

Hypertensive Patients: Self-Care Management Practices in Al-Taif, KSA

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Abstract: This descriptive cross sectional study aimed at determining the level of self-management practices and to identify its associated factors among patients with hypertension at King Abdul Aziz Hospital and Al Hada Military hospital at al Taif City. One hundred and twenty four subjects were included. The research tool was a questionnaire consisted of demographic and health related characteristics data assessment form and hypertension self-management behaviors questionnaire. Frequencies, means, standard deviations and analytic tests (Chi Square and T test) were used for data analysis. The results showed that an overall self-management behavior with hypertension was at moderate level (2.22 ± 0.528). For five sub-dimensions of self-management, the means of self-integration, self-regulation, interaction, self-monitoring and adherence, were also at the moderate level. Adherence to recommended regimen had the highest score (2.45 ± 0.48) followed by Self-monitoring (2.39 ± 0.69). Women had significantly higher scores than men (2.47 ± 0.40 versus 2.08 ± 0.54), ($P = 0.000$). Middle aged and young adults had significantly higher self-management scores than older adults ($P = 0.010$). University educated subjects had higher self-management score than less educated ($P = 0.025$). Subjects who live in rural areas had insignificantly lower self-management behavior scores than those lived in urban areas ($P = 0.931$). In addition the time since diagnosis was found to be significant ($P = 0.038$). This study offers proof that among Saudi patients with hypertension, there is a chance for improving their self-management behaviors. The study suggested that, antihypertensive therapy must take into consideration the patient's awareness of the health-care provider's advice and instructions, factors that may improve self-management behaviors, and the possibility that the patient will adhere to recommendations

Keywords: Hypertension, self-management practices, factors affecting self-management

1. Background

Kearney and colleagues (2005) reported that, High blood pressure, or hypertension, is the primary and most common risk factor for heart disease, stroke and renal diseases. Hypertension affects more than a quarter of the global adult population comprising Kingdom of Saudi Arabia (KSA). It is projected in year 2025 to increase by 24% in developed countries and 80% in developing countries. It is expected that one in six people globally, or closely one billion, are affected by high blood pressure, and it is projected that this number will increase to 1.5 billion by 2025.

Contrasting to most diseases, high blood pressure has no symptoms and is therefore called the „silent killer“. The World Health Organization (2002) also stated that high blood pressure is the chief important cause of cardiovascular death. High blood pressure is prevailing in every part of the world, in every area of any nation and in every community. It affects the rich and the poor, the young and the old, men and women, urban and rural populations, and the educated and illiterate alike. The only way to settle the presence of hypertension is by assessing one's blood pressure.

The rise in hypertension prevalence will usually lead to increases in the incidence of cardiovascular diseases and their consequences, which rises the load on health care systems (Chen, and L. Lipscombe, 2008)³. National surveys of prevalence, awareness, treatment, and control displayed that many hypertensives were ignorant of their disease,

many of the alert were not on treatment, and many of the treated are not controlled principally in developing countries (Al-Nozha et al⁴, 2006 and Ibrahim et al., 1995)⁵.

Hypertension remains the cardinal atherosclerotic risk factor leading to early death. The monitoring of hypertension remains challenging, despite its ease of diagnosis, the easiness of blood pressure monitoring and the wide accessibility of a number of effective antihypertensive drugs with excellent safety profiles (Wright et al., 2009)⁶. Based on these concerns, self-care of hypertension - both in terms of monitoring and treatment would appear to be a practical option. Monitoring of blood pressure (as opposed to taking antihypertensive therapy in the absence of baseline blood pressure assessment) still appears to be a required step in the diagnosis and management of hypertension (Fehey et al., 2006)⁷.

Despite the presence of several useful pharmacologic and non-pharmacologic methods to hypertension management, hypertension control is still poor, with less controlled blood pressure witnessed. Hypertension self-management behaviors comprising medication adherence, self-blood pressure monitoring, and lifestyle modifications involving diet, exercise, and tobacco are critical components of recommended hypertension treatment and have been associated with significant improvements in hypertension control (Giles et al., 2007)⁸.

Studies evaluating hypertensive patients' perceptions of causes prompting their self-management have demonstrated

that obstacles are multifactorial. Studies have shown that family members often play a vital role in patients' hypertension self-management, including providing support with food choice and preparation, helping patients to follow the behavioral recommendations (for example, smoking cessation), and supporting patients with medication and medical appointment adherence. Family members may also play a central role in easing patient-provider thoughts about hypertension care (Wassertheil et al, 2004)⁹.

