Knowledge Towards Pregnancy Induced Hypertension among Pregnant Women Attending Gynecology and Obstetrics Teaching Hospital in Karbala

A Thesis

Submitted to the Council of College of Medicine – University of Kerbala as Partial Fulfillment for the degree of Higher Diploma in Family Medicine

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بسمِ اللهِ الرحمنِ الرحيم

((قَالُواْ سبحَانك لا علم لنا الا ما عَلمتَنَا إنَكَ أنتَ العَلِيمُ الحَكِيمُ))
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سُورةُ البقرة
الآية 32

Certification of supervisor

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Dedication

To…

My father…

My mother…

My brothers …

My sisters ….

Thanks for your support

Acknowledgment

First of all ,I thank Allah for granting me the will and strength with which this research was accomplished

I would like to express great thanks to my supervisors Dr. Shahrazad S.AL Jobori and Dr.Wasan Ghazi AL Safi for their great helpfulness.

I am so grateful for everyone who supported me to complete the study.

List of Contents

List of Tables

Lists of Figures

List of Abbreviations

Abbreviations	Meaning
ANC	Ante Natal Care
BP	Blood Pressure
HELLP	Hemolysis, Elevated Liver Enzyme and Low Platelets
HT	Hypertension
MG	Milligram
ML	Microliter
MMHG	Millimeter of Mercury
PIH	Pregnancy Induced Hypertension
NICE	The National Institute for Health and Care Excellence
SD	Standard Deviation
SPSS	Statistical Package of The Social Sciences
WHO	World Health Organization

Abstract

Background: Pregnancy induced hypertension is a pattern of high blood pressure during pregnancy. It is one of the major causes of maternal mortality and neonatal morbidity in the world. It can be prevented by health education for early detection and proper management of the disease and its complications.

Objectives: To determine the level of knowledge of the pregnant women towards pregnancy induced hypertension.

Subjects and Methods: A cross sectional study, was conducted among pregnant women in outpatient clinics, wards of gynecology and obstetrics teaching hