertension or HTN should be assessed and fully investigated (Saudi Hypertension Management Society (SHMS), 2018).

HTN patients' dietary changes or healthy eating habits should be evaluated to encourage them to consume a

balanced, healthy diet that involves vegetables, fresh fruits, legumes, milk products that are low in fat, fish and whole grains. In addition, it is important to consume unsaturated fatty acids, and to reduce red meat and saturated fatty acids (Williams et al., 2018).

A variety of studies have noted the association between the consumption of sodium chloride and BP. The influence of sodium chloride is extremely significant in middle-aged or old people with a family history of HTN. A modest decrease in sodium chloride consumption could contribute to a slight decrease in BP (Whelton et al., 2012). Current clinical guidelines recommend sodium intakes with no more than 2,400 mg daily as an initial intervention in pre-hypertensive individuals and also as a complementary component of pharmacological therapy in adults with HTN (Ozemek et al., 2017).

The Dietary Approaches to Stop Hypertension (DASH) includes a diet high in vegetables, fruit, and low-fat milk products, which can decrease BP by 8-14 mmHg. The DASH diet is high in protein, fiber, magnesium, calcium, potassium, and has low saturated and trans fats. Current evidence therefore confirms that the DASH diet will decrease SBP and DBP separately. The effects are better in conjunction with the decrease in salt (SHMS, 2018).

Piercy et al. (2018) founded that incorporating weight loss and exercise into the DASH diet in obese or overweight patients with high BP resulted in even more significant BP reductions. The study found that, after four months, the clinically evaluated BP decreased by 16.1/9.9 mmHg in patients in the DASH-plus-weight loss group; by 11.2/7.5 mmHg in the DASH-alone group; and by 3.4/3.8 mmHg in the normal diet management group. DASH-plus-weight control also increased baroreflex sensitivity, pulse wave velocity, and left ventricular mass relative to DASH alone.

In 2018, the Physical Activity Guidelines Advisory Committee of the US Department of Health and Human Services published its main recommendations, including that regular physical activity has been found to enhance the reduction of HTN and minimize risk development.

Mahmood et al. (2019) stated that stress management tends to be particularly successful in reducing high BP levels. A person's BP varies during the day, inflating when they exercise or get frustrated and dunking when they rest comfortably or sleep. The production of stress hormones triggers human hearts to pump faster and BP to increase. This rise is always brief, and the pulse increases, and BP increase until the danger has passed. But if the stress reaction is frequently activated, BP can stay continuously elevated.

While today's smoking rate is smaller than in previous years, progress could have exceeded the peak. The increased consumption of non-cigarette nicotine products and the development of modern tobacco devices (e.g., e-cigarettes) have ensured that tobacco use remains a major lifestyle risk factor that influences BP management (Ozemek et al., 2017). Smoking induces an acute rise in sympathetic nervous function, which in turn raises the need for myocardial oxygen by elevated BP, heart rate and myocardial contractility (Oza & Garcellano, 2015).

Smoking cessation is potentially the greatest effective behavioral intervention for the treatment of non-cardiovascular and cardiovascular (CV) disorders. While the relative chronic impact from smoking on BP is minimal and smoking cessation doesn't really reduce BP, smoking significantly increases the lifetime risk of CV disorders. Furthermore, smoking may inhibit with the potential benefits of certain antipsychotic medications, such as  $\beta$ -adrenergic blockers. Nicotine replacement or bupropion therapy must be regarded as necessary, as they appear to be safe for HTN and encourage smoking cessation (Ohta et al., 2016).

Medication adherence is all influenced by the relationships between individuals, the healthcare practitioner and the health-care system. The health care system plays a role in creating multi-level environmental enforcement (Williams et al., 2018) which may affect access to services and cost-related obstacles. At the extent of the physician, organizational abilities, instruction awareness, sufficiency and sophistication of the prescription protocol, therapeutic complexity and limited time will all have an effect on compliance (Joshi et al., 2016). Reasons such as noncompliance with all treatments and dietary changes and noncompliance with follow-up visits have been shown to be universal challenges with HTN treatment (Joseph et al., 2016). Because HTN is a chronic condition needing self-management, there is a necessity to properly recognize HTN self-management techniques to enhance BP control (Wright et al., 2018).