Understanding Saudi patients' perceived self-management of hypertension could offer insights into a range of vital targets for interferences to increase hypertension control.

2. Objective of the Study

The aim of this study is:

- 1) To identify the level of self-management behavior among patients with hypertension.
- 2) To examine factors related to self-management among patients with hypertension.

Subjects and methods:

Study Design:

This study was a descriptive cross sectional study aiming at examining the level of self-management behavior among patients with hypertension in Al- Taif- KSA and to recognize related factors.

Study Setting:

This study was conducted at King AbdulAziz hospital which belong to Ministry of Health and Al Hada Military Hospital.

Population and Sample:

Non-probability convenient sampling method was followed. The target population of this study was a sample of patients of hypertension aged more than 18 years who attended outpatient clinics during the study period.

Instrumentation:

The instrument was a structured questionnaire developed after extensive reviewing of the literature. It composed of two parts: Demographic and Health associated data assessment tool; and forty questions, Hypertension Self-Management Behavior questionnaire which modified by Nilmanat K and AkhterN (2010)¹⁰ from an existing tool (Lin et al, 2008) and used in their study Self-management among patient with hypertension in Bangladesh.

Part I:

Demographic and health related data assessment form:

Demographic data comprised: age, gender, marital status, educational level, economic status, residency, number of family members, and time since being diagnosed and type of payment for treatment. The health related Data Assessment Form included clinical significant characteristics comprising: body weight, smoking history, systolic and diastolic blood pressure measurement.

Part II:

Hypertension Self-Management Behavior Questionnaire:

The hypertension self-management questionnaire consisted of 40 items addressing different aspects of self-management for the illness. These included:

Self- integration (13 items) which denotes a patient's capability to integrate health care to daily lives through activities such as diet, exercise, weight control, smoking cessation and stress management.; **self-regulation** (9 items) which reveal patient's self-regulation of their behaviors through self-monitoring of body signs and symptoms and taking actions based on these changes. **interaction with health professionals and significant others** (9 items) about level of cooperation with health care workers and significant others; **Self- monitoring** (4 items) which is concerned with the monitoring of blood pressure at home for detecting blood pressure levels in order to modify self-care activities and **adherent to recommended regimen** (5 Items) which refers to patients adherence to prescribed anti-hypertensive medications and clinic visits.

The subject asked to rate each item to show the regularity which they do the self-management practices. Items then scored on a 4- point scale ranging from 1 (never) to 4 (always). The self-management scores divided into three levels: low, moderate and high. The score of 1-2 means low level of self-management, scores of 2-3 means moderate level of self-management and 3-4 means high level of self-management.

Data Collection procedure:

The data collection procedure consisted of two phases: preparation phase and implementation phase.

Preparation phase:

Getting permission from the Research Ethics Committee of the faculty of Medicine of Al- Taif University. Preparation of the structured questionnaire by the researcher. The permission of King Abdul Aziz Hospital and Al-Hada hospital was obtained. Also, written consent had been obtained from each patient.

Implementation phase:

The researcher contacted the subjects, clarifying the aims of the research and taking written consent. Data collected by the researcher through direct personal interview with the target patients in the outpatient clinics. Data was collected through the period from June 2015 to October 2015.

Data analysis:

The data was coded and data entry was done using SPSS version 22. Frequencies, percentages, means and standard deviation were calculated. Inferential statistics such as independent t- test and Chi- square were used for testing factors related to Self-management.

3. Results

One hundred and twenty four patients from King Abdul Aziz hospital and El Hada Military hospital in Al Taif City were included in the study.

Table (1) presented the demographic characteristics of the studied participants. Mean age of the subjects was 59.3 ± 13.43 . It was 57.3 ± 13.6 for men and 62.7 ± 12.6 for women.

A total 79 (63.7%) were men and 45 (36.3%) were women. Fifty seven (46.0%) participants were illiterate and only 19 (15.3%) had a university education. There were 23 (18.6%) employed, 37 (29.8%) unemployed and 64 (51.6%) retired.

Table (2) shows that the majority of participants (60.5%) mentioned that their monthly income is just sufficient, in (24.2%), monthly income is not sufficient and may borrow and in (15.3%) monthly income is sufficient and saving.

The mean number of family members was 7.7 ± 3.5 . The majority of patients 111 (89.5%) were from urban area.

