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PREVALENCE OF HYPERTENSION DISEASE AMONG PREGNANT WOMEN

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ABSTRACT

Background: Hypertension is the most common medical problem encountered in pregnancy and is a leading cause of perinatal and maternal morbidity and mortality**. Aims:** to determine the percentage of hypertension in sample of pregnant women. And associated factors with hypertension. **Methods:** Institutional based cross-sectional study design was conducted among women whose age was greater or equal to eighteen from March to September 2019. The sample size was 112. The questionnaire is adopted and modified from reviewing different literatures and scientific facts. Data were collected by face to face interview technique using structured and pretested questionnaire. Medical records were also reviewed for some clinical and laboratory results, including proteinuria and blood pressure measurement. Data was entered using epi-data manager and exported, cleaned and analyzed using statistical package for social science (SPSS) version 21. **Results:** Higher rate of pregnant women with hypertension in the age groups (20-29) years (45.5%) and the lower rate of them (14.3%) in the age under 20 years old. Rate of pregnant women with abortion (84.8%) had a family history of hypertension. Pregnant women (21.2%) had a intermate education level, housewives. Therefore, (12.1%) of them were smoker and (75.6%) had a history of preferring to use the salt in the food. So, the higher rates of them (88.5%) had a good economic status. **Conclusion:** There are a significant association between smoking, income with the hypertension at the p> value < 0.001. Advice for women with chronic hypertension who wish to conceive and for women who have had a pregnancy complicated by hypertension.

KEYWORD: Pregnant, hypertension, age, rate, family history.

INTRODUCTION

Hypertension is the most common medical problem encountered in pregnancy and is a leading cause of perinatal and maternal morbidity and mortality.[1] Pregnant women with hypertension are more likely to develop placental abruption, disseminated intravascular coagulation DIC, cerebral hemorrhage, hepatic failure and acute renal failure.[2] Hypertension, complicating 5% to% of all pregnancies, is a leading cause of maternal and fetal morbidity, particularly when the elevated blood pressure BP is due to preeclampsia, either alone (pure) or "superimposed " on chronic vascular disease.[3,4]

Preeclampsia is a major cause of preterm birth and an early marker for future cardiovascular and metabolic disease, whereas preterm delivery is associated with immediate neonatal morbidity and has been linked to remote cardiovascular and metabolic disease in the newborns.[4,5] This bleak clinical picture and its large economic burden have been known for decades. Still, even in the current millennium, the hypertensive disorders of pregnancy remain among the most understudied areas and one of the lowest recipients of research funds compared with other diseases in terms of disability adjusted life years.[6] This dearth of research progress is a major factor underscoring decades of controversies that surrounded the classification, diagnosis, and management of the hypertensive disorders of pregnancy. More recently we have witnessed an upsurge of investigative interest and achievements, mainly regarding preeclampsia. In addition, national working groups have presented consensus documents aimed at achieving consistency in diagnosis and management of this disease.[7,8] This study aimed to determine the percentage of hypertension in sample of pregnant women. And associated factors with hypertension.

PATIENTS AND METHODS

Study area

The study was conducted at Fatima Al-Zahra hospital in Baghdad. This hospital is being given different services for clients referred from health centers around it. It also gives service for mothers who suffer from fistula at its fistula center.

Study design, period and population

Institutional based cross-sectional study design was conducted among women whose age was greater or equal to eighteen from March to September 2019.

Selected pregnant women who gave at least one child birth and those who were above 20 weeks of gestation for current pregnancy were included.

Sample size determination

The sample size was determined using single population proportion formula using the following assumptions; the magnitude of preeclampsia, which is 7.4%, confidence interval 95%, the *margin of error* d = 0.05, Za/2 = 1.96 and with 10% non-respondent rate the final sample size was 112.

Sampling procedure and data collection instrument

The questionnaire is adopted and modified from reviewing different literatures and scientific facts. Data were collected by face to face interview technique using structured and pretested questionnaire. Medical records were also reviewed for some clinical and laboratory results, including proteinuria and blood pressure measurement.

Data quality control

A questionnaire was first prepared in English and then translated to national language (Arabic) and was translated back to English by another individual in order to check and maintain its consistency. After necessary modifications and correction was made and ensured its reliability by the pre-test, the actual data were collected by four midwife nurses. To maintain the quality of the data the 3 days of training was given for the data collectors. Questionnaires which were collected were checked for its completeness and consistency of the filled questionnaires daily. Blood pressure was taken under standard operating procedure by two data collectors for each participant, to keep its reliability of measurement and to correctly diagnose preeclampsia. Current multiple pregnancy was also confirmed by both the physical examination and ultrasound evaluation. The medical registration numbers of the participants who were involved in the study were recorded on a separate sheet to avoid repeated recruitment of the study participants who come for the next visit. In addition, the data were thoroughly cleaned and carefully entered into computer for beginning of analysis.

Data processing and analysis

Data was entered using epi-data manager and exported, cleaned and analyzed using statistical package for social science (SPSS) version 21.

