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Assessment Of Hypertension During Reproductive Age

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Abstract:
Objective:*The purpose of this study is (1) to examine prevalence of hypertension in women of reproductive age, (2) to identify factors associated with hypertension in this group, and (3) to create nursing interventions for wellbeing and diet. Design:A descriptive analytic study designed to assess the women having hypertension.Setting: Hilla surgical teaching hospital in Babylon governorate.Population:A sample was fifty women had hypertension who attended to Hilla surgical teaching hospital during the period 1/2/2014-28/2/2014.Methods:This study include a personal interview in Hilla surgical teaching hospital. Additional data on the design, A questionnaire format used for data collection was designed and constructed after reviewing related literatures and previous studies and used the perceived emotional distress inventory scale to assess the emotional distress for women and collected basic demographic data.Hypertension was defined by using blood pressure measurements patients with an average systolic blood pressure ≥140 mmHg and/or an average diastolic blood pressure ≥90 mmHg or those who self-reported currently taking prescribed medication for high blood pressure were defined as hypertensive . (BMI) (obtained from height and weight measurement during the exam using standardized techniques and equipment and grouped as <25 kg/m^2, 25-<30 kg/m^2, 30-<35 kg/m^2, and ≥35 kg/m^2). The association of these variables and hypertension was determinedstatistical significance was defined as ** Person's correlation is significant at the 0.01 level(2-tailed), * Person's correlation is significant at the 0.05 level(2-tailed). and the Cutoff point =1. Main results:The highest percentage of age group were (30%) of study sample their age group (36-40) years, the mean with SD. was 37.8 ± 10.09 years. The mean of Body Mass Index(BMI) was* $\bar{X} = 27.24, SD \pm 4.108$. *64% of the study sample were worker.68% of them living in urban and shows that the mean and stander deviation was* $\bar{X} = 5.42,\ SD \pm 2.8$.*The mean and stander deviation was* $\bar{X} = 4.5,\ SD \pm 2.49$.*44% had abortion with (1-2) abortion.74% had normal vaginal delivery. 34% of study sample had renal disease,26% they had heart disease , 78% of them had family history and 66% of them exposure to passive smoking. Also the highest mean of score within item (6) was (1.32) refers to eating low-fat dairy products and the lowest mean of score within item (3) was (.36) refers to taking additional herbs.In experience common symptoms of stress, the mean of score for all items are (0.887), the highest mean of score within item (1) was (1.26) refers to headache and the lowest mean of score within item (12) was (.551) refers to restlessness and itching. The mean of score for all items are (0.821). Finally the statistical significant correlation between age, BMI, exercise, headache and some variables.Conclusion:There were risk factors as age, increase BMI, having previous disease, family history, exposure to passive smoking and there was significant correlation between experience common symptoms of stress and some variables.*

Key words:*Assessment, Hypertension, Reproductive age, Symptoms of Stress scale.*

I. Introduction:

High blood pressure, termed "hypertension," is a condition that afflicts almost 1 billion people worldwide and is a leading cause of morbidity and mortality. This disease is sometimes called the "silent killer." This disease is usually asymptomatic until the damaging effects of hypertension (such as stroke, myocardial infarction, renal dysfunction, visual problems, etc.)[1].

Hypertension is a highly chronic medical condition affecting more than 65 million people in the United States. It presents important clinical implications because of the risk factor for cardiovascular disease.

It is well established that young women with hypertension have increased risk for cardiovascular disease in both the short and the long term. Rates of cardiovascular disease in young women in the U.S. appear to be increasing. Analysis of U.S. vital statistics data showed that the coronary heart disease mortality rate for women age 35–44 increased on average 1.3% per year from 1997–2002; and the rate had increased.

hypertension, estimated to complicate up to 5% of the estimated 4 million pregnancies in the United States each year, is a major source of maternal and fetal morbidity Between 10 to 25% of women with chronic hypertension will develop superimposed preeclampsia. Life-threatening maternal outcomes, including stroke renal failure, pulmonary edema and death are also significantly increased in women with chronic hypertension. Adverse fetal outcomes associated with chronic hypertension include preterm birth and intrauterine growth restriction. It is well established that young women with hypertension have increased risk for cardiovascular

disease in both the short and the long term[1]. For women of reproductive age (ages 15–44 years), some of the most common chronic diseases are depression and hypertension.

The common risk behaviors for chronic disease Among women of reproductive age are insufficient physical activity, poor diet, smoking,obesity, high cholesterol, and diabetes are also common risk factors for developing chronic disease later in life[2]. Hypertension is defined as an elevated BP ≥ 140 mmHg or diastolic BP ≥ 90 mmHg [3].High blood pressure, is elevated pressure of the blood in the arteries. Hypertension results from two major factors, which can be present independently or together as the heart pumps blood with excessive force and the body's smaller blood vessels (known as the arterioles) narrow, so that blood flow exerts more pressure against the vessels' walls [4].Hypertension places stress on several organs, including the kidneys, eyes, and heart, causing them to deteriorate over time. High blood pressure contributes to 75% of all strokes and heart attacks. It is particularly deadly in African-Americans [5].Risk of complications or rapid progression of hypertension become more likely in the presence of other risk factors, including significant elevation of blood pressure, increasing age , smoking, abnormal cholesterol levels, family history of premature heart disease, obesity, diabetes, coronary artery disease, or other evidence of vascular disease [3].Hypertension is referred to as essential (primary) when the doctor is unable to identify a specific cause. The causes of this type was a complex combination of genetic, environmental, and other factors [6].Genetic Factors. A number of genetic factors or interactions between genes play a major role in essential hypertension and causes of secondary hypertension as medical condition, medications that elevates blood pressure.Age is the major risk factor of hypertension. Women over age 55 are at increased risk for high blood pressure [1]. Ethnic groups, African-Americans are much more likely to have high blood pressure. More than 40% of African-American men and women have hypertension. It may account for over 40% of all deaths in this group. High blood pressure tends to start at a younger age among African-Americans, is often more severe, and causes greater risks for premature death from heart attack, stroke, heart failure, and kidney failure.Family history, Obesity about a third of patients with high blood pressure are overweight, Obstructive Sleep Apnea and Lifestyle Factors asSmoking, Salt and Potassium. Alcohol. And Stress[5].The purpose of this study is (1) to examine prevalence of hypertension in women of reproductive age, (2) to identify factors independently associated with hypertension in this group.

II. Result:

Table (1): Distribution of the Study Sample according to Demographic Characteristics. (n=50)

Age	F	%	BMI	Range	F	%	Occupation	F	%	Residence	F	%
20-25	11	22	Normal (healthy weight)	from 18.5 - 25	12	24	worker	18	36	urban	34	68
26-30	3	6	Overweight	from 25 - 30	27	64	Not worker	32	64	rural	16	32
31-35	8	16	Obese Class I (Moderately obese)	from 30 - 35	10	20	Total	50	100	Total	50	100
36-40	15	30	Obese Class II (Severely obese)	from 35 - 40	1	2						
41-45	13	26		Total	50	100						
Total	50	100										
$\bar{X} = 37.8, SD \pm 10.09$			$\bar{X} = 27.24, SD \pm 4.108$									

- Table (1) shows that the highest percentage of age group were (30%) of study sample their age group (36-40) years, the mean with SD. was 37.8 ± 10.09 years.
- The mean of Body Mass Index(BMI) was$\bar{X} = 27.24, SD \pm 4.108$.
- 64% of the study sample were not work.
- 68% of them living in urban.

Table (2): Distribution of the Study Sample according to reproductive Characteristics. (n=50)

Gravida	F	%	Para	F	%	Abortion	F	%	Type of delivery	F	%
1-3	8	16	1-3	14	32	0	24	48	normal	37	74
4-6	18	36	4-6	21	42	1-2	22	44	c/s	13	26
7-9	14	28	7-10	13	26	3-4	4	8	Total	50	100
10-12	4	8	Total	50	100	Total	50	100			
$\bar{X} = 5.42, \quad SD \pm 2.8$			$\bar{X} = 4.5, \quad SD \pm 2.49$								

- Table (2): shows that the mean and stander deviation for gravida was $\bar{X} = 5.42,\ SD \pm 2.8$.
- The mean and stander deviation for para was $\bar{X} = 4.5,\ SD \pm 2.49$.
- 44% had abortion with (1-2) abortion.
- 74% had normal vaginal delivery.

Table (3): Distribution of the Study Sample according to some risk factor (n=50)

Previous disease	F.	%	Family history	F.	%	Smoking	F.	%
Have not disease	9	18	Yes	39	78	Yes	11	22
Heart disease	13	26	No	11	22	No	6	12
Renal disease	17	34				Passive smoking	33	66
Diabetic disease	2	4						
Heart & Diabetic disease	9	18						

Table (3): revealed 34% of study sample had renal disease,26% they had heart disease , 78% of them had family history and 66% of them exposure to passive smoking.

Table(4): Items of life style related hypertension among study sample.

Statements	Not at all (0)	%	Some Times (1)	%	always (2)	%	$\bar{X}$
1- Doing exercise regularly at least30-60 minute most day of the week.	25	50	20	40	5	10	**.6**
2- Having sleep apnea.	14	20	26	52	10	28	**0.9**
3- Having stress.	10	12	25	46	14	42	**1.08**
4- Reduce sodium in your diet.	9	6	26	56	15	38	**1.1**
5- Eating diet high in fruits &vegetable.	6	12	23	46	21	42	**1.3**
6- Eating low-fat dairy products	3	6	28	56	19	38	**1.32**
7- taking folic acid supplement.	19	38	19	38	12	24	**.86**
8- Use non narcotic pain relievers less than once per week.	11	22	27	54	12	24	**1.02**
9- Eating nuts, seed, dry peas and beans.	5	10	30	60	15	30	**1.2**
10- Fish oils (omega-3 fatty acids).	23	46	22	44	5	10	**.64**
11- Eating garlic.	25	50	23	46	2	4	**.54**
12- Skinless poultry, and soy product.	24	48	21	42	5	10	**.62**
13- Taking additional herbs.	35	70	12	24	3	6	**.36**
Total							**11.54**
Mean							**0.887**

*Cut off point =1

Table(4) shows that the highest mean of score within item (6) was (1.32) refers to eating low-fat dairy products and the lowest mean of score within item (3) was (.36) refers to taking additional herbs. The mean of score for all items are (0.887).

Table(5): Mental and emotional stress symptoms.

Statements	Not at all (0)	%	Some Times (1)	%	always (2)	%	$\bar{X}$
1- Headache	2	4	33	66	15	30	**1.26**
2- Tense muscles, sore neck and back	9	18	20	40	21	42	**1.24**
3- Having fatigue.	12	24	20	40	18	36	**1.12**
4- Anxiety, worry and phobia.	23	46	18	36	9	18	**.72**
5- Difficulty falling asleep.	14	28	26	52	10	20	**.695**
6- Irritability.	24	48	18	36	8	16	**.740**
7- Insomnia.	10	20	29	58	11	22	**.654**
8- Bouts of anger.	25	50	18	36	7	14	**.721**
9- Boredom and depression.	7	14	30	60	13	26	**.627**
10- Eating too much.	9	18	23	46	18	36	**.719**
11- bowel disturbance.	18	36	18	36	14	28	**.804**
12- Restlessness and itching.	2	4	30	60	18	36	**.551**
Total							**9.851**
Mean							**0.821**

*Cut off point =1

Table(5) shows that the highest mean of score within item (1) was (1.26) refers to headache and the lowest mean of score within item (12) was (.551) refers to restlessness and itching. The mean of score for all items are (0.821).

Table(6): Person correlation between age, educational level and number of abortion with the perceived emotional distress inventory items.(n=50)

Statements	Person correlation	Significant
1- Age & gravid.	.317*	.025
2- Age & para.	.869**	.000
3- Age &type of delivery.	-.508**	.000
4- Age & Tense muscles, sore neck and back.	.452**	.001
5- Age & having fatigue.	.338*	.016
6- Age & irritability.	-.280*	.035
7- Age & pain relieve	.317*	.025
8- BMI & previous disease.	-.319*	.024
9- BMI & irritability.	-.289*	.041
10- BMI & depression.	-.304*	.032
11- BMI & restlessness and itching.	-.304*	.032
12- Previous disease& Bouts of anger.	.281*	.048
13- Exercise &obesity.	-.290*	.041
14- Exercise & tense muscles, sore neck and back.	-.459**	.001
15- Exercise & restlessness and itching.	-.310*	.029
16- Exercise & irritability.	.289*	.042
17- Headache & f having fatigue.	.475**	.000
18- Headache & tense muscles, sore neck and back.	.400**	.004
19- Headache & anxiety, worry and phobia.	.292*	.040
20- Headache & difficulty falling asleep.	.489**	.002
21- Headache & irritability.	-.363*	.018
22- Headache & depression.	.269**	.008

** Person's correlation is significant at the 0.01 level(2-tailed).
* Person's correlation is significant at the 0.05 level(2-tailed).
Table(6) shows that the statistical significant correlation between age, BMI, exercise, headache and some variables.

I. DISCUSSION:

*Age and Blood Pressure:

The present study found that the women age with SD. was 37.8 ± 10.09 years. The mean of (BMI) was $\bar{X} = 27.24, SD \pm 4.108$ as shown in(table 1). Increase high blood pressure risk with age due to hardened of arteries , decreases of renal function, the salt embarrassing the body and other factors as hormonal changes during menopause. A women who aged 30s may had higher readings which return to normal, while the readings increased, after the age of 50years, increase a risk of heart attack and stroke. When high blood pressure untreated can reduce life expectancy by 10 or more years[7]&[8].

* Obesity and Blood Pressure

Being obese heightened the risk for having hypertension. In obesity more tissue need blood. The fat surrounding the heart caused resistance so the venous blood return diminishes. Overweight women faced a 1 mmHg increase in diastolic pressure for every increase in BMI while normal BMI individuals the increase was 0.89 mmHg in diastolic blood pressure. The benefit in reducing body fat controlled and prevented high blood pressure. According to a previous study a 5 to 10 % weight loss improved high blood pressure[9].

*Reproductive history and Blood Pressure:

Table (2): Shows that the mean and standard deviation for gravida was $\bar{X} = 5.42,\ SD \pm 2.8.$, the mean and standard deviation for para was $\bar{X} = 4.5,\ SD \pm 2.49.$, 44% had abortion with (1-2) abortion and 74% had normal vaginal delivery.
Pregnancy induced hypertension (PIH) elevation of blood pressure (140/90mmHg or a rise of

15mmHg of diastolic pressure and a rise of 30mmHg of systolic pressure) taken on two occasions after rest, (PIH) a hypertensive disorder in pregnancy happens in the absence of other causes, with generalized edema and proteinuria. with proteinuria termed a preeclampsia and its complication as eclampsia. The pathological changes was related to vascular endothelial dysfunction and the complication was generalized vasospasm and capillary leakage [10].

After First- child the women may be at risk in developed high blood pressure with family size reduction, a higher percentage of population consist of first-born children who had a higher risk of developed diseases as hypertension, type 2 diabetes, coronary artery and stroke. A previous study found that the women who born first-child borne to hypertensive disorders[11].

*Previous disease and Blood Pressure:

Blood pressure affected the whole body as brain, renal, lungs, and heart. Disorders related with high blood pressure comprise pulmonary hypertension that reveals the power applied by the heart to pump blood through the body and into the lungs to supplemented with oxygen[12].

*Hypertension and Heart attack

The coronary arteries which surround the heart supplies it with blood rich-oxygen. That impaired when plaque and fatty acids form in walls. As the impaired arteries block the blood flow so oxygen reduced too, producing the arteries to work firmer to supply the body with oxygen due to damage the heart so caused a heart attack. High blood pressure doing extra force on the artery walls that caused the heart attack[13].

*Diet and Blood Pressure:

The correlation coefficients of the Blood Pressure reactions to low-sodium diet and high-sodium intervention and the Blood Pressure responses to high-sodium diet intervention and potassium supplementation ($p<0.0001$) respectively. The previous studies recommends that persons who were more sensitive to high-sodium diet might benefit more from a low-sodium diet or high-potassium intervention intended at lowering Blood Pressure levels[14],[15].

Table (3): revealed 34% of study sample had renal disease, 26% they had heart disease, 78% of them had family history and 66% of them exposure to passive smoking.

When the renal blood vessels impaired, may halt eliminating wastes and extra fluid from the body leading to increase blood pressure, producing a hazardous cycle. High blood pressure was the second cause of renal failure in the United States as complication of diabetes mellitus, renal failure due to hypertension elevated 7.7% from 2000 to 2010 [16],[17].

* Stress and Blood Pressure:

stress did not clearly cause of heart disease but play a part in general wellness. Stress elevated blood pressure and contribute to develop hypertension. Education how to manage stress, relaxation technique, and coping with difficulties improved emotional and physical body health. The actions that helped to reduce stress comprise: practice yoga, exercise, listen to music, focused on something quiet or peaceful and meditation[18]. The body released hormones as Cortisol and adrenaline into the blood to activate body's normal "fight-or-flight" reaction to stress and the pulse rate increased beat more rapidly and blood vessels constricted which lets the blood to rushed away from the extremities to the central of the body [19].

No certain relation that found between stress and long-term hypertension but elevated stress levels found to be a strong predictor of upcoming hypertension [20]. Stress also worsens the causes of chronic hypertension. Hypertension risk factors such as obesity, smoking, excess alcohol used and salt intake. Stress exacerbates hypertension in who were at risk for hypertension[21].

II. Strengths and limitations:

The strength of the study use of validated assessment tool and use of the perceived emotional distress inventory scale[18]. I have limited the analysis to those who were have psychological and emotional problems due to other causes and factors.

III. Recommendation:

1- Lifestyle changes, (Exercise and dietary program with regular monitoring.)
2- More research is needed to determine hypertension complication.

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