Table (3) presented health related characteristics of the study participants. The mean systolic blood pressure was 140.2 ± 23.7 mmHg and mean diastolic blood pressure was 80.7 ± 19.5 mmHg.

The mean body weights of studied subjects were 80.6 ± 20.9 kg. According to body mass index classification of WHO, most of participants were obese (63.7%), 20/2% were overweight, 12.1% were normal and 4.0% were underweight.

Most of patients (73.4%) had known their diagnosis as hypertensive for more than five years. 41.1% of participants were nonsmokers, 45.2% stopped smoking and 13.7% continue smoking.

Twenty (16.1%) of participants had no comorbidity, 33.9% had coronary artery disease, 29.0% diabetes mellitus, 8.1% chronic kidney disease, 4.0% stroke and 8.9% had more than one co-morbid condition.

Self- management behavior of study subjects were summarized in table (4). The categories of self- management were as follow:

The mean score for adherence to recommended regimen was the highest (2.45 ± 0.48) and it was followed by monitoring the disease (2.39 ± 0.69). As regard self-regulation, the mean score was 2.27 ± 0.57 followed by interaction with professional and significant others (2.24 ± 0.55). Lastly, the mean score was 2.10 ± 0.33 for self- integration behavior.

The classified general levels of all sub-groups of self-management behavior were at moderate level.

According to table (5): Five highest percentage of always performed behaviors

- 1) Recognizing signs and symptoms of high blood pressure (2.68 ± 0.64), Moderate level.
- 2) Checking blood pressure or visiting doctor to check blood pressure when expecting signs and symptoms of high blood pressure (2.59 ± 0.77), Moderate level.
- 3) Strictly taken hypertension medication (2.59 ± 0.71), Moderate level.
- 4) Taking the right amount of antihypertension medication (2.55 ± 0.77), Moderate level.
- 5) Thinking that hypertension is part of life (2.55 ± 0.71), Moderate level.

And five highest percentage of never/sometimes performed behaviors were:

- 1) exercise to reduce weight (1.47 ± 0.64), Poor level.
- 2) Follow doctor advice regarding blood pressure control (1.62 ± 0.86), Poor level.
- 3) Reducing amount of food per meal (1.88 ± 0.78), Poor level.
- 4) eating fruits, vegetables, grains, and beans more than before (2.02 ± 0.89), Moderate level.
- 5) Trying to control stress (2.02 ± 0.93), Moderate level.

Table (6) shows risk factors affecting self-management behaviors among hypertensive patients. It was found that young (2.60 ± 0.37) and middle aged patients (2.30 ± 0.42) had significantly higher score than older age (2.10 ± 0.58) and ($P= 0.010$). Women (2.47 ± 0.40) had significantly higher self- management score than men (2.08 ± 0.54) and ($p= 0.000$).

Patients who diagnosed for more than 5 years had significantly higher self-management score (2.28 ± 0.51) than those who diagnosed for less than five years (2.06 ± 0.55) and ($P= 0.038$).

It was found that patient who had enough income had insignificantly higher score than others ($p= 0.931$). Also, patients who live in urban areas had insignificant higher score than patients who live in rural areas ($p= 0.931$).

Table 1: Demographic characteristics of the studied participants

variables	Males N= (79)	% 63.7%	Females N= (45)	% 36.3%	No. (124)	% 100.0
Age:						
Less than 40	6	7.6	2	4.4	8	6.5
40-	38	48.1	14	31.1	52	41.9
60 ⁺	35	44.3	29	64.4	64	51.6
Mean± SD	57.3±13.6		62.7±12.6		59.3 ± 13.43	
Marital Status:						
Single	3	3.8	3	6.7	6	4.8
Divorced	3	3.8	3	6.7	6	4.8
Married	58	73.4	35	77.8	93	75.0
Widow	15	19.0	4	8.9	19	15.3
Educational level:						
No formal education	27	34.2	30	66.7	57	46.0
Elementary	18	22.8	9	20.0	27	21.8
Secondary	19	24.1	2	4.4	21	16.9
university	15	19.0	4	8.9	19	15.3
Employment status						
Employed	13	16.5	10	22.2	23	18.6
Unemployed	2	2.5	35	77.8	37	29.8
retired	64	81.0	0	0.00	64	51.6

