

Assessment of the Risk Factors of Pregnancy Induced Hypertension among Pregnant Women in AL-Basra Maternity and Children Hospital

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Abstract

High blood pressure has nearly become a common disorder in humans. Because of several factors such as mental stress, smoking, drug addiction, work stress, etc. Humans are suffering from many disorders associated with high blood pressure. Pregnancy-induced high blood pressure is one of the most common hypertonic disorders to date. The study aims to assess the risk factors of pregnancy associated with hypertension.

Methods: A quantitative descriptive analysis used to assess approach with questionnaire items is performed. Throughout the non-probability sampling method, a purposive random sample of (100) women were chosen. A constructed questionnaire includes (sociodemographic data and risk factors associated with pregnancy related to hypertension), data was collected through the use of a questionnaire and interview with the pregnant women. Through the application the descriptive statistic, data were analyzed.

Results: The findings illustrated that the symptoms of pregnancy and dietary pattern were the most common risk factors associated with pregnancy induced hypertension at high level of score (1.71) for both factors.

Conclusion: The study concludes that the risk factors of pregnancy associated with hypertension were deals with symptoms of pregnancy and dietary pattern. Health education and giving a clear picture regarding the risk factors and complications of pregnancy which indeed may help decreased risk pregnancy.

Key-words: Assessment, Risk Factors, Pregnancy, Hypertension.

INTRODUCTION

High blood pressure is referred to as hypertension in medicine. "Systolic blood pressure greater than or equal to 140 mmHg and/or diastolic blood pressure more than or equal to 90 mmHg, generally confirmed within four hours apart measurement" is how hypertension is characterized in pregnancy [1]. Pre-existing hypertension, prenatal hypertension, preeclampsia/eclampsia, and superimposed hypertension are all examples of hypertension disorders in pregnancy [2]. These problems can range from a slight rise in blood pressure at term with no other signs or symptoms to serious problems that can cause major maternal, fetal, and neonatal harm [3]. Every year, a large number of women die from pregnancy-related causes around the world, with Sub-Saharan Africa accounting for more than half of these deaths [4]. Hypertensive diseases in pregnancy, such as pregnancy-induced hypertension, are responsible for about 12% of maternal mortality. As a result, hypertension problems are one of the most serious public health concerns in the world [1,2]. Therefore, this study was performed to determine the risk factors of pregnancy induced hypertension.

METHODOLOGY

To investigate the risk factors of pregnancy associated with hypertension, a quantitative descriptive analysis used to assess approach with questionnaire items is performed. Throughout the non-probability sampling method, a purposive random sample of (100) women was chosen. A constructed questionnaire includes (socio-demographic data and risk factors associated with pregnancy related to hypertension), data was collected through the use of a questionnaire and interview with pregnant women. Through the application the descriptive statistic, data were analyzed (F= Frequency; %= Percentages; M,S.= Mean of Score; S.D.= Standard Deviation; Ass.= Assessment). Assessment Level of score was as the follow: (1.00 - 1.33) = Low ; (1.34 – 1.67) = Moderate; (1.68 – 2.00) = High".

RESULTS AND DISCUSSION

Risk factors related to the symptoms items suffer pregnant women Table (2):-

The term of pregnancy to the period in which the fetus develops inside the mother's womb, and often the duration of pregnancy is about forty weeks or nine months, so the duration of pregnancy account starting from the first day of the last menstrual cycle, it should be noted that it can be divided pregnancy into three stages of the period , so that

represents the first third of the period between 1-12 weeks of pregnancy, while the second represents a third of the period between 13 and 28 weeks of pregnancy, while the third trimester includes the period between 29 and 40 weeks of pregnancy.

