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PREVALENCE OF HYPERTENSION IN PREGNANT WOMEN OF CHILD BEARING AGE ATTENDING KHAMIS MUSHAYAT HOSPITAL, KSA

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ABSTRACT

Introduction: Hypertension affects 10% of all pregnancies and is accompanied by an increase in fetal and maternal morbidity and mortality. Hypertension in pregnancy includes a wide spectrum of conditions, including pre-eclampsia and eclampsia, pre-eclampsia superimposed on chronic hypertension, and gestational hypertension. **Objectives:** The objectives of the study were to study the prevalence of hypertension among pregnant women and create awareness about the disease. **Methodology:** A cross sectional study was conducted on 200 pregnant women attending antenatal clinic of Khamis Mushayat hospital aged 16-45 years. The prevalence of hypertension among pregnant women was studied. Interview questionnaire containing details such as number of pregnancies, age of current pregnancy, BMI, weight of the mother, blood sugar levels, abortions, blood pressure of the mother, diseases if any other than hypertension such as diabetes mellitus, renal diseases, etc. The association between variables was studied on SPSS 22 platform using Chisquare. Also an awareness program was conducted. **Results:** Current data show that the prevalence of hypertension in the study participants is (18.5%). Again in a majority of the subjects there was a highly significant relationship between age at 1st pregnancy and education of the mother, weight of the mother and previous history of fetal death. There was a highly significant relationship between education of the mother and occupation and income in a majority of the subjects. Also a highly significant relationship existed between income of the family and presence of disease. Also weight of the mother highly significantly related to the BMI and presence of other diseases in the mother. Also a highly significant relationship existed between family history of hypertension and BMI of the mother. BMI significantly related to the weight of the mother, hypertension of previous deliveries and type of disease present. Also a highly significant relationship was observed between blood pressure of the mother and dietary recommendations given and fasting blood sugar levels. **Conclusion:** Hence it can be concluded that blood pressure of the mother had a significant relationship between pregnancy and hypertension variables. It is the need of the hour to counsel pregnant subjects on the ill effects of gestational hypertension and diabetes mellitus and control the same by addressing body weight, dietary issues and physical exercise.

KEYWORDS: Hypertension affects, accompanied, Chisquare, blood pressure.

INTRODUCTION

Hypertensive disorders are the most common medical complications of pregnancy.[1] Hypertension affects 10% of all pregnancies and is accompanied by an increase in fetal and maternal morbidity and mortality. Hypertension in pregnancy includes a wide spectrum of conditions, including pre-eclampsia and eclampsia, pre-eclampsia superimposed on chronic hypertension, and gestational hypertension. Endothelial dysfunction, oxidative stress and an exaggerated inflammatory response are features related to hypertensive disorders.[2]

Hypertensive disorders in pregnancy, including preeclampsia/eclampsia (PE/E) are associated with long-term cardiovascular disease risk.[3] Women with chronic hypertension who become pregnant have an increased risk of preeclampsia and adverse neonatal outcomes.[4] The hypertensive disorders of pregnancy (HDP) remain leading causes of maternal and perinatal morbidity and mortality.[5] Women who presented with gestational hypertension were at greater risk of future hypertension and ischemic heart disease compared with the women who were diagnosed with preeclampsia. All women who present with any of the subtypes of hypertensive disorders in pregnancy are at significant risk of future CVD compared with women who remain normotensive during their pregnancy.[6]

OBJECTIVES

1) To study the prevalence of hypertension in pregnant women.

2) To create awareness among pregnant women about prevention of hypertension during pregnancy.

METHODOLOGY

A cross sectional study was conducted on 200 pregnant women attending antenatal clinic of Khamis Mushayat hospital aged 16-45 years. Interview questionnaire containing details such as weight of the mother and BP and their association with other hypertension and pregnancy variables was studied. The association between variables was studied on SPSS 22 platform using Chisquare.

RESULTS

This table I shows that almost half of the mothers (49%) were 21-25 years old during their first pregnancy. One third of the mothers were between 26-30 years old during their current pregnancy. Nearly half of them (42%) was graduates from University, and a majority of them were house wives (83.5%).In most of the families the income was sufficient (79.5 %).

Table II reveals that the majority of the mothers were pregnant for 1-5times (86%). One third of the mothers' weight was 66-75Kg (32.5%), and more than half of the mothers were 9 months pregnant. Regarding body mass index 39% of the mothers were overweight (25-29) because of pregnancy which is normal. Majority of the mothers have normal blood pressure (73.5%) and no symptoms of hypertension (76%). However 18.5% of the mothers were hypertensive.

Table III- In a majority of 61.8% of the subjects there was a significant relation between blood pressure of the mother and absence of occupation. There was no high blood pressure in subjects not having an occupation.