Table 2: Family characteristics of the studied participants

	No.	%
Monthly income:		
1- Is sufficient with saving	19	15.3
2- Just sufficient	75	60.5
3- Is not sufficient and may borrow	30	24.2
Residential area:		
1- Urban	111	89.5
2- Rural	13	10.5
Number of family members:	7.7±3.5	
Mean± SD		

Table 3: Health related characteristics of study participants

Variable		
Mean blood pressure/mmHG		
Systolic	140.2±23.7	
Diastolic	80.7±19.5	
Mean body weight:	80.6±20.9	
- Mean ± SD		
BMI classification:		
Underweight	5	4.0
- Normal	15	12.1
- Overweight	25	20.2
- obese	79	63.7
Time since diagnosis		
< 5 years	33	26.6
≥ 5 years	91	73.4
Smoking history:		
Never	51	41.1
Yes but quit now	56	45.2
Continue to smoke	17	13.7
Family history of Diabetes:		
Yes	57	46.0
No	67	54.0
Comorbidity:		
No Comorbidity	20	16.1
Coronary artery disease	42	33.9
Diabetes mellitus	36	29.0
Chronic kidney disease	10	8.1
Stroke	5	4.0
More than one condition	11	8.9

Table 4: Level of self-management behavior among studied participants

Variable	Mean± SD	General Level
1-Sele-integration	2.10±0.33	Moderate
2-Self-regulation	2.27± 0.57	Moderate
3-Interaction with professional and significant others	2.24± 0.55	Moderate
4-Self-monitoring	2.39± 0.69	Moderate
5-Adherence to recommended regimens	2.45±0.48	Moderate
Total	2.22 ± 0.528	Moderate

Table 5: Five items with higher percentage of always performed and highest percentage of never performed behaviors

Variable	Mean ± SD.	level
Five highest percentage of always performed behaviors		
1-Recognizing signs and symptoms of high blood pressure	2.68 ± 0.64	Moderate
2-Checking blood pressure or visiting doctor to check blood pressure when expecting signs and symptoms of high blood pressure	2.59 ± 0.77	Moderate
3-Strictly taken hypertension medication	2.59 ± 0.71	Moderate
4-Taking the right amount of antihypertension medication	2.55 ± 0.77	Moderate
5- Thinking that hypertension is part of life	2.55 ± 0.71	Moderate
Five highest percentage of never performed behaviors		
1-exercise to reduce weight	1.47 ± 0.64	Poor
2-Follow doctor advice regarding blood pressure control	1.62 ± 0.86	Poor
3-Reducing amount of food per meal	1.88 ± 0.78	Poor
4-eating fruits, vegetables, grains, and beans more than before.	2.02 ± 0.89	Moderate
5-Trying to control stress	2.02 ± 0.93	Moderate

Table 6: Risk factors relating to Self-management behavior

	Mean ± SD	F test/ Ttest	P value
Age:			
20-40	2.60± 0.37	4.79	0.010
40-60	2.30± 0.42		
60+	2.10±0.58		
Gender:			
Males	2.08±0.54	18.35	0.000
Females	2.47±0.40		
Education:			
No formal education	2.09 ±0.50	3.23	0.025
Elementary education	2.10±0.56		
Secondary education	2.17±0.56		
University	2.55±0.43		
Income:			
Enough and safe	2.28 ± 0.60	0.362	0.697
Just enough	2.24 ± 0.51		
Do not enough and borrow	2.16 ± 0.53		
Residential area:			
Urban	2.22 ± 0.54	0.007	0.931
Rural	2.21 ± 0.41		
Time since diagnoses:			
Less than 5 years	2.06 ± 0.55	4.377	0.038
5 years and more	2.28 ± 0.51		
Hospital:			
Al- Hada Military hospital	2.28± 0.562	1.007	0.318
King Abdul Aziz Hospital	2.18 ±0.50		

4. Discussion

According to World Health Organization (WHO, 2014)¹¹, Saudi Arabia, one of the largest countries in the Middle East, has massive oil reserves, and the subsequent wealth has accompanied in an era of socio economic transition. Naturally, the profits to health and lifestyle in the general population of KSA have been remarkable.

