ORIGINAL ARTICLE

MANAGEMENT OF HYPERTENSIVE DISORDERS IN PREGNANCY AMONG PATIENTS OF DIFFERENT HOSPITALS IN DISTRICT PESHAWAR

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ABSTRACT

Objective: To determine the frequency of hypertensive disorders among pregnant women attending different hospitals in Peshawar.

Material & Methods: A total of 130 pregnant women through non-probability convenient sampling technique were recruited. After seeking written consent from individual participants, a predesigned questionnaire was filled. Data was collected and analyzed by using SPSS version 16.

Results: Of the total participants, 75 (57.7%) were in the age range of 26-35 years and 73(56.2%) were illiterate. Only 14(10.8%) were observed Hypertensive (≥ 140mmHg) assessed at the time of first pregnancy test. During pregnancy the frequency of Hypertensive (≥ 140mmHg) women increased remarkably 105(80.8%). Statistical test showed a significant difference p=0.013 for the hypertensive category distributed in three different stage of pregnancy. It was found that 10(7.7%) women underwent through caesarean section and 2 (1.5%) stillbirth cases were also observed.

Conclusion: The management of hypertensive disorders among pregnant women was found sub-optimal.

Key Words: Blood Pressure, Hypertension, Mortality, Pregnancy.

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INTRODUCTION

Hypertensive disorders are the leading cause of maternal complication and mortality worldwide.[1] The incidence rate of hypertensive disorder during pregnancy varies from 5 to 10%.[2] During the last few decades, the incidences of preeclampsia increased remarkably up to 25%.[3] Hypertension is among the second most communal source of maternal mortality.[4] Many of disorders are linked to hypertension reported among women[5]. Gestational hypertension Pre-eclampsia, eclampsia, s hemolysis elevated liver enzymes and low platelets (HELLP) and chronic hypertension are the prevalent disorders among pregnant women.[5] In Pakistan pregnancy related complications are alarming threat to public health. Dozens of deaths among pregnant women have been reporting daily in Pakistan due to hypertensive disorders.[6,7]

Management of hypertensive disorders during pregnancy includes maternal evaluation and fetal testing. Maternal examination involves laboratory investigations such as serum RFTs, complete blood count, and liver enzymes, at least once a week. Regular BP checks and predominant symptoms should be observed twice a week with an adequate patient education to access care with any severe feature development.[8]

The present study was designed to assess the management of hypertensive disorders among pregnant women of district Peshawar in order to determine the limitation, lacking and unusual practices, which ultimately will provide baseline information for betterment and to update the hypertensive disorders management guideline.

MATERIAL AND METHODS

A cross sectional study was conducted. For sampling non- probability convenient sampling technique was applied for the study. All married women attending tertiary care hospitals of city Peshawar were examined for pregnancy test and those tested positive and recommended for follow up and check-up in the same Hospital were selected for the study. After taking written consent from the participants, they were enrolled for the study with clinical measurement and provision of follow up dates. The clinical measurements carried out at the time of pregnancy test was considered before pregnancy condition. Clinical measurement of individual participants during pregnancy were classified as pregnancy condition. The clinical examination after a week of delivery was considered as post-delivery condition. All these clinical data and socio-demographic data were taken using a predesigned questionnaire for the assessment of demographic information as well as to know about the underlying causes of hypertension. Collected data was analyzed by using SPSS version 16 and results were concluded for the key findings.

RESULTS

The study included total 130 women, among them 75 (57.7%) were with age range 26-35 years and 73(56.2%) were illiterate. **(Table 1)** It was observed that 60(46.2%) women were with Low BP (≤120mmHg) for both systolic and diastolic. Only 14(10.8%) were observed Hypertensive (≥ 140mmHg) assessed at the time of first pregnancy test. During pregnancy the frequency of Hypertensive (≥ 140mmHg) women increased remarkably 105(80.8%). It was observed that 52 (40.0%) women were Hypertensive (≥ 140mmHg) even after 7 days of delivery. The statistical test showed a significant difference p=0.013 for hypertensive category distributed in three different stage of pregnancy. **(Table 2)**

A total 16(12.3%) women were obese before pregnancy, however the frequency of obesity increased during pregnancy 24(18.5%) and 17(13.1%) women were assessed obese even after delivery. No women were found with very high level (+++) of Proteinuria before pregnancy, however during pregnancy 13(10.0%) women were with high level (+++) of Proteinuria and even after seven days of delivery 6(4.6%) women presented very high level of proteinuria. The difference in proteinuria frequency in three different condition was also significantly different p=0.021. **(Table 3)**

The data regarding medication provided that 87(66.9%) women were using Aldomet (Methyldopa 250mg) medication during pregnancy and 30 (23.1%) women used Inj. Oxytocin during delivery. **(Table 4)** It was found that among 23 (17.7%) women delivery complication was assessed, 10(7.7%) women undergone through c section and 2(1.5%) still birth case were also observed. The frequency of female baby gender 75(57.7%) was greater than male 55(42.3%).

Table 1: Demographic characteristics of study participants (n=130)

Study characteristics	Descriptions	n (%)
Age Group (Years)	15-25 Years	21(16.2%)
	26-35 Years	75(57.7%)
	36-45 Years	34(26.2%)
Age at Marriage (Years)	15-20 Years	73(56.2%)
	21-30 Years	57(43.8%)
Duration of Married Life (Years)	≤ 5	26(20.0%)
	5-10 Years	23(17.7%)
	>10 Years	81(62.3%)
Socio-economic Status	Low	84(64.6%)
	Middle	32(24.6%)
	Satisfactory	14(10.8%)

Table 2: Comparison of blood pressure, BMI, biochemical and ultrasound study of study participants (n=130)

Clinical characteristics		Descriptions	N (%)	P-value
Before Pregnancy)	Systolic BP	Hypertensive(≥ 140mmHg)	14(10.8%)	
		Low BP(≤120mmHg)	60(46.2%)	
		Normal (±120 mmHg)	56(43.1%)	
	Diastolic BP	Hypertensive(≥ 90mmHg)	14(10.8%)	
		Low BP(≤70mmHg)	60(46.2%)	
		Normal (±80 mmHg)	56(43.1%)	
During pregnancy	Systolic BP	Hypertensive(≥ 140mmHg)	105(80.8%)	
		Low BP(≤120mmHg)	3(2.3%)	
		Normal (±120 mmHg)	22(16.9%)	0.013
	Diastolic BP	Hypertensive(≥ 90mmHg)	106(81.5%)	
		Low BP(≤70mmHg)	3(2.3%)	
		Normal (±80 mmHg)	21(16.2%)	
After delivery	Systolic BP	Hypertensive(≥ 140mmHg)	52 (40.0%)	
		Low BP(≤120mmHg)	32(24.6%)	
		Normal (±120 mmHg)	46(35.4%)	
	Diastolic BP	Hypertensive(≥ 90mmHg)	54(41.5%)	
		Low BP(≤70mmHg)	32(24.6%)	
		Normal (±80 mmHg)	44(33.8%)	

Table 3: Comparison of BMI, biochemical and ultrasound study of participants (n=130)

Clinical characteristics		Descriptions	N (%)	P value
Before Pregnancy	BMI (Kg/m2) Status	Under weight	10(7.7%)	
		Normal	35(26.9%)	
		Overweight	69(53.1%)	
		Obese	16(12.3%)	
During pregnancy	BMI (Kg/m2) Status	Under weight	00(0.0%)	
		Normal	45(34.6%)	
		Over weight	61(46.9%)	
		Obese	24(18.5%)	
After delivery	BMI (Kg/m2) Status	Under weight	10(7.7%)	0.671
		Normal	40(30.8%)	
		Over weight	63(48.5%)	
		Obese	17(13.1%)	
Before Pregnancy	Proteinuria (mg/dL)	Nil or negative	50(38.5%)	
		Traces	75(57.7%)	
		+	1(0.8%)	
		++	1(0.8%)	
		+++	3(2.3%)	
		++++	00(0.0%)	
During pregnancy	Proteinuria (mg/dL)	Nil or negative	3(2.3%)	
		Traces	7(5.4%)	0.021
		+	30(23.1%)	
		++	21(16.2%)	
		+++	56(43.1%)	
		++++	13(10.0%)	
After deliv...	Proteinuria (mg/dL)	Nil or negative	18(13.8%)	
		Traces	38(29.2%)	

	+	32(24.6%)	
	++	20(15.4%)	
	+++	16(12.3%)	
	++++	06(4.6%)	
Ultra Sound test (Before Pregnancy)	No	130 (100.0%)	
	Yes	00(0.0%)	
Ultra Sound test (During Pregnancy)	No	17 (13.1%)	
	Yes	113(86.9%)	
Ultra Sound test (After Delivery)	No	130 (100.00%)	0.003
	Yes	00(0.00%)	

Table 4: Pattern of pregnancy treatment, complication and outcome (N=130)

Clinical characteristics	Descriptions	N (%)
Medication during pregnancy	Adalat 10mg	11(8.5%)
	Adalat 5mg	01(0.8%)
	Aldomet(Methyldopa 250mg)	87(66.9%)
	Labetalol 100mg	24(18.5%)
	Peracetamol/Ponstan-Forte 500mg	07(5.4%)
Medication on delivery	Inj.Oxytocin	30 (23.1%)
	Nil	92(70.8%)
	Operational medicine	08(6.2%)
Fetal Information/Complications	Little complication	15(11.5%)
	Normal status	96(70.8%)
	Placental abruption	20(15.4%)
	Pulmonary edema	03(2.3%)
Type of delivery	C-section	10(7.7%)
	NVD	118(90.8%)
	Still birth	2(1.5%)
Baby Gender	Female	75(57.7%)
	Male	55(42.3%)

DISCUSSION

This study was carried out among 130 pregnant women attending tertiary care hospital for routine checkup and clinical examination. The aim of the study was to assess the management of hypertensive disorders, a leading cause of women mortality in developing countries.[9] The sample size of the study was kept low, because of difficulty of approaching patients for follow-up examination and lack of interest of commitment of women to maintain the follow up examination on time. The study participants were mainly from rural areas and with low economic status. Other studies carried out to assess the hypertensive disorders among pregnant women also included poor and illiterate women with high frequency.[10, 11] This may be due to selection of public sector hospitals for the study, and poor, low socio-economic women usually approach public sector hospitals due to economy. Present study showed that frequency of hypertensive women were remarkably high with significant difference p=0.013 during pregnancy. Other studies also present that during pregnancy blood pressure usually remain high, and hypertensive related complication are more frequent among women especially in older ages.[12, 13] The frequency of hypertensive women reported high even after delivery during the present study showed the sub optimal level of hypertensive management and treatment. The frequency of obesity among women were also very high in present study which is in consistent with other studies reported high rate of obesity and overweight frequency among reproductive women's.[14, 15] Increased BMI and unhealthy life style are the potential

cause of hypertension[16], which was also observed in present study population.

Many studies described that poor treatment protocol, low antenatal checkup and lack of health care system predispose women to hypertension and further complication[17]. Present study also showed that all pregnant women were not getting standard treatment, even many women prefer induced labor resulting pregnancy related complication. Present study also showed that 7.7% women underwent C section which was quit alarming. Other studies shows even greater rate of C section and maternal outcome.[18] The primary reasons of induced labor and caesarian section are unhealthy life style, obesity and poor nutritional diet.[19]

The interesting finding of the study indicated the greater number of female baby's birth than male, no other study found showing such comparison.

Inspite of many limitations of this study, the finding of the study was quiet appealing. The management of hypertensive disorders among women found sub optimal. There should be an indispensable approach and priority concern to manage the hypertensive disorders among pregnant women and to control pregnancy related fetal outcome.

CONCLUSION

The management of hypertensive disorders among pregnant women of present study found sub optimal. Frequency of hypertensive pregnant women increased in follow up, with increasing frequency of obesity. High rate of caesarean section and fetal outcome also observed. There should be an aggressive approach and priority concern to manage the hypertensive disorders among pregnant women.

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