

## Self-Care Behaviors among women with Hypertension in Saudi Arabia

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**Abstract:** In Saudi Arabia, hypertension is increasing in prevalence due to the significant changes in the standard of living and lifestyle. The purpose of this paper was to determine the correlation between self-care behaviors and socio-demographic characteristics among women with hypertension.

**Methods:** A descriptive-correlational design was used. Socio-demographic characteristics, hypertension self-care behaviors, and hypertension related information were collected from a convenience sample through interviews using structured questionnaire.

**Results:** The mean age of women was 52 years, 70 % were married, 63% were primary school education, 70% were unemployed, and 57 % were of moderate income. Results also show that 63.3% of women were within normal weight, 73% had hypertension for more than three years. The ratings of hypertension self-care behaviors show low scores in checking weight (2.0) doing exercise regularly (2.1), avoiding smoking areas (2.6), following a low salt diet (2.6), and walking frequently (2.6). Results show that hypertension self care behaviors were significantly correlated with age, BMI, and duration of hypertension ( $p < 0.05$ ).

**Conclusions:** Health care professionals should work within the context of hypertension self-care to increase women knowledge and improve hypertension self-care behaviors. Women may need specific counseling and encouragement that hypertension is a controllable condition.

**Keywords:** Hypertension, self-care behaviors, women, Saudi Arabia

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### I. Introduction

Hypertension is a worldwide health problem occurs in both males and females. One in three adults has hypertension worldwide [1]. Hypertension causes almost one half of all deaths from stroke and heart disease among middle-age to older adults and associated with more mortality in women than men [2]. Research have shown that cardiovascular disease claims more women's lives than any other disease and hypertension is an important risk factor for cardiovascular disease in women but is often underestimated and undiagnosed [3]. Also research stressed that the attainment of clinical blood pressure goals can markedly reduce cardiovascular morbidity and mortality [3]. Moreover there are special risk factors that are unique for women that needs consideration in order to help prevent the great number of hypertension-related events in women [4]. Among patients with Hypertension, women were less likely than men to meet Blood Pressure (BP) control targets [3]. Compared with men with hypertension, women with high BP are more likely to develop Left Ventricular Hypertrophy, diastolic dysfunction, and a steep age-related increase in arterial stiffness[5, 6]. In addition, Hypertension plays a greater role in the development of congestive heart failure in women than in men [7].

Saudi Arabia has observed major socioeconomic development during the last twenty years leading to significant changes in its standard of living and lifestyle. Also the transformation of the society has also resulted in changes in dietary habits and related social practices, many of which are not healthy ones. This has compounded by a lack of exercise among large segment of the society. These factors has contributed to the appearance of degenerative diseases such as obesity, diabetes mellitus, and hypertension [8-10]. For example the prevalence of obesity was high among women (33.5% ) and was associated with marital status, education, history of chronic conditions, and hypertension [11].

In Saudi Arabia, hypertension is increasing in prevalence affecting more than one fourth of the adult of Saudi population [12-15]. Aggressive management of hypertension as well as screening of adults for hypertension early is recommended to prevent its damaging consequences if left untreated. Public health awareness of simple measures, such as low salt diet, exercise, and avoiding obesity, to maintain normal arterial blood pressure need to be implemented by health care providers [15]. In 2011, a cross sectional study was conducted to estimate the prevalence, awareness, treatment, control, and predictors of hypertension among Saudi adult population found that the overall prevalence of hypertension was 25.5% and concluded that prevalence is high, but awareness, treatment, and control levels are low indicating a need to develop a national program for prevention, early detection, and control of hypertension [14].

One approach that may improve blood pressure (BP) control and be feasible for the hypertensive patients is patients' involvement in their own care. Self-care behaviors have been documented as one of the

main determinants of hypertension control [16]. Research have stressed that compliance with hypertension self-care behaviors such as weight reduction, smoking cessation, low salt diet, and physical activity can contribute to controlling blood pressure. Also research have highlighted the need for interventions that focus on improving an individual's self-efficacy and social support to enhance hypertension self-care [17-19].

Previous studies reported that body Mass Index (BMI) and time since diagnosis of hypertension have been associated with self-care behaviors. Body mass index was negatively associated with health lifestyle behaviors[20] and long term of hypertension was related to an increased adoption of hypertension self-care behaviors [21]. In general, age and marital status have been consistent correlates of hypertension self-care behaviors. Many studies reported that older women were more likely to engage in hypertension self-care behaviors than younger women[17, 21]. Married women were found to be more likely to be adherent to medications compared to unmarried women[22].