Alternatively, this transition has brought with it new opposing health behaviors. For example, growing availability of food, such as meat by 313% and oil/fat by

200% between 1974 and 1995, has resulted in a per capita increased consumption of energy from 1,807 to 3,128 kcal/day in the same time span, (Madani et al., 2000)¹², while the recommended daily intake in KSA is 2,100 kcal. (Al-Kanhhal et al., 1998)¹³. According to Euromonitor International (2014)¹⁴, soft drink drinking and restaurant eating have amplified in KSA, and the rate of sedentary lifestyle of Saudi nationals across varying age groups has been estimated to be from 43.3% to 99.5%. Consequently, obesity is increasing in both adults and children in the Kingdom (Abalkhail, 2000)¹⁵ along with a simultaneous

increase in type 2 diabetes, hypertension and hypercholesterolemia (El-Hazmi and Warsy2000)¹⁶.

The Saudi Ministry of Health (MOH) is a government department whose responsibility is to develop a network of primary healthcare centers and confirm that the Saudi population has acceptable access to care (Almalki et al., 2011)¹⁷. An important development has been a comprehensive referral system through a broad base of general and specialist hospitals. (Aldossary et al., 2008)¹⁸. The Saudi government has channeled substantial financial resources into the enhancement of healthcare and social services (Al-Yousuf et al., 2002)¹⁹. Their objective is to deliver free healthcare for Saudi nationals and colonials employed in the public sector.

Saudi Arabia country seeks to create a maintainable, organized health development process to all its citizens, including prevention of common diseases and their complications, to ensure public wellbeing. And so, the government is keen to focus on generating mechanisms with a view to improve and implement an adequate range of comprehensive health services programs through the Ministry of Health and other related health institutions. As a result, the Ministry of Health has adopted many health policies and programs to prevent, detect, evaluate, and treat non-communicable diseases, one of which is HTN. This disease affects 20% of the Saudi population, children and adults alike, and is the leading cause of CV, cerebrovascular, and renal morbidities and mortalities (Saudi hypertension management guidelines, 2011)²⁰.

The Saudi Hypertension Management Society (SHMS) plays an important role in translating Clinical Practice Guidelines (CPGs) and programs into practical plans of action, unified in a protocol for early finding and good management of this health problems and its complications. Another role for SHMS is the development of national awareness and educational programs addressed to healthcare professionals and the general public for primary prevention of HTN and the Metabolic Syndrome complex (Saudi hypertension management guidelines, 2011)²⁰.

The mean age of hypertension patients in this study was 59.3 ± 13.43 . It was 57.3 ± 13.6 for men and 62.7 ± 12.6 for women (table 1). More than half of subjects were above the age of sixty (51.6%). These results is in accordance with many of other studies. Anderson (1999) showed in his study that increased age is associated with a significant increase in the prevalence of hypertension and especially of systolic hypertension after age 60 years. Also, Japan is a super-aged society in which the elderly aged over 65 years account for 23.3% of the population (in 2011) and those aged over 75 years account for 11.5%. Hypertension increases with age, and, according to the National Health and Nutrition Survey of Japan (2011)²¹ (Counter of Government statistics, 2013), hypertension is prevalent in 66% of those aged 65–74 years and 80% of those aged over 75 years.

In this study 63.7% were men and 36.3% were women (table 1). These results are in consistent with Wiinber and colleagues (1995)²² who studied 352 normotensive (for age) Danish men and women, aged 20 to 79 years, and found that

blood pressure increased with aging in both men and women, but that men had higher 24-hour mean blood pressure, by approximately 6 to 10 mm Hg, than did women, until the age of 70 to 79 years, when blood pressure was similar for men and women. Khoury and colleagues²³ performed ambulatory blood pressure monitoring on 131 men and women, aged 50 to 60 years, and found that men had higher blood pressure than did women.

The results of this study displayed that (13.7%) were smokers, (45.2%) stopped smoking, and (41.1%) were non-smokers. The results of other studies showed that any independent chronic effect of smoking on blood pressure is insignificant. After adjustment for age, BMI, alcohol, and social class, they established only in older men significantly higher systolic blood pressure in heavy and moderate smokers than in never smokers while no such variances were perceived for diastolic blood pressure. The assumption of elevated systolic blood pressure, but not diastolic blood pressure, only in older men is an important new observation that is well-matched with effects expected in association with chronically enhanced atherogenesis in large capacitance vessels, with which smoking is associated and which yields isolated systolic hypertension (Fagori et al., 1996)²⁴.

About three quarters of patients had known their diagnosis for five year or more. Only 16.1% reported that they had no other comorbidities. The majority conveyed that they have other morbidities as coronary artery disease, DM, chronic kidney diseases and stroke. These comorbidities are commonly found in hypertensive patients who have hypertension for few years (Smeltzer and Bare, 2004)²⁵.