#### **5.4.2. Pharmacologic Therapy**

When lifestyle modifications are still not adequate to meet the target of BP, a variety of medication alternatives are available to manage and control HTN. On the basis of the Seventh Report of the Joint National Committee for the Prevention, Identification, Assessment and Treatment of High Blood Pressure, as well as the Institute for Clinical System Development Guidance for Diagnosis and Treatment of Hypertension Recommendations, thiazide diuretics are recommended in the absence of specific indications (Chobanian, 2017). Low-dose thiazide or thiazide-like agents are now regarded as first-line agents for the management and treatment of several patients with HTN. In addition, diuretics improve the potency of other antihypertensive medications, are inexpensive and readily available (SHMS, 2018).

However, the revised WHO and US Joint National Committee guidelines no longer solely prescribe thiazide-type diuretics as initial therapy in certain cases. According to the recommendations, Angiotensin Converting Enzyme Inhibitors (ACEIs) and angiotensin receptor blockers (ARBs), calcium channel blockers (CCBs) and thiazide diuretics are similarly active in hypertensive non-Black patients, while CCBs and thiazide diuretics are more efficient in the treatment of Black patients with HTN (Ukpabi & Ewelike, 2017; Wyatt & Chertow, 2018).

Some HTN cases involve the introduction of a second medication since two medications can be used together at lower doses to avoid adverse events that could occur at

higher doses of a single product. Diuretics usually boost the effectiveness of many other antihypertensive medications through reducing the amount of expansion. Specifically, the use of thiazide diuretics in combination with beta-blocker or ACEI has a beneficial effect, which decreases BP in up to 85% of patients (Hou et al., 2018).

Overall compliance to long-term treatments for chronic conditions is, on average, 50% among developed countries. However, the numbers are thought to be lower in developing countries. The effects of nonadherence would be devastating, as inadequate BP control and permanent pathological consequences would emerge. In addition to the effects on personal health, these consequences will have social and economic implications, as the intense management of these illnesses will increase the usage of complex and inefficient health services (Tibebu et al., 2017).

### 5.5. Self-management Practices in Patients with Hypertension

The HTN self-management approach receives expanded coverage in chronic disease literature (Boulware et al., 2020). Because it is a lifelong disease affecting many people worldwide and requires a self-management practice (Wright, 2018). However, hypertensive patients typically have poor adherence with suggested self-care behaviors and eventually suffer from unregulated BP. The low compliance is mainly related to multiple factors that may affect HTN self-management practice (Khreshah & Mohammed, 2016).

The main objectives of chronic illness self-management are always to minimize discomfort, sustain life through secondary avoidance, and enhance overall health. All objectives may be achieved by integrating a treatment paradigm that promotes a patient-centered attitude and supports individuals in the practice of self-management behaviors. Patients with HTN should give importance to disease self-management, since it can have a beneficial impact on their psychological and physical well-being (Ryan & Sawin, 2009).

In the presence of chronic illness management, self-management has been structured to cover four stages: sufficient knowledge of disease-related signs and symptoms, assessment and evaluation of changes, initiation of effective medication regimens, and assessment of therapy efficacy (Kerari, 2019).

Today, individuals are responsible for properly managing their day-to-day practices, whether they include health promoting practices such as physical exercise and chronic condition management. Self-management practices thus fall under the category of health promoting practice. Furthermore, the principle of self-management practice has been the foundation of health promotion or disease management programs (Kerari, 2019).

All emphasis on chronic illness self-management centered on empowering people with the assistances needed to make life-saving improvements, contributing to improved health results (Bengtsson, 2015). As shown, self-management practice has been defined as an individual's capacity to control symptoms, medication, physical and

psychosocial effects, and lifestyle improvements in the management of chronic conditions. It therefore means for an individual to live a healthier life with a chronic disease (Ding et al., 2018).

Another definition by Balduino et al. (2013) described HTN self-care as "a dynamic and active process requiring knowledge, attitude, discipline, determination, commitment, self-regulation, empowerment and self-efficacy". Self-management includes taking treatment, exercising, consuming a low-sodium, restrictive alcohol intake, eliminating smoke, reducing weight, reducing stress, self-monitoring BP, and visiting health care providers regularly (Ademe et al., 2019). Self-management and self-care are identical, when an individual participates in particular activities to accomplish an outcome. However, self-management practice has been a popular term, and it has been used interchangeably with self-care practice (Ryan & Sawin, 2009).

Experience with chronic diseases, particularly HTN, involves impacted people to make a variety of changes to their everyday lives, because these diseases influence the physical, social, psychological and emotional facets of their lives. Hypertensive patients need to follow various therapeutic behaviors to self-manage their health (Balduino, 2016). According to Akhter (2010), self-management for HTN patients contains five elements: (a) self-integration, (b) self-regulation, (c) self-monitoring, (d) interaction with a health professionals and others and (e) adherence to a recommended regimen.