Ethical consideration

Approval letter was obtained from MOH. The necessary information regarding to the importance of the study was addressed for each participant. Written consent was taken from each participant and their confidentiality and privacy was maintained.

RESULTS

Table (1): shows the higher rate of pregnant women with hypertension in the age groups (20-29) years (45.5%) and the lower rate of them (14.3%) in the age under 20 years old.

Table (1): Distribution of Studied Sample According To Age Groups.

Age groups	N0.	%
<20	16	14.3
20-29	51	45.5
30-39	23	20.5
40-49	22	19.6
Total	112	100.0

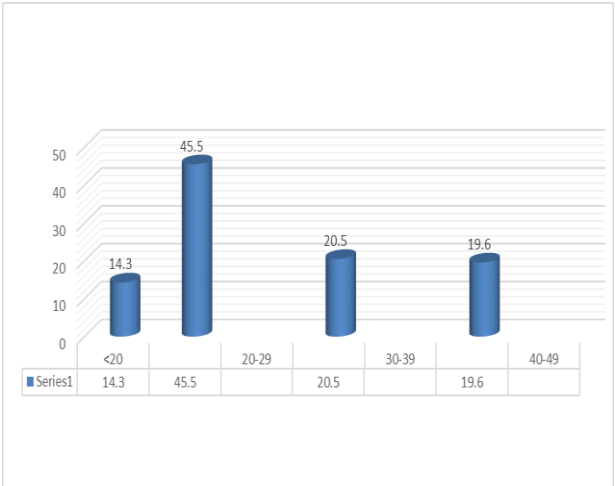

Figure (1): Distribution of studied sample according to age by years.

Table (2):- shows the higher rate of pregnant women with abortion (84.8%) were family history and (15.2%) of them were not. Also in this table shows the higher rate of pregnant women (21.2%) were read & write education and lower rate (12.1%) were illiterate and intermediate education level, regarding the occupation, the higher rate of pregnant (81.8%) were housewives, (6.1%) were student and (12.1%) of them were smoker.

Table 2: Distribution of studied sample according to some variables.

Variables		Abortion						X^2 3.21 P< .073 N.S
		yes		NO		Total		
		N0	%	N0	%	N0	%	
Family History	Yes	28	84.8	75	94.9	103	92.0	
	N0	5	15.2	4	5.1	9	8.0	
	Total	33	100.0	79	100.0	112	100.0	
Education level	Illiterate	4	12.1	2	2.5	6	5.4	X^2 7.55 P< .183 N.S
	Read and Write	7	21.2	13	16.5	20	17.9	
	Primary	6	18.2	9	11.4	15	13.4	
	Intermediate	4	12.1	21	26.6	25	22.3	
	Secondary	6	18.2	16	20.3	22	19.6	
	Institute or college	6	18.2	18	22.8	24	21.4	
	Total	33	100.0	79	100.0	112	100.0	
Occupation	Employer	4	12.1	15	19.0	19	17.0	X^2 1.16 P< .559 N.S
	House wife	27	81.8	57	72.2	84	75.0	
	Student	2	6.1	7	8.9	9	8.0	
	Total	33	100.0	79	100.0	112	100.0	
Smoking	yes	4	12.1	15	19.0	19	17.0	X^2 .779 P< .377 0.000
	N0	29	87.9	64	81.0	93	83.0	
	Total	33	100.0	79	100.0	112	100.0	

Table (3): - shows the higher rates of pregnant women with previous hypertension (75.6%) were prefer salt in the food and (24.4%) were not. Also, income status, the higher rates of them (88.5%) were good economic status and (11.5%) were weak. Regarding the family history, the high rate of cases (94.9 %%) were family history & (5.1%) were not and (78.2%) were drink tea.

Table 3: Distribution of Studied Sample By Some Variables.

Variables		**Previous H.T**						X^2 .615 P< .433 N.S
		yes		**NO**		**Total**		
		N0	**%**	**N0**	**%**	**N0**	**%**	
Salt	yes	59	75.6	28	82.4	87	77.7	
	NO	19	24.4	6	17.6	25	22.3	
	Total	78	100.0	34	100.0	112	100.0	
Income	good	69	88.5	24	70.6	93	83.0	X^2 5.37 P< .002 H.S
	Not good	9	11.5	10	29.4	19	17.0	
	Total	78	100.0	34	100.0	112	100.0	
Family history	yes	74	94.9	29	85.3	103	92.0	X^2 2.9 P< .086 N.S
	N0	4	5.1	5	14.7	9	8.0	
	Total	78	100.0	34	100.0	112	100.0	
Drink tea	yes	61	78.2	27	79.4	88	78.6	X^2 .020 P< .886 N.S
	NO	17	21.8	7	20.6	24	21.4	
	Total	78	100.0	34	100.0	112	100.0	

Table (4):- shows in the albumin examination, the higher rate of cases in >20 week of pregnancy (67.6%) and 32.4% in <20 week. Not significant have been found between hypertension & general urine examination p> (0.421).

Table 4: Distribution of Studied Sample According To Hypertension & General Urine Examination.

H.T	GUE						X^2 .647 P< .421 N.S
	Albumin		No		Total		
	N0	%	N0	%	N0	%	
>20 wk	69	67.6	8	80.0	77	68.7	
<20wk	33	32.4	2	20.0	35	31.3	
Total	102	100.0	10	100.0	112	100.0	

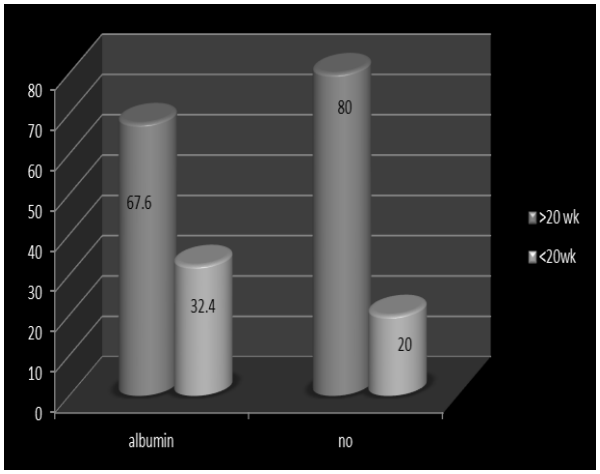

Figure 2: Relationship Between Hypertension and General Urine Examination.

Table (5): - shows in the > 20 week of pregnancy, the higher rate of cases 48.1% in the age groups 20-29 years old and lower rate 13.0% in the age <20 years. Also, in the <20 week of pregnancy, the higher rate (40.0%) in the age 20-29 years old and lower rate 17.1% in the age < 20 years old. Not significant have been found between hypertension & age groups p > (0.823).

Table 5: Distribution of Studied Sample According To Age Groups & Hypertension.

Age groups	H.T						X^2 .908 P< .823 N.S
	>20week		<20week		Total		
	N0	%	N0	%	N0	%	
<20	10	13.0	6	17.1	16	14.3	
20-29	37	48.1	14	40.0	51	45.5	
30-39	16	20.8	7	20.0	23	20.5	
40-49	14	18.2	8	22.9	22	19.6	
Total	77	100.0	35	100.0	112	100.0	

DISCUSSION

Hypertension, complicating 5% to 7% of all pregnancies, is a leading cause of maternal and fetal morbidity, particularly when the elevated blood pressure (BP) is due to preeclampsia.[9] In our study 45.5% of pregnant women with hypertension still in the age 20-29 years, these results were agreeing with the results of this study[10] and not agree with the results.[11] This may be due to differ of habits between the countries. Women employed in the sales force, in business and management, in educational services, in the health care profession, and in legal and social services were at higher risks for developing HDP than women employed in support industries such as food preparation, housekeeping, cosmetic and personal care services. Homemakers not employed outside the home had even lower HDP risks.[12] 81.8% of pregnant women were housewives; these results are agreed with the results of this study.[13] This may be to similar tradition and habits between the countries**.** Low education level was identified as risk factors for hypertensive disorders in pregnancy in this population; moreover, diabetes, chronic hypertension and family history of preeclampsia were found to be independent risk factors.[14] 21.2% of pregnant women were read & write education, these results are agreed with the results of this study.[15] This is due to deterioration of the physical condition, which led to the deterioration of education. Maternal smoking is one of the most important adverse exposures for pregnant women. Maternal smoking during pregnancy is associated with impaired fetal growth from early pregnancy onwards and increased risks of neonatal complications1.[16] (12.1%) of them were smoker, these results are disagreement with the results of this study.[17] This is due to the different pattern of culture and customs between countries.

In this study, (88.5%) of pregnant women were good economic status; these results are agreed with the results of this study.[18,19] Highly significant have been found between the previous hypertension and income p >0.02. This is due to the improved economic situation in the country as a result of evolution, and this leads to an improvement in the standard of living**.** Screening program when women with advanced age, family history of hypertension, the numbers of

natural abortion, weight of pregnancy in the PIH prevention strategy.[20] (94.9%) of pregnant were family history; these results are agreed with the results of this study[21] and not agree with the results of this study.[22] This difference is due to the different culture and the level of awareness about the importance of the disease and its impact on pregnant mothers. Tea consumption during pregnancy, 78.2% of pregnant was drink tea; these results are agreed with the results of this study.[23] This is due to the similarity in beliefs and opinions about tea. In our study 68.7% of pregnant women in the >20 week, 31.3% in the <20 week, these results are agreeing with the results of this study.[24] This is due to the similarity of customs and culture between the two countries**.**

CONCLUSION

We concluded the higher rate of pregnant women with hypertension still in the age groups (20-29) years. Education levels in pregnant women were intermediate. Most of pregnant were housewives. Higher rate of pregnant were good economic status. There are a significant association between smoking, income with the hypertension at the p> value < 0.001. Advice for women with chronic hypertension who wish to conceive and for women who have had a pregnancy complicated by hypertension. More research is needed to determine the long-term health effects of hypertensive disorders in pregnancy and to develop better methods for identifying, diagnosing, and treating women at risk for these conditions.

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