Self-management behaviors:

Self-management for people with chronic health problems is widely recognised as a required part of treatment. The patient is answerable for the day-to-day management of their illness (Lorig and Holman 2000)²⁶.

Interventions using self-measurement of blood pressure (BP) have been shown to yield greater blood pressure declines than ordinary care using office-based BP measurement (Uhlrig et al., 2013)²⁷. Home BP is a significant interpreter of cardiovascular (CV) mortality and CV events and is probably superior to office BP as a predictor of target organ injury (Ward et al., 2012)²⁸. In this study, adherence to recommended regimen domains which denotes patients' adherence to hypertension medications and clinic visits had the highest mean score (2.45 ± 0.48) compared to other dimensions. These results are in agreement with Kamel et al., (1999)²⁹ who reported that more than three quarters of chronic patients adhered well to the medical treatment. Similarly, our results are consistent with Kravitz et al., (1993)³⁰ who conveyed that 91% of their patients take medication as prescribed. In addition, Anderson and Fitzgerald (1995)³¹ reported an even higher rate of compliance with medication regimen.

Adherence to medication was followed directly by self-monitoring practice (2.39 ± 0.69) which is concerned with the home measuring of blood pressure for identifying blood pressure levels. Though, regardless of a call for routine

adoption of home BP monitoring in patients with identified or suspected hypertension, issued jointly in 2008 by the American Heart Association, the American Society of Hypertension, and the Preventive Cardiovascular Nurses Association, many physicians do not encourage patients to self-monitor. Recent hypertension management guidelines that acknowledge the worth of home measurement (self-monitoring) of BP, (Mancia et al., 2013³², National Clinical Guideline Center, 2014³³ and Canadian Hypertension Education Program (CHEP),2014)³⁴ as well as guidelines focused totally on home BP monitoring, (Centers for Disease Control and Prevention, 2013³⁵ and American Heart Association, 2014)³⁶ consider home BP measurement as an assistant to conventional office BP measurement, the "gold standard" for screening, diagnosis, and management of hypertension.

Self-regulation practices which reflects self-monitoring of body signs and symptoms and taking actions according to these symptoms was (2.27± 0.57). In this study, all subjects has developed hypertension for more than one year and most of them had comorbidities. Therefore they had symptom experience related to high or low blood pressure. As a consequence they are able to notice any change in their blood pressure.

At a low level of practice were interaction with professional and significant others (2.24 ± 0.55) which is based on the concept that good health care involves collaboration with health care provider and significant others. It was followed by self- integration (2.10 ± 0.33) which refers to a patient ability to integrate health care into their daily lives to manage diet, exercise and stress. These results were not consistent with Kamel and his colleagues (2003)³⁷ in a study conducted in Egypt and concluded that almost all patients had high level of knowledge and practice of different desired self- care behavior.

Diet is considered as backbone of any management plan for chronic diseases as diabetes and hypertension. In this study reducing amount of food per meal and eating fruits, vegetables, grains, and beans more than before were among the least practices to do. These results were in agreement with Khattab³⁸ and his colleagues in a study conducted in Saudi Arabia (2010) and reported that compliance with diet was much worse than compliance to treatment.

Physical exercise is another important element in self-management practices. Despite its significant importance, it has a low score in this study. These results were in common with Khattab study (2010)³⁸. This also occurs with some eastern and western studies of the world, where it has been observed that compliance with medical aspects of regimen as medication than with life style aspects of regimen (as diet and physical exercise) (Ammari, 2004)³⁹.

According to Whitmer (2008)⁴⁰, the communication between the provider and the patient may show themore significant role in building patients' knowledge base, belief about treatment and self-confidence in management of illness. Most of nurses in Saudi Arabia are foreigners and speaking another language. Al-Shahri, 2002⁴¹, reported that, There is a widespread gap in communication between the patient and

nursing staff due to multiple factors such as language barriers and lack of cultural awareness. Although non-Arabic-speaking nurses occasionally learn a few words of Arabic, this is not satisfactory to communicate efficiently in another language. "Knowing a smattering of a foreign language only allows one to make a fluent fool of oneself if the implicit meanings behind highly subtle linguistic symbols are not understood"(Ross, 2004)⁴². As a result, explainers are needed to enable communication between English-speaking staff and Arabic-speaking patients. In addition, selecting an interpreter of the patient's gender is likely to result in a more relaxed and competent interpretation process in an attentionto religion and culture (Al-Shahri, 2002)⁴¹. Encounters to the quality of healthcare in Saudi Arabia are shown in the results of a patient satisfaction survey conducted at King Khalid University Hospital (KKUH) in Riyadh. The overall mean satisfaction percentage was 77% and the lowest score was for communication. With respect to communication, the lowest level of satisfaction was with nurses' consideration to patients' cleanliness, and for listening to and conversing with patients. (Al-Doghaither, 2000)⁴³.