Table IV - In a majority of 60% of the subjects with average income, blood pressure levels were normal and significantly related to the income of the family.

Table V - In a majority of 67% of the subjects, a highly significant relation existed between normal blood pressure of the mother and normal blood pressure during previous deliveries.

Table VI - In a majority of 45.2 % of the subjects, a highly significant relation existed between normal blood pressure of the mother and the dietary recommendations given.

Table VII - In a majority of 66.8% of the subjects, there was a significant relation between absence of disease and normal blood pressure of the mother. the mother (25-29.9).

Table VIII- In a highly significant majority of 63.9% of the subjects, a relationship existed between following recommendations and absence of high blood pressure during previous deliveries.

Table I: Socio demographic characteristics of the subjects.

Socio-demographic characteristics	No (200)	Percent %
Age at 1st pregnancies		
13-15	1	0.5 %
16-20	56	28 %
21-25	98	49 %
26-30	39	19.5 %
31-35	5	2.5 %
36-40	1	0.5 %
41-45	0	0 %
Age of current pregnancies		
13-15	0	0 %
16-20	11	5.5 %
21-25	39	19.5 %
26-30	66	33 %
31-35	47	23.5 %
36-40	28	14 %
41-45	9	4.5 %
Level of Education		
Uneducated	4	2%
Primary	26	13 %
Preparatory	17	8.5%
Secondary	69	34.5%
University	84	42 %
Occupation		
Nurse	10	5 %
Security guard	1	0.5 %
Teacher	16	8 %

Management	6	3 %
House wife	167	83.5%
Income of the family		
Sufficient and save	11	5.5%
Sufficient	159	79.5%
Insufficient	30	15%

Table II: Characteristics of the subjects.

Characteristic of residencies	No (200)	Percent (%)
No. of pregnancies		
1-5	172	86 %
6-10	26	13 %
11-15	2	1 %
Weight of the mother		
≤45	2	1 %
45-55	8	4 %
56-65	53	26.5%
66-75	65	32.5%
76-85	35	17.5
86-95	24	12 %
96-105	10	5 %
≥105	3	1.5%
Mother month of pregnancy		
6	2	1 %
7	26	13%
8	50	25%
9	120	60%
10	2	1 %
BMI		
≤18.5	2	1 %
18.5-24	39	19.5 %
25-29	78	39 %
30-34	27	13.5 %
35-39	34	17 %
≥40	20	10 %
BP of the mother		
Normal	147	73.5 %
Hypertension	37	18.5%
Hypotension	16	8 %
Symptoms of HT		
Headache/shortness of breath	10	5 %
Headache/ Dizziness	31	15.5 %
Swelling of the foot	7	3.5 %
None	152	76 %

Table III: Occupation of the Mother vs Blood Pressure.

			BP_of_the_mother			Total
			Normal	Abnormal(high)	Abnormal(low)	
Occupation	Nurse	% of Total	4.0%	0.5%	0.5%	5.0%
	Security gaud	% of Total	0.5%	0.0%	1.0%	1.5%
	Teacher	% of Total	6.5%	1.0%	0.5%	8.0%
	Management	% of Total	2.5%	0.0%	0.0%	2.5%
	None	% of Total	61.8%	15.1%	6.0%	82.9%
Total		% of Total	75.4%	16.6%	8.0%	100.0%

Table IV: Income of the Family vs Hypertension of the Mother.

			BP_of_the_mother			Total
			Normal	Ab normal(high)	Ab normal(low)	
Income_of_the_family	High	% of Total	2.0%	2.5%	0.5%	5.0%
	Average	% of Total	60.0%	13.0%	6.0%	79.0%
	Low	% of Total	13.5%	1.0%	1.5%	16.0%
Total		% of Total	75.5%	16.5%	8.0%	100.0%

$p < 0.05$

Table V: BMI vs Hypertension of previous deliveries.