*Self-integration* relates to patients' willingness to incorporate health care throughout their everyday life by practices such as better and healthier diet, exercise, and weight reduction (Akhter, 2010). HTN self-management practices recommended by the Joint National Committee include weight reduction for overweight or obese people, taking a DASH diet, taking a low-sodium diet, participating in physical exercise and moderating alcohol intake (Douglas & Howard, 2015).

The DASH diet reduces sodium, includes high-potassium foods, and can promote weight loss. Adherence to the DASH-style dietary approach has been correlated with a systolic blood pressure (SBP) decrease of about 11 mmHg; this impact is magnified when paired with a stricter sodium restriction and weight loss (Whelton et al., 2018).

Lifestyle changes considerate the strongest method to correct elevated BP. Lifestyle recommendations can only be provided to individuals who have been diagnosed with or suspected of developing HTN. Additionally, health care providers should inquire about specific diets and exercise practices and recommend that individuals engage in balanced diets and frequent exercise (Elbashir et al., 2020).

*Self-regulation* concerns the self-regulation of patients' behavior by self-monitoring of signs and symptoms of the body (Akhter, 2010). Usually, self-regulation stresses the active role that people should perform in maintaining wellbeing and avoiding or alleviating the symptoms of disease (Weidner et al., 2016). A study indicated that patients with knowledge of HTN, including those with the experience elevated BP, show better self-management skills, such as

adhering to medication, avoiding stress, and responding to symptoms (Alzahrani et al., 2019).

*Self-monitoring* concerns the monitoring of BP levels to adjust self-management activities (Akhter, 2010). A review of 52 trials conducted by the Agency for Healthcare Research and Quality found that self-assessed BP monitoring—with or without external assistance such as, counseling, education, home visits, telemedicine, or web-based logging—reduces BP relative to a traditional hospital visit. Self-monitoring of BP caused in a mean reduction of SBP by 3.9 mm Hg at 6 months; nevertheless, self-monitoring of BP with external assistance resulted in a decrease of SBP by 2.1 to 8.3 mmHg, which remained important at 12 months (Uhlig et al., 2013).

*Interaction with a health professionals and others* is focused around the idea that effective health care requires cooperation with healthcare providers and relevant others (Akhter, 2010). Chronic condition management depends upon patients who commit to medication and health care providers who support them with humanized health care. However, chronically ill patients' necessity to learn regarding their condition. They must be able to take good care of themselves as they make choices, plan their lives, or control the illness (Balduino, 2016).

Nurse practitioners play a crucial task in addressing the basic need for the prevention and treatment of HTN (Davison et al., 2016). Clark et al. (2010) performed a systematic review of treatments for patients' lifestyle modifications, with an emphasis on nursing interventions. Their research found substantial reductions in BP in primary care patients relative to those under standard clinical care. While the absolute differences in BP were minimal, the investigators recorded that with just a 3-mm Hg reduction in SBP, the rate of stroke, coronary heart attack, major CV injuries and CV mortality decreased by 20-30%. Health information seeking practice is also needed once interacting with medical issues. In a US study on chronic disease and the Internet, Fox and Purcell (2010) stated that while people with chronic illnesses resort to various websites, 93% of the time they turn to health care providers.

*Adherence to recommended regimens* relates to adherence patients to recommended antihypertensive drugs and hospital visits (Akhter, 2010). Adherence has been defined as the “active, voluntary, and collaborative involvement of the patient in a mutually acceptable course of behaviour to produce a therapeutic result” (Al-Lawati, 2014). Medication non-adherence happens when individuals are reluctant to accept medication or may not take medications as ordered by the health care professional. Nonadherence comprises two distinct types: primary nonadherence and secondary nonadherence. Primary happens when patients failed to obey with their initial prescriptions, whereas secondary nonadherence happens when patients fail to take their medication as prescribed (Joshi, 2016). Despite evidence-based self-care HTN recommendations, many patients with HTN do not adhere to the recommended suggestions and, consequently, frequently fail to manage their BP (Lee et al., 2010).

HTN is amongst the greatest common health issue affecting the globe today, contributing to other debilitating conditions of health, such as heart failure. As a consequence, nurses at any stage of training must be equipped to facilitate HTN self-management for patients with whom they associate. They must not only be competent regarding HTN self-management practice but must also be qualified with successful approaches to self-management promotion (Kerari, 2019).