Factors affecting self-management:

As shown in table (6), this study showed that young and middle aged adults had significantly higher self-management score as compared to older one (2.60± 0.37, 2.30± 0.42 versus 2.10± 0.58). Cognitive impairment usually occurs in old parsons and this affect their capability to communicate and understand the guidelines. Sinclair and colleagues (2000)⁴⁴ stated that elderly subjects with predominantly Type 2 diabetes mellitus display significant excess of cognitive dysfunction, associated with poorer ability in self-care and greater dependency. They stated that, routine screening of cognition in older subjects with chronic diseases is recommended. The cognitive deficit may make daily decision-making challenging by damaging the perception and interpretation of early symptoms and thinking and thereby delay early treatment implementation (Dickson, et al, 2007)⁴⁵. This finding is not consistent with some preceding studies. Cognitive impairment leads to shortfalls in attention, learning, memory, executive functions, and psychomotor speed and may impair their ability to carry out self-care and adhere to treatment requirements. Such shortages may also compromise patients' capacity to recognize worsening symptoms and make proper decisions about their health care (Malik et al., 2011)⁴⁶.

In contrast to our results, Lee et al., (2010)⁴⁷ found that older patients with hypertension had healthier self-care behavior. In the present study it was found that females had significantly higher self- management behavior score as compared to males (2.47±0.40 versus 2.08± 0.54). Chung et al., (2006)⁴⁸ found that women have more knowledge about disease than men. In addition, Yount et al., (2004)⁴⁹ established that women often report they visit providers and use medication more often than men.

In the present study 46% of patients had not received formal education. Most of them were illiterate. They were unable to read or understand the written instructions. University

respondents had significantly higher self-management behavior (2.55 ± 0.43) compared to those with no education (2.09 ± 0.5). These findings are in agreement with other studies which demonstrated that education is regarded as an essential prerequisite for self-management of a chronic disease. (Wejiman et al., 2003)⁵⁰ also found that level of education was related to the frequency of self-management.

Length of time since diagnosis more than 5 years was associated with higher self-management (2.28 ± 0.51) compared to those with less than 5 years (2.06 ± 0.55). Accordingly, longer duration of hypertension was associated with improved self-management behavior. The finding of this study is consistent with a preceding study. Lee et al., (2010)⁴⁷ found a positive relationship between years of hypertension and self-care behavior. They stated that those with longer durations of hypertension might have had more knowledge opportunities available to them. It is possible that patients who have endured hypertension longer have learned more about managing hypertension.

Respondents who live in urban areas have insignificantly higher score than those live in rural areas. Also in this study income was insignificantly affect self-management behavior. This is inconsistent with Jerant et al., (2005)⁵¹ who found that financial constraints and costs of care were the most common barriers to accessing self-management support resources. This is not a case in Saudi Arabia, It is one of the largest countries in the Middle East (WHO, 2014)¹¹ has enormous oil reserves, and the resulting wealth has ushered in an era of socio economic transition. Naturally, the benefits to health and lifestyle in the general population of KSA have been remarkable. Currently the MOH is the major government provider and financer of health care services in Saudi Arabia, with a total of 244 hospitals (33 277 beds) and 2037 primary health care (PHC) centers. These services encompass 60% of the total health services in Saudi Arabia (Health statistical year book. Ministry of Health, 2009)⁵².

5. Recommendations

Antihypertensive therapy must take into attention the patient's awareness of the health-care provider's advice and prescriptions, factors that may impact self-management behaviors, and the likelihood that the patient will adhere to recommendations. Self-management principles should be incorporated into the treatment plan. All patients should be evaluated for obstacles to adherence and self-management, and referred for further counseling as wanted (to a nurse practitioner, registered nurse, registered dietitian, masters prepared social worker, pharmacist, physician assistant, or other professional). Patient and family education about antihypertensive therapy should be socially sensitive, sensitive to economic concerns, and based on the patient's level of understanding.

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