			Did_you_have_high_BP_for_previous_deliveringo		Total
			Exist	There is no	
BMI	<18.5	Count	0	2	2
		% within BMI	0.0%	100.0%	100.0%
		% within Did_you_have_high_BP_for_previous_deliveringo	0.0%	1.2%	1.0%
		% of Total	0.0%	1.0%	1.0%
	18.5-24.9	Count	6	32	38
		% within BMI	15.8%	84.2%	100.0%
		% within Did_you_have_high_BP_for_previous_deliveringo	19.4%	18.9%	19.0%
		% of Total	3.0%	16.0%	19.0%
	25-29.9	Count	7	72	79
		% within BMI	8.9%	91.1%	100.0%
		% within Did_you_have_high_BP_for_previous_deliveringo	22.6%	42.6%	39.5%
		% of Total	3.5%	36.0%	39.5%
	30-34.9	Count	8	32	40
		% within BMI	20.0%	80.0%	100.0%
		% within Did_you_have_high_BP_for_previous_deliveringo	25.8%	18.9%	20.0%
		% of Total	4.0%	16.0%	20.0%
	35-39.9	Count	8	24	32
		% within BMI	25.0%	75.0%	100.0%
		% within Did_you_have_high_BP_for_previous_deliveringo	25.8%	14.2%	16.0%
		% of Total	4.0%	12.0%	16.0%
	>40	Count	2	7	9
		% within BMI	22.2%	77.8%	100.0%
		% within Did_you_have_high_BP_for_previous_deliveringo	6.5%	4.1%	4.5%
		% of Total	1.0%	3.5%	4.5%
Total		Count	31	169	200
		% within BMI	15.5%	84.5%	100.0%
		% within Did_you_have_high_BP_for_previous_deliveringo	100.0%	100.0%	100.0%
		% of Total	15.5%	84.5%	100.0%

$p < 0.01$

Table VI: Blood pressure vs dietary recommendations given.

			What_dietary_recommendation_have_been_to_you								Total
			Increase liquid	Decrease salt	Increase vegetables and fruits	Increase milk and milk products	Increase fish	Decrease sugars	There is no	1+2+3+4	
BP_of_the_mother	Normal									1	150
										0.7%	100.0%
										100.0%	75.4%
		% of Total	3.0%	4.0%	10.6%	7.5%	1.0%	3.5%	45.2%	0.5%	75.4%
	Abnormal(high)									0	33
										0.0%	100.0%
										0.0%	16.6%
		% of Total	2.0%	8.0%	1.5%	1.0%	0.0%	0.0%	4.0%	0.0%	16.6%
	Abnormal(low)									0	16
										0.0%	100.0%
										0.0%	8.0%
		% of Total	0.0%	0.5%	2.5%	2.0%	0.0%	0.0%	3.0%	0.0%	8.0%
Total										1	199
										0.5%	100.0%
										100.0%	100.0%
		% of Total	5.0%	12.6%	14.6%	10.6%	1.0%	3.5%	52.3%	0.5%	100.0%

$p < 0.01$

DISCUSSION

The aim of this study is to know the prevalence of hypertension in pregnant subjects. Current data show that the prevalence of hypertension in the study participants is (18.5%), while it was (3.1%), (7.5%) that had been reported from Ajman Hospital UAE and Keraniganj Hospital Dhaka respectively (7, 8). be due to time constraint and small sample size. Almost half of the respondents college graduate (42%), and this is in agreement with reported from Ajman Hospital UAE (52.8%).[7]

Most of the subjects 67%, a highly significant relation existed between normal blood pressure of the mother and normal blood pressure during previous deliveries, but they said (9) "HDP in previous pregnancy is non-modifiable risk factor.[9]

In a majority of 66.8% of the subjects, there was a significant relation between absence of disease and normal blood pressure of the mother, while (5) said the same results "All women who present with any of the subtypes of hypertensive disorders in pregnancy are at significant risk of future CVD compared with women who remain normotensive during their pregnancy. Also (10) said that these findings indicate that HDP exposure may increase the risk of ASD in the offspring. In 2016 it was said that the association between the risk of subsequent gout and hypertensive disorders is increased in pregnancy (HDP).[11]
Also a highly significant relationship existed between family history of hypertension and BMI of the mother. BMI significantly related to the weight of the mother, hypertension of previous deliveries and type of disease present. Also a highly significant relationship was observed between blood pressure of the mother and dietary recommendations given and fasting blood sugar levels.

In a majority of the subjects, there was a highly significant relationship between family history of hypertension and BMI of the mother; hypertension in previous deliveries and dietary recommendations; age at onset of hypertension and renal disease; dietary recommendations given and followed; following dietary recommendations and hypertension for previous deliveries.

A highly significant relationship was observed between weight of the mother, blood pressure of the mother and dietary intake. Also significant relationship existed between some of the background variables such as blood pressure of the mother and dietary recommendations given and fasting blood sugar levels. This study throws light on the impact of blood pressure on various background variables stressing on the prevention of hypertension during pregnancy.

CONCLUSION

Hence it can be concluded that blood pressure of the mother had a significant relationship between dietary intake, dietary recommendations given and fasting blood sugar levels. It is the need of the hour to counsel pregnant subjects on the ill effects of gestational hypertension and diabetes mellitus and control the same by addressing body weight, dietary issues and physical exercise.

RECOMMENDATIONS

It would be useful to study about the effect of physical exercise on hypertension and glycemic parameters. Also the effect of low glycemic index diets and DASH (dietary approaches to stop hypertension) on glycemic and hypertension parameters can be studied.

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