In the last decades, the nurse's role has been identified as one that improves HTN control by teaching the patient to perform self-management practice. Nurses' role started with the assessment and measurement of BP and the provision of patient education, both of which were developed to become the most successful methods for enhancing BP control (Himmelfarb et al., 2016). Moreover, the role of nursing in the prevention of HTN and complications is to increase consciousness and, thereby. The nurse must adequately determine the level of self-management the patient needs. Such evaluation enables the nurse to select the nursing techniques that best matches the patient's ability to practice self-management. In addition to the patient's role in self-treatment, the nurse can also be useful in taking care of the patient after discharge (Ali & Taha, 2014).

## **5.6. Hypertension Self-Management Practice Gaps in the Kingdom of Saudia Arabia**

HTN is becoming a worldwide problem, as about 1.13 billion individuals impacted (WHO, 2019). A national survey of 10,735 participants conducted in the KSA reported that around 15.2% and 40.6% of Saudis were either hypertensive or borderline hypertensive, respectively (SHMS, 2018). Saudia Arabia (SA) struggles with HTN control and adequate health care provisions for its people (Alzahrani et al., 2019). To alleviate this burden, when attending their health clinic, patients must be consulted regarding lifestyle changes and self-management actions (Worku Kassahun et al., 2020).

Despite self-management becoming the foundation of health promotion and disease prevention, a few published studies have addressed self-management practice level among patients with HTN in specific Saudi Arabian populations. Few studies conducted in SA have addressed the level of self-management practice. For example, Neminqani et al. (2013) conducted a descriptive cross-sectional study in Taif, SA, to determine self-management practice level and identify the related factors among patients with HTN. The findings revealed that an overall HTN self-management practice was at a moderate level.

AlHadlaq et al. (2019) conducted an additional study in Riyadh, SA, to identify the prevalence of self-management behaviors and explore factors affecting self-management behaviors for controlling HTN among hypertensive patients. The results revealed that self-care among hypertensive patients is low. Significant factors, involving age, gender, BMI, period of high BP, and existence of heart illness, were found to be linked to behavior, motivation, and self-care confidence.

*Bakhsh et al. (2017)* conducted a cross-sectional study at King Abdulaziz University Hospital (KAUH) in Jeddah, SA, to assess HTN knowledge, awareness, and self-care practices among patients with hypertension. The data showed that self-care practices levels were below average among 74.4% of patients. Knowledge, awareness, and self-management practice were found to be significantly deficient between older age patients above 50 years, males, and patients with low education.

*Khreshah and Mohammed (2016)* used a descriptive-correlational design to determine the correlation between self-care behaviors and sociodemographic characteristics among women with HTN. The results presented that 73% of women had HTN for more than 3 years. The ratings of their HTN self-care behaviors revealed low scores in the categories of checking weight, exercising regularly, avoiding smoking, following a low-salt diet, and walking frequently. Results showed that HTN self-care behaviors were significantly correlated with age, BMI, and duration of HTN ( $p < 0.05$ ).

*Bahari et al. (2019)* conducted another cross-sectional study in SA, which aimed to examine the relationships between families' social support, self-efficacy, and self-care behaviors among men with HTN. The findings revealed that the family's social support and self-efficacy were significantly associated with HTN self-care behaviors.

Local data in relation to the gaps of self-management practice among patients with hypertension in SA was rare, making it necessary to conduct this review to determine the gaps of self-management practice. This investigation will help to change medication choices, mitigate adverse outcomes, and deliver good health care facilities. Thus, improving self-care practices can reduce the HTN-related mortality risk (*Bilal et al., 2015*).

## 6. Conclusion

HTN is a vital modified-risk factor of CV illness. HTN management involves pharmacological treatment and lifestyle modification. Thus, HTN is a chronic disease that allows individuals to treat their own health care on such an ongoing basis. Furthermore, the literature review reveals that HTN is a critical issue in SA that can donate to severe health problems such as heart disease, stroke, and kidney disease. Understanding self-management is important to the development of strategies to alleviate this chronic disorder. However, HTN management in the KSA is a significant challenge, requiring collaborative leadership efforts beyond the availability of effective drugs; it requires active patient engagement, proactive visionary leadership, tailored knowledge of initiatives and programs, and, most essential, the implementation of a national, socioeconomically driven health promotion plan.

## 7. Recommendations

According to the findings of this review, self-management education program should be designed and activated in place at each health care center and hospital in

order to prevent complications, other comorbidities and death resulting from hypertension.

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