Despite the benefits of evidence-based hypertension self-care behaviors in improving BP, hypertensive patients generally have low compliance with the suggested self-care behaviors [23]. Studies on the prevalence, awareness, and treatment of hypertension in developing countries have been widely reported in recent years. However, studies assessing what activities individuals engage in to help manage their BP, such as medication adherence, BP monitoring, and exercise practices, are scarce in developing countries including Saudi Arabia. Research on hypertension self-care behaviors is vital, given that it can provide information for developing policies on support for self-care, suggest what practical action can be taken, and provide ideas on how to support self-care. This study is designed to address this gap in the literature by focusing on correlates of hypertension self-care behaviors among Saudi women. Therefore, the purpose of this study was to investigate the self-care behaviors among Saudi women with hypertension and to determine the relationship between socio-demographic characteristics and self-care behaviors in hypertensive Saudi women in Umluj City. The study findings can be used to design strategies to help women with hypertension to improve their self-care behaviors to control blood pressure.]

## **II. Materials And Methods**

### **Design**

The study utilized a descriptive-correlational design to explore correlation between self-care behaviors of hypertensive Saudi women in Umluj and their socio-demographic characteristics.

### **Sample and sampling**

A convenience sample of hypertensive Saudi women in Umluj city was used. All hypertensive women who attended the outpatient clinic at Umluj hospital for follow-up in the period of the research were invited to participate in the study. To be eligible for participation women must have systolic BP  $\geq 140$  mmHg and diastolic BP  $\geq 90$  mmHg, being on hypertensive medications, and not having a diagnosis of serious illness. Women were informed of the study by the research assistant and verbal and written consent were obtained from each woman.

### **Data collection**

Data was collected using face-to-face interviews. A structured questionnaire was developed based on the literature reviews. The questionnaire was consisted of 3 sections. The first section included items related to socio-demographic characteristics such as age, educational level and marital status. The second section included hypertension-related information such as duration of hypertension, BP measure, body height and body weight. The third section included sixteen self-care behaviors of hypertensive patients [24]. These include five subscales of health responsibility such as diet behaviors, exercise, stress management, and smoking habits. A 4-point Likert scale was used (1=never, 2=sometimes, 3= frequently, 4= always).

All Anthropometric data were collected in the morning by trained assistant researcher. Height was measured to the nearest 0.5 cm and weight to the nearest 0.1 kg. Body mass index (BMI) was calculated from the weight and height. BMI (kg/m<sup>2</sup>) was categorized as normal weight ( $18.5 \leq \text{BMI} < 24$ ), overweight ( $24 \leq \text{BMI} < 28$ ), and obese ( $\text{BMI} \geq 28$ )[25]. Blood pressure (BP) was measured in a sitting position after at least 5 minutes of rest by using a standardized digital BP measuring machine. The second and third BP readings were averaged.

**Data Analysis:** Using SPSS, version 19, descriptive statistics and Pearson correlation coefficient were applied to analyze the data.

**Ethical Considerations:** University college of Umluj at Tabuk university and administration of Umluj Hospital provided the approval for this study. Written informed consent was obtained from all participants prior to data collection. Participants were aware that they could stop the interview at any time and refuse to answer questions without a reason.

**III. Results**

Fifty women were eligible to participate in the study. All were approached to take part and 30 (60%) women agreed. Table 1 provides a description of the women in the study. The mean age was 52 years, 70 % were married, more than half were primary school education, most were unemployed, and 57 % were of moderate income.

**Table (1):** Socio-demographic characteristics of women.(N=30)

Variable	No.	%
<b>Age (years) mean = 52 years</b>		
40 – 49	12	40.0
50 – 59	12	40.0
60 -69	6	20.0
<b>Marital status</b>		
Single	9	30.0
Married	21	70.0
<b>Education level:</b>		
Primary school	19	63.3
High school	10	33.3
University	1	3.3
<b>Work status</b>		
Non-working	21	70.0
Working	9	30.0
<b>Income</b>		
Low	8	26.7
Moderate	17	56.7
High	5	16.7
<b>Body mass index (BMI)</b>		
Normal weight	19	63.3
Over weight	5	16.7
Obese	8	20.0
<b>No. of years having Hypertension</b>		
< 3 years	8	26.7
>3years	22	73.3
<b>Smoking</b>		
Yes	6	20.0
NO	24	80.0
<b>Other chronic disease</b>		
Yes	2	6.7
NO	28	93.3

Results also show that 63.3% of women were within normal weight, 73% had hypertension for more than three years, 80% were non-smokers and most of them have no any chronic diseases.

