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# Significance of Clinical evaluation in hypertensive pregnant females visiting the obstetric clinic in Albatool teaching hospital in Baquba city, Iraq.

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## Abstract

Hypertensive disorders of pregnancy (HDP) are among the main public health issues worldwide. HDP considered as major causes of morbidity and mortality both in mother and fetus. It is estimated that globally 6-8% of pregnancies are complicated by hypertension regarding population and the diagnostic criteria. Hypertensive disorders account for 10-15% of all maternal death in developing as well as some developed countries, namely18% in United States. Furthermore they are known as the second commonest cause of perinatal mortality in industrialized countries, the aim of the study to investigate the incidence of hypertensive disorders among pregnant females visiting the obstetric clinic in Al-batool teaching hospital in Baquba-Iraq. This is a prospective study carried over 9 months period (August 2013 -June 2014) in Obstetric clinics in Al-batool teaching hospital in baquba. The blood pressure of 400 pregnant females was taken by Richter's mercury sphygmomanometer, the gold standard for measuring blood pressure with a properly sized cuff and the patient in a seated position. Hypertension disorder of pregnancy was identified in case of systolic blood pressure≥140 mm Hg or diastolic blood pres¬sure≥90 mm Hg on two occasions at least six hours apart .The prevalence of hypertension during pregnancy in our study was 5.25%. 57.14% of hypertensive pregnant females were in the age range of 30-39 years. 33.34% of the pregnant females with hypertension were found to have chronic hypertension. 61.9% of the females were multipara and 23.8% were having a family history of hypertension.We conclud, regardless of the significant global improvement in public health, much more attempts are required to efficiently reduce undesirable maternal and fetal outcomes. Early detection, monitoring, and supportive care might be the best ways to help both mothers and babies.

**Keywords:** Hypertension, Pregnancy in Baquba city.

## Introduction

Hypertensive disorders of pregnancy (HDP) are among the main public health issues world-wide.[1] HDP considered as major causes of morbidity and mortality both in mother and fetus.[1-3] It is estimated that globally 6-8% of pregnancies are complicated by hypertension regarding population and the diagnostic criteria.[4-6] Hypertensive disorders account for 10-15% of all maternal death in developing as well as some developed countries, namely18% in United States. Furthermore they are known as the second commonest cause of perina¬tal mortality in industrialized countries.]6-8[ National High Blood Pressure Education Program Working Group on high Blood Pressure in Pregnancy in 2000 defined four groups of hypertension in pregnancy as follows:

**1)** Chronic hypertension (blood pressure ≥140 mm Hg systolic or ≥90 mm Hg diastolic before pregnancy or diagnosed before 20th week of gestation, as well as newly diagnosed hypertension during pregnancy that does not resolve post partum),

**2)** Gestational hypertension(transient hypertension of pregnancy if preeclampsia is not presented at the time of delivery and blood pressure returns to normal by 12-week post partum),

**3)** Preeclampsia-eclampsia (blood pressure ≥140/90 in association with proteinuria ≥ 300 mg in 24 h urine), occurrence of seizures in women with preeclampsia known as eclampsia;

**4)** Preeclampsia superimposed on chronic hypertension marked by detection of proteinuria ≥300 mg in 24 h urine in women with blood pressure 140/90 before pregnancy or diagnosed before 20th week of gestation in absence of proteinuria**.[9]**

Chronic hypertension occurs in up to 22% of women of childbearing age, with the prevalence varying according to age, race, and body mass index (BMI). Studies have shown that chronic hypertension responsible for only 30% of hypertensive disorders during pregnancy and about 70% of cases were diagnosed as gestational hypertension and/or preeclampsia.**[10 ]**

In addition, up to 22% of women with chronic hypertensive and 50% of those with gestational hypertension could eventually progress to preeclampsia**.[11, 12]**

Basically, preeclampsia is a syndrome characterized by vasoconstriction, metabolic changes, endothelial dysfunction, activation of the coagulation cascade, and increased inflammatory response. **[13]**The convoluted features of preeclampsia could cause many potentially life-threatening outcomes including eclampsia with tonic-clonic seizures,**[14 ]**HELLP syndrome characterized by hemolysis, elevated liver enzymes, low platelet count,**[10]**placental ablation, disseminated intravascular coagulation, intracranial hemorrhage, acute hepatic and renal failure,**[3 ]**cardiovascular and cerebrovascular diseases both in mother and baby **[5, 15]**, preterm birth, Intrauterine fetal growth restriction (IUGR) and stillbirth.**[16-18]**

As accurate recognition of hypertensive disorders during pregnancy could result in efficient control of possible serious complications, we designed this study to assess the prevalence and outcomes of hypertension in pregnancy.