Study subjects' responses to the appear clinical manifestations were high level at allitem of the questionnaire, as the pregnant suffers from headache, high blood pressure, swelling, nausea and vomiting, vertigo, double vision and lower abdominal pain, as wellas, pregnant were not suffering from epilepsy. Those symptoms considered the discomfort of pregnancy. These findings agree with findings of the study showed that the most common symptoms suffered by pregnant women were nausea, vomiting, and vertigo [5]. While abdominal pain, high blood pressure, and vomiting were considered risk factors of discomfort in pregnancy [6]. In addition, it is confirmed in their results, the pregnant mothers were rarely suffer of epilepsy [7].

Risk factors related to the family history for any of the following diseases Table (3):-

Family history is a strong risk factor for many common chronic diseases and summarizes shared environmental and genetic risk, but how this increased risk is mediated is unknown. The responses to the family history of pregnant women for any of the chronic diseases were low level. It means that the pregnant women never had a family history with chronic diseases. These findings agree with the meta-analysis study included 11 articles deals with family history of autoimmune diseases during pregnancy. The assessment indicated that the majority of women did not have a family history of chronic diseases [8].

Risk factors related to the diseases items suffer pregnant women Table (4):

Risk factors of pregnancy inducing hypertension regarding diseases that suffer pregnant women were low level responses. Results that all risk factors during pregnancy were found to have no effect. The responses of mothers were no. A cross-sectional study involving 354 pregnant women was conducted in Mbulu District in Tanzania regarding the knowledge and attitude of pregnant women in rural areas. Their findings depicted that the risk factors of pregnancy were not during her pregnancy in that study [9].

Pregnant women exposed to the sleep disturbances during pregnancy Table (5):

Risk factors of pregnancy inducing hypertension regarding pregnant women exposed to sleep disturbances during pregnancy were moderate level responses of the assessment. Sleep quality and duration are important for a number of physiological functions. As well, the problem of insomnia in pregnant women often occurs as a result of hormonal changes in her body, and also as a result of pressure of the uterus on her bladder, which causes the pregnant woman to have to wake up more than once during the night in order to urinate, and the pregnant woman also finds it difficult to find a comfortable position to sleep, especially when the size of the fetus increases. The findings of Silva-Perez et al. (2019), stated that sleep disruption during pregnancy put the women at risk of psychological and physical problems such as alert level of conscious and hypertension [10]. As well as, the findings of Murin et al. (2011), studied the smoking status during pregnancy. Their findings depicted that the most of husbands were smokers unlike their women [11]. While in European countries, it is found that women during pregnancy were smokers, due to cultural and geographical environment [12].

Dietary Patterns of Pregnant Women Table (6):

If the blood pressure of a pregnant woman is higher than the normal range (greater than or equal to 140/90) after the 20th week of pregnancy, the pregnant woman is diagnosed with high blood pressure during pregnancy. Pregnant women responses to the assessment of dietary patterns items were high level for all the items. It means that women express a healthy diet during their pregnancy. The assessment pregnancy outcome indicated that most of women in second trimester were highly responses to the dietary pattern [13]. Although studies have shown that pregnant women in Shaanxi, China have a low intake of most nutrients, such as vitamin A, folic acid, and calcium. Diet patterns and most nutrient intakes vary according to sociodemographic characteristics and geographic regions [4].

CONCLUSION

The study concludes that the risk factors of pregnancy associated with hypertension were deal with symptoms of pregnancy and dietary patterns. Health education and giving a clear picture regarding the risks and complications of pregnancy which indeed help decreased risks of pregnancy.

Ethical Clearance

"All experimental protocols were approved under the Basra Health Directorate, Iraq, and all experiments were carried out in accordance with approved guidelines".

RESULTS

Table1: Descriptive statistic of pregnant women demographic data

Variables	Groups (n=100)	Frequency	Percent
Age (years)	15-19	18	18.0
	20-24	20	20.0
	25-29	16	16.0
	30-34	14	14.0
	35-39	18	18.0
	40 -44	14	14.0
Residency	Rural	41	41.0
	Urban	59	59.0
Level of Education	Illiterate	12	12.0
	Read &write	3	3.0
	Primary school graduate	23	23.0

	Intermediate school graduate	12	12.0
	Secondary school graduate	18	18.0
	Institute graduate	10	10.0
	College graduate	19	19.0
	Higher Education	3	3.0
Occupational Status	Housewife	70	70.0
	Student	9	9.0
	Employee	12	12.0
	Private jobs	9	9.0
Daily working hours	6 hours / day	9	9.0
	8 hours / day	19	19.0
	10 hours / day	43	43.0
	12 hours / day	29	29.0
Nature of work	In the seating	10	10.0
	little muscle effort	3	3.0
	Moderate muscle effort	28	28.0
	High muscle effort	59	59.0
	Total	100	100.0
Monthly Family Income	Enough	13	13.0
	Fair enough	21	21.0
	Not enough	66	66.0

Table (2): Risk factors related to the symptoms items suffer pregnant women

List	Items	Yes		No		M. S.	S. D.	Ass.
		F	%	F	%			
1	Headache	96	96.0	4	4.0	1.96	0.197	H
2	High blood pressure	97	97.0	3	3.0	1.97	0.171	H
3	Edema (swelling) of the face, hands and limbs	89	89.0	11	11.0	1.89	0.314	H
4	Epilepsy	20	20.0	80	80.0	1.20	0.402	L
5	Nausea and vomiting	84	84.0	16	16.0	1.84	0.368	H
6	Vertigo / dizziness	95	95.0	5	5.0	1.95	0.219	H
7	Changes in vision (such as blurred or double vision)	92	92.0	8	8.0	1.92	0.273	H
8	Urinate in small quantities	69	69.0	31	31.0	1.69	0.465	H
9	Lower abdominal pain	84	84.0	16	16.0	1.84	0.368	H
10	Sudden weight gain	59	59.0	41	41.0	1.59	0.494	M
11	I did not suffer from any of the above	0	0.0	100	100.0	1.00	0.000	L

Table (3): Risk factors related to the family history for any of the following diseases

No.	Items	Yes		No		M. S.	S. D.	Ass.
		F	%	F	%			
1	High blood pressure	28	28.0	72	72.0	1.28	0.451	L
2	Diabetes Mellitus	35	35.0	65	65.0	1.35	0.479	M
3	Cardiovascular disease	10	10.0	90	90.0	1.10	0.302	L

4	Kidney diseases	15	15.0	85	85.0	1.15	0.359	L
5	Anemia	11	11.0	89	89.0	1.11	0.314	L
6	Sickle-cell anemia	1	1.0	99	99.0	1.01	0.100	L
7	Thyroid gland disorders	7	7.0	93	93.0	1.07	0.256	L
8	Other diseases	2	2.0	98	98.0	1.02	0.141	L
9	Have any of your relatives (mother / sister / uncle / aunt) been ...	38	38.0	62	62.0	1.38	0.457	M

Table (4): Risk factors related to the diseases items suffer pregnant women

No.	Items	Yes		No		M. S.	S. D.	Ass.
		F	%	F	%			
1	Chronic hypertension before pregnancy	20	20.0	80	80.0	1.20	0.402	L
2	Diabetes Mellitus	21	21.0	79	79.0	1.21	0.409	L
3	Cardiovascular disease	2	2.0	98	98.0	1.02	0.141	L
4	Kidney diseases	6	6.0	94	94.0	1.06	0.239	L
5	Anemia	15	15.0	85	85.0	1.15	0.359	L
6	Sickle-cell, marine..	3	3.0	97	97.0	1.03	0.171	L
7	Hyperthyroidism	1	1.0	99	99.0	1.01	0.100	L
8	Metabolic syndrome	-	--	100	100.0	1.00	0.000	L
9	Hypercoagulability	-	--	100	100.0	1.00	0.000	L
10	Immune diseases	1	1.0	99	99.0	1.01	0.100	L

Table (5): Risk factors related to pregnant women exposed sleep disturbances during pregnancy

No .	Items	Never		Sometimes		Always		M. S.	S. D	Ass.
		F	%	F	%	F	%			
1	Night waking	-	--	54	54	46	46	2.46	0.50	H
2	Wake up early	1	1	53	53	46	46	2.45	0.52	H
3	Waking up to use the toilet	-	--	61	61	39	39	2.39	0.49	H
4	Difficulty breathing	1	1	46	46	53	53	2.52	0.52	H
5	Coughing or snoring loudly	23	23.	60	60	17	17	1.94	0.63	M
6	Feeling cold	9	9	85	85	6	6	1.97	0.38	M
7	Feeling hot	11	11	84	84	5	5	1.94	0.39	M
8	Vision disturbance	4	4	85	85	11	11	2.07	0.38	M
9	Pain	-	--	84	84	16	16	2.16	0.36	M
10	Other causes including fetal movement	2	2	89	89	9	9	2.07	0.32	M

Table (6): Risk factors related to the dietary patterns items for pregnant women

No.	Items	Yes		No		M. S.	S. D.	Ass.
		F	%	F	%			
1	Do you eat fatty foods / sweets: such as fried chicken, potato chips?	68	68.0	32	32.0	1.68	0.469	H

2	Are you only a vegetarian?	24	24.0	76	76.0	1.24	0.429	L
3	Do you eat red and white meat (such as chicken, except for the skin, thighs)?	35	35.0	65	65.0	1.35	0.479	M
4	Do you eat grains (like wheat, rice, oats, or corn)?	49	49.0	51	51.0	1.49	0.502	M
5	Do you eat legumes (like chickpeas, beans, peas and lentils)?	84	84.0	16	16.0	1.84	0.368	H
6	Do you eat fruits?	98	98.0	2	2.0	1.98	0.141	H
7	Do you eat vegetables?	97	97.0	3	3.0	1.97	0.171	H
8	Do you take salt for more than one teaspoon a day?	95	95.0	5	5.0	1.95	0.219	H
9	Do you drink a cup of coffee a day?	96	96.0	4	4.0	1.96	0.197	H

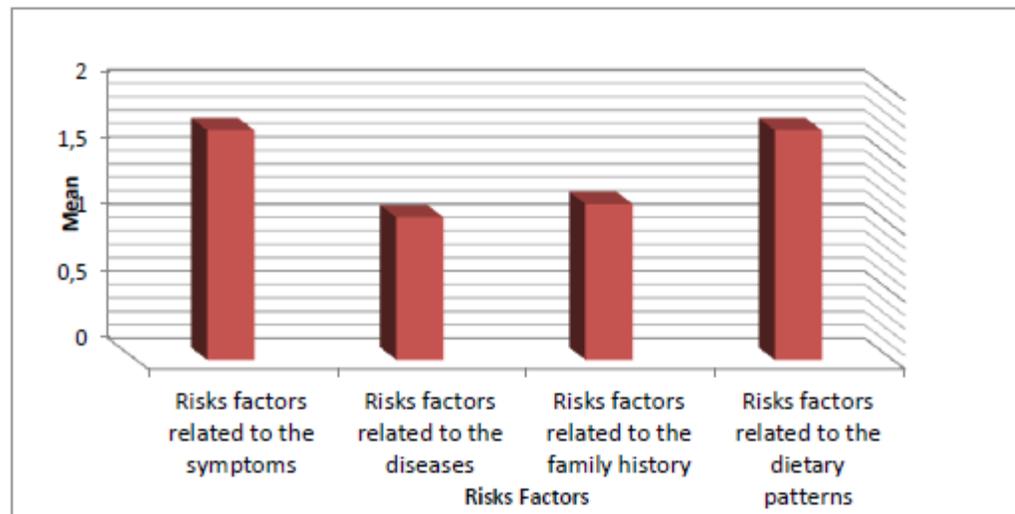


Figure1: Overall Risk Factors

REFERENCES

- Ye, C., Ruan, Y., Zou, L., Li, G., Li, C., Chen, Y., ... & Zhang, W. The 2011 survey on hypertensive disorders of pregnancy (HDP) in China: prevalence, risk factors, complications, pregnancy and perinatal outcomes. *PloS one*, (2014). 9(6), e100180.
- Hinkosa, L., Tamene, A., & Gebeyehu, N. Risk factors associated with hypertensivedisorders in pregnancy in Nekemte referral hospital, from July 2015 to June 2017, Ethiopia: case-control study. *BMC pregnancy and childbirth*, (2020). 20(1), 1-9.
- Shen, M., Smith, G. N., Rodger, M., White, R. R., Walker, M. C., & Wen, S. W. Comparison of risk factors and outcomes of gestational hypertension and preeclampsia. *PloS one*, (2017). 12(4), e0175914.
- Yıldırım, G., Güngördük, K., Aslan, H., Gül, A., Bayraktar, M., & Ceylan, Y. Comparison of perinatal and maternal outcomes of severe preeclampsia, eclampsia, and HELLP syndrome. *Journal of the Turkish German Gynecological Association*, (2011). 12(2), 90.
- Easter, A., Bye, A., Taborelli, E., Corfield, F., Schmidt, U., Treasure, J., & Micali, N. Recognising the symptoms: how common are eating disorders in pregnancy?. *European Eating Disorders Review*, (2013). 21(4), 340-344.
- Nazik, E., & Eryilmaz, G. Incidence of pregnancy-related discomforts and management approaches to relieve them among pregnant women. *Journal of clinical nursing*, (2014). 23(11-12), 1736-1750.

7. Kataja, E. L., Karlsson, L., Huizink, A. C., Tolvanen, M., Parsons, C., Nolvi, S., & Karlsson, H. Pregnancy-related anxiety and depressive symptoms are associated with visuospatial working memory errors during pregnancy. *Journal of affective disorders*, (2017). 218, 66-74.
8. Wu, S., Ding, Y., Wu, F., Li, R., Xie, G., Hou, J., & Mao, P. Family history of autoimmune diseases is associated with an increased risk of autism in children: a systematic review and meta-analysis. *Neuroscience & Biobehavioral Reviews*, (2015). 55,322-332.
9. Margwe, J. A., & Lupindu, A. M. Knowledge and attitude of pregnant women in rural Tanzania on prevention of Anaemia. *African journal of reproductive health*, (2018). 22(3), 71-79.
10. Silva-Perez, L. J., Gonzalez-Cardenas, N., Surani, S., Sosso, F. E., & Surani, S. R. Socioeconomic Status in Pregnant Women and Sleep Quality During Pregnancy. *Cureus*, (2019). 11(11).
11. Murin, S., Rafii, R., & Bilello, K. Smoking and smoking cessation in pregnancy. *Clinics in chest medicine*, (2011). 32(1), 75-91.
12. Smedberg, J., Lupattelli, A., Mårdby, A. C., Øverland, S., & Nordeng, H. The relationship between maternal depression and smoking cessation during pregnancy—a cross-sectional study of pregnant women from 15 European countries. *Archives of women's mental health*, (2015). 18(1), 73-84.
13. Paknahad, Z., Fallah, A., & Moravejolahkami, A. R. Maternal dietary patterns and their association with pregnancy outcomes. *Clinical nutrition research*, . (2019). 8(1), 64.
14. Yang, J., Dang, S., Cheng, Y., Qiu, H., Mi, B., Jiang, Y., ... & Yan, H. Dietary intakes and dietary patterns among pregnant women in Northwest China. *Public health nutrition*, . (2017). 20(2), 282-293.