The results of the ratings on the 16 items of hypertension self-care behaviors are shown in Table 2. Items with low scores were checking weight (2.0) doing exercise regularly (2.1), avoiding smoking areas (2.6), following a low salt diet (2.6), and walking frequently (2.6).

**Table 2.** Hypertension Self-care behavior estimates from the participants (N=30)

Item	Mean
1-Taking medication at the designated time.	<b>3.6(0.7)</b>
2- Taking medication at the designated frequency.	<b>3.6(0.7)</b>
3- Taking the recommended dosage.	<b>3.8 (0.9)</b>
4- Checking blood pressure regularly	<b>3.1(0.5)</b>
5- Checking body weight regularly	<b>2.0(1.0)</b>
6- Seeing a doctor at the scheduled times	<b>3.8(0.7)</b>
7- Doing exercise regularly	<b>2.1(1.0)</b>
8- Walking frequently	<b>2.6(1.0)</b>
9-Eating meals at the same time	<b>3.6(1.0)</b>
10- Following a low - fat diet	<b>3.3(0.8)</b>
11- Following a low -salt diet	<b>2.6(1.0)</b>
12- Quitting smoking all day	<b>3.4(0.8)</b>
13-Avoiding smoking area	<b>2.6(1.0)</b>
14- Reducing worry and anxiety in life	<b>2.8(1.0)</b>
15- Discussing worries with friends or families	<b>2.8(1.0)</b>
16-Reducing stress	<b>2.9(0.9)</b>

*Note, Scale: 1=never, 2=sometimes, 3=frequently, 4=always. Item mean= 3.1 (SD=5), minimum=2.0, maximum= 4.0*

The correlation among study variables are shown in Table 3. Hypertension self care behaviors were significantly correlated with age, BMI and duration of hypertension (p< 0.05).

**Table 3.** Correlates of hypertension self care behaviors ( $p < 0.05$ )

	Age	Marital status	BMI	Duration of hypertension	Hypertension self -care behavior
Age	1	-.167	-. 255	-.074	.041
Marital status	-.167	1	.066	-.002	-.071
BMI	-. 255	.066	1	.031	-.012
Duration of hypertension	-. 074	-.002	.031	1	.011
Hypertension self care behavior	.041	-. 171	-.012	.011	1

#### IV. Discussion

This is the first study to investigate hypertension self care behaviors among women in Umluj, Saudi Arabia. This research may facilitate future hypertension intervention programs in Umulj City. This study, however, has several limitations. First, the use of a convenience sample reduce the generalizability of the study . Second, the sample size was small so some of the participants characteristics might differ from the rest of the women. Finally, the data in this study were obtained through face to face interviews, and therefore, recall bias was expected to some extent.

In this study, we aimed at investigating self-care behaviors among Saudi women with hypertension and to determine the relationship between socio-demographic characteristics and self-care behaviors in hypertensive Saudi women. Results showed that rates of hypertension self-care activities were low related to checking weight, doing exercise regularly, avoiding smoking area, following a low salt diet , and walking frequently.

Recent studies showed that the average salt intake is more than 10 g/day in rural areas. Similar to other studies most participated women in our study consumed salt as added during cooking Umulj. [26, 27]. It was hard to assess the salt intake of the women, however, in our study participant women reported trying avoiding salt while cooking and eating.

Similar to other studies, participated women reported adding salt during cooking using a spoon hand, and some of them reported adding salt as per their own preference [27]. These findings entail that interventions in the future should include education for women on how to restrict salt intake.

Results show that lower than half of the women reported participating in physical exercise. In spite the clear evidence on the positive effects of exercise on the chronic adaptation to BP provided by research [27, 28]. In addition to these physiological mechanisms that respond to exercise, loss of body weight by energy expenditure during exercise causes a reduction in BP [27, 29]. Few people were aware of their weight problem, even though 36% of participants were overweight or obese in our sample. The patients in rural areas may not be aware that their weight status influences their BP[27, 30]. Health care providers may overlook overweight or obesity in women, and there was a need to increase the level of communication with patients about their weight status[27].

Results show that longer duration of hypertension was associated with better self-care behaviors. These findings were consistent with previous research [27]. This could be explained that women who have experienced hypertension longer have learned more about coping with hypertension [27].

#### V. Conclusion

The rate of checking weight, doing exercise regularly, avoiding smoking area, following a low salt diet , and walking frequently still need improvement. Women with shorter history of hypertension and younger have lower self-care behaviors. Health care professionals should work within the context of hypertension self-care to increase women knowledge and improve hypertension self-care behaviors. Providers need to consider the role of self-care adherence among Saudi women with uncontrolled hypertension. Women may need specific counseling and encouragement that hypertension is a controllable condition.

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