## Aim of the study:

To investigate the incidence and clinical evaluation of hypertensive disorders among pregnant females visiting the obstetric clinic in Al-batool teaching hospital in baquba city.

## Patients and Methods

This is a prospective study carried over 9 months period (August 2013 -June 2014) in Obstetric clinics in Al-batool teaching hospital in baquba. The blood pressure of 400 pregnant females was examined.

Blood pressure was taken by Richter's mercury sphygmomanometer, the gold standard for measuring blood pressurewith a properly sized cuff and the patient in a seated position. Hypertension disorder of pregnancy was identified in case of systolic blood pressure≥140 mm Hg or diastolic blood pressure≥90 mm Hg on two occasions at least six hours apart.

Those pregnant females who appeared to be hypertensive were asked about and examined for the presence of potential risk factors which include: HDP(Hypertensive Disorders in Pregnancy) in previous pregnancies, obesity, Pre-existing diabetes, Renal disease or chronic hypertension, maternal age >40 years, family history of hypertension, multiparous pregnancy, and nulliparity. The forma used for achieving the study was (with example):

| Variables and risk factors | |
|---|---|
| Blood pressure | Elevated |
| Age | 34 year |
| Gestational age | 25 weeks |
| Gravida | 5 |
| Parity | 4 |
| Presence of HDP in previous pregnancies | No |
| Presence of chronic hypertension | No |
| Pre-existing diabetes | No |
| Presence of renal diseases | No |
| Family history of hypertension | Yes |

Then, after collecting the data, the prevalence of hypertension (out of 400) was calculated and then the prevalence of hypertension in each of the three age ranges was also calculated.

**The age range was designed as follow:**

<20; 21-30; >31.

In those who appeared to be hypertensive, the prevalence each of the risk factors (multiparity, HDP in previous pregnancies, obesity, pre-existing diabetes, renal disease or chronic hypertension and family history), was also calculated.

## Results

The blood pressure of 400 pregnant females was measured for detecting the prevalence of hypertension during pregnancy.

It appeared that 5.25% (21 out of 400 pregnant females) were hypertensive.

According to the age range:
<20years there is 2 patients (9.53%); and from 21 to 30 years there is 7 patients (33.33%); and older than 31 years there is 12 patients (57.14%).

According to the risk factors:

- the multiparous women are 16 (61.9%);
- the nulliparous are 5 (38.1%);
- the pregnant women who have hypertension during previous pregnancies are 11 (52.38%);
- with the presence of chronic hypertension we find 7 women (33.34%);
- there is patients with pre existing diabetes mellitus account 2 women (9.52%);
- we do not find any case of chronic renal disease;
- there were 5 women with a family history of hypertension.

**Table 1: Number of hypertensive pregnant women from the total number of cases.**

| State of hypertension | no. of cases | Percentage |
|---|---|---|
| Hypertensive | 21 | 5.25% |
| Not hypertensive | 379 | 94.75% |
| Total number of pregnant women | 400 | 100% |

P value is less than 0.0001By conventional criteria the difference is considered to be extremely statistically significant

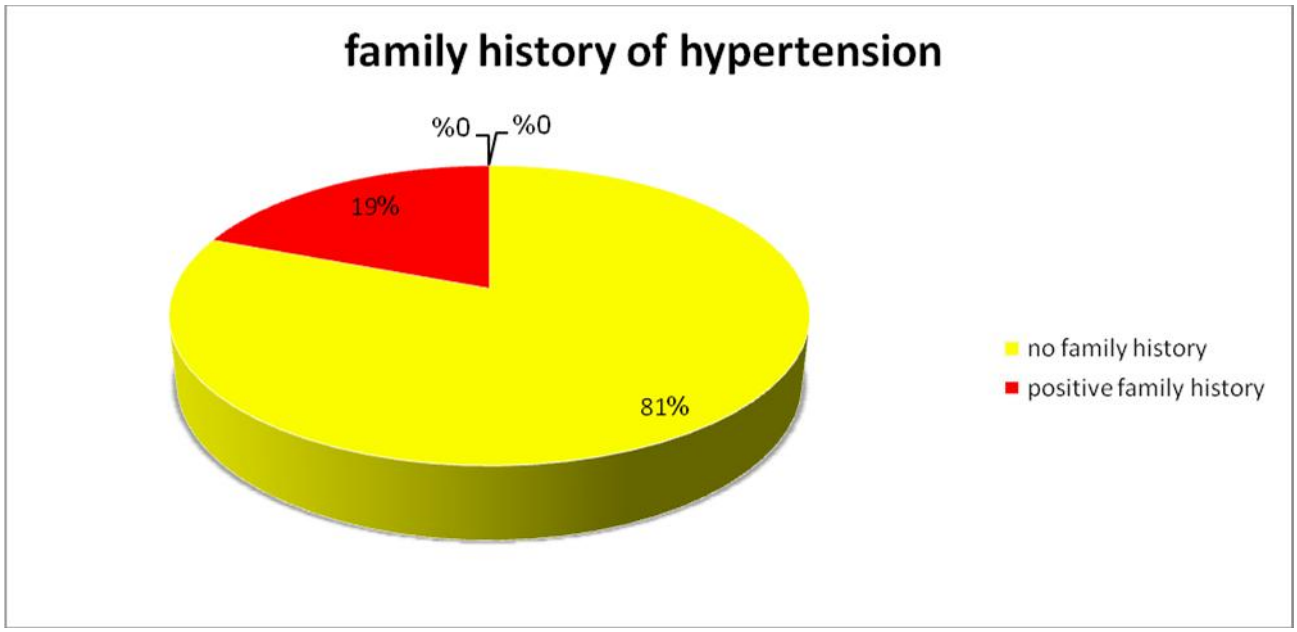
**Table 2:Distribution of the hypertensive pregnant females according to the age range**

| Age range | Number | Percentage |
|---|---|---|
| <20 | 2 | 9.53% |
| 21-30 | 7 | 33.33% |
| >31 | 12 | 57.14% |
| Total | 21 | 100% |

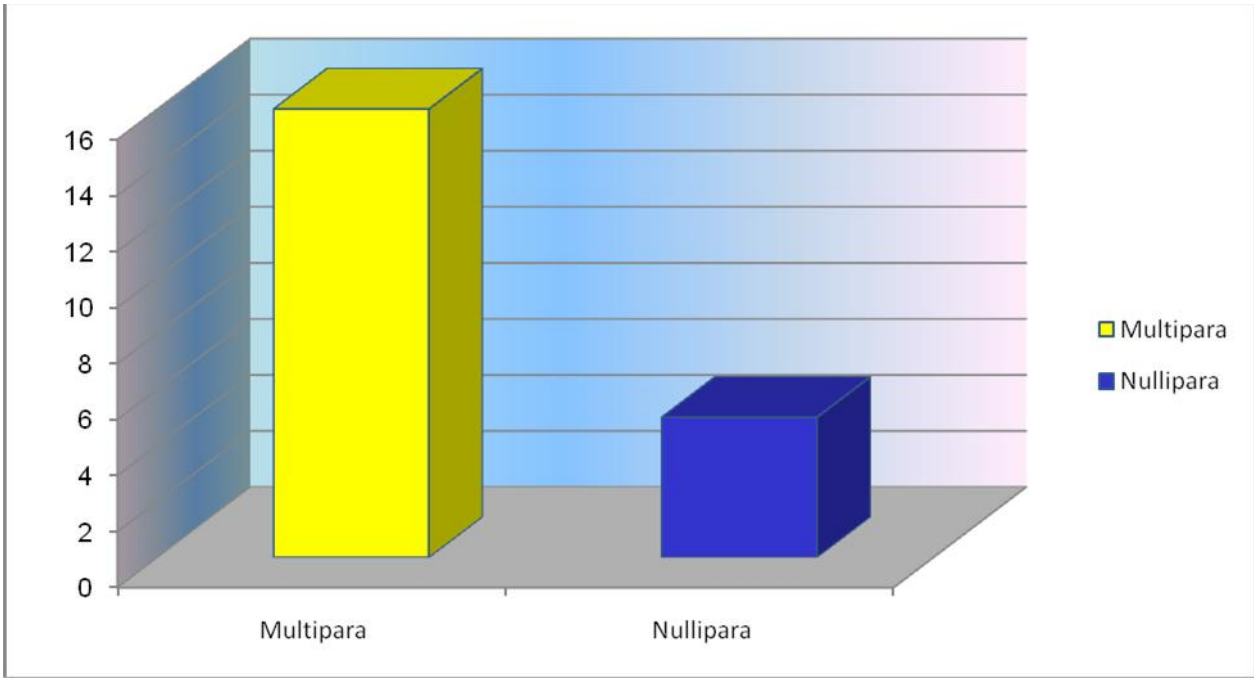
P value is 0.139 By conventional criteria the difference is statistically not significant

**Table 3:The distribution of hypertensive pregnant patients according to their obstetric history and the presence of risk factors is as follow**

| Variables and risk factors | No. of patients | Percentage |
|---|---|---|
| Multipara | 16 | 61.9% |
| Nullipara | 5 | 38.1% |
| Presence of HDP in previous pregnancies including pre-eclampsia | 11 | 52.38% |
| Presence of chronic hypertension | 7 | 33.34% |
| Pre-existing diabetes | 2 | 9.52% |
| Presence of renal diseases | nil | 0% |
| Family history of hypertension | 5 | 23.8% |




**Graph 1: Distribution of hypertensive patients according to presence of positive family history of hypertension.**
P value is less than 0.0001 by conventional criteria the difference is considered to be extremely statistically significant




**Graph 2: Hypertensive pregnant women in relation to the number of gestations.**
P value is less than 0.0001 by conventional criteria the difference is considered to be extremely statistically significant

## Discussion:

The prevalence of hypertension during pregnancy in our study was **5.25%.**this is extremely statistically significant which is comparable with 5-7% of the worldwide estimations as well previous reports of 3.8% by Ventura et al. in United States and 4.9% by Zareian in Iran [**6,9.]**

**57.14%** of hypertensive pregnant females were in the age range of > 31 years. These results are in concordance with those of Yucesoy G, Ozkan S, Bodur H, Tan T, Calıskan E, Vural B, et al. and those of Barton JR, Bergauer NK, Jacques DI, Coleman SK, Stanziano GJ, Sibai BM .They all showed that about 52-58% of hypertensive pregnant females were aged more than 30 years.**[10, 19]**

**33.34%** of the pregnant females with hypertension were found to have chronic hypertension. This was similar to those obtained by Gaio DS, Schmidt MI, Duncan BB, Nucci LB, Matos MC, Branchtein L. and those of Sibai BM, Lindheimer M, Hauth J, Caritis S, VanDorsten P, Klebanoff M, et al. They all showed that about 30% of pregnant females with hypertension were having chronic hypertension. **[20, 21]**

**61.9%** of the females were multipara and **23.8%** were having a family history of hypertension. The multiple pregnancies and family history of hypertension as a risk factors for the development of pregnancy associated hypertension are proved by multiple studies as those of Jacobs DJ, Vreeburg SA, Dekker GA, Heard AR, Priest KR, A. and those of Crane J, Delaney T.**[22, 23]**

## Conclusion

In conclusion, regardless of the significant global improvement in public health, much more attempts are required to efficiently reduce undesirable maternal and fetal outcomes. Early detection, monitoring, and supportive care might be the best ways to help both mothers and babies.

## References


**1.** Jim B, Sharma S, Kebede T, Acharya A. Hypertension in pregnancy: a comprehensive update. *Cardiol Rev* 2010; 18:178-89.

**2.** Tomić V, Petrović O, Petrov B, Bjelanović V, Naletilić M. Hypertensive disorders in pregnancy: a 5-year analysis of the wartime and postwar period in South-Western region of Bosnia and Herzegovina. *Coll Antropol* 2009; 33:115-9.

**3.** Roberts CL, Algert CS, Morris JM, Ford JB, Henderson-Smart DJ. Hypertensive disorders in pregnancy: a population-based study. *Med J Aust*2005; 182:332-35.

**4.** Tavassoli F, Ghasemi M, Ghomian N, Ghorbani A, Tavassoli S. Maternal and perinatal outcome in nulliparious women complicated with pregnancy hypertension. *JPMA* 2010; 60:707.

**5.** Craici L, Wagner S, Garovic VD. Preeclampsia and future cardiovascular risk: formal risk factor or failed stress test? *Ther Adv Cardiovasc Dis* 2008; 2:249-59.

**6.** Zareian Z. Hypertensive disorders of pregnancy. *Int J Gynaecol Obstet*2004;87:194-8.

**7.** Rath W, Fischer T. The Diagnosis and Treatment of Hypertensive Disorders of Pregnancy New Findings for Antenatal and Inpatient Care. *DtschArzteblInt*2009; 106:733-8.

**8.** Khan KS, Wojdyla D, Say L, Gülmezoglu AM, Van Look PF. WHO analysis of causes of maternal death: a systematic review. *Lancet* 2006; 367:1066-74.

**9.** Report of the National High Blood Pressure Education Program Working Group on High Blood Pressure in Pregnancy. *Am J Obstet Gynecol*2000; 183:S1-22.

**10.** Yucesoy G, Ozkan S, Bodur H, Tan T, Calıskan E, Vural B, et al. Maternal and perinatal outcome in pregnancies complicated with hypertensive disorder of pregnancy: a seven year experience of a tertiary care center .*Arch Gynecol Obstet*2005; 273:43-9.

**11.** Chandiramani M, Shennan A. Hypertensive disorders of pregnancy: a UK-based perspective. *Curr Opin Obstet Gynecol*.2008; 20:96-101.

**12.** Chappal LC, Enye St, Seed P, Briley AL, Poston L, Shennan AH. Adverse perinatal outcomes and risk factors for preeclampsia in women with chronic hypertension: a prospective study. *Hypertension.* 2008; 51:1002-9.

**13.** Roberts JM, Gammill HS. Preeclampsia Recent Insights. *Hypertension* 2005; 46: 1243-9.

**14.** Karumanchi SA, Lindheimer MD. Advances in Understanding of eclampsia. *Current Hypertension Reports* 2008; 10:305-12.

**15.** Ray JG, Vermeulen MJ, Schull MJ, Redelmeier DA. Cardiovascular health after maternal placental syndromes (CHAMPS): population-based retrospective cohort study. *Lancet* 2005; 366:1797-1803.

**16.** McClure EM, Saleem S, Pasha O, Goldenberg RL. Stillbirth in developing countries: a review of causes, risk factors and prevention strategies. *J Matern Fetal Neonatal Med* 2009; 22:183-90.

**17.** Aali BS, Ghafoorian J, Mohamad-Alizadeh S. Severe preeclampsia and eclampsia in Kerman, Iran: complications and outcomes. *Med SciMonit*2004;10: CR163-7.

**18.** Beck S, Wojdyla D, Say L, Betran AP, Merialdi M, Requejo JH, et al. The worldwide incidence of preterm birth: a systematic review of maternal

mortality and morbidity. *World Health Organ* 2010; 88:31-8.

**19.** Barton JR, Bergauer NK, Jacques DI, Coleman SK, Stanziano GJ, Sibai BM. Does advanced maternal age affect pregnancy outcome in women with mild hypertension remote from term? *Am J ObstetGynecol* 1997; **176**:1236-40. [9215179]

**20.**Gaio DS, Schmidt MI, Duncan BB, Nucci LB, Matos MC, Branchtein L. Hypertensive disorders in pregnancy: frequency and associate factors in a cohort of Brazilian women. *Hypertens Pregnancy* 2001; **20**:269-81.

**21.**Sibai BM, Lindheimer M, Hauth J, Caritis S, VanDorsten P, Klebanoff M, et al. Risk factors for preeclampsia, abruptio placentae, and adverse neonatal outcomes among women with chronic hypertension. National Institute of Child Health and Human Development Network of Maternal-Fetal Medicine Units. *N Engl J Med* 1998; **339**:667-71.

**22.** Jacobs DJ, Vreeburg SA, Dekker GA, Heard AR, Priest KR, A. Risk factors for hypertension during pregnancy in South Australia. *Aust N Z J ObstetGynaecol*2003; **43:421**-8.

**23.** Crane J, Delaney T. Diagnosis, evaluation, and management of the hypertensive disorders of pregnancy. *J Obstet Gynaecol Can* 2008; **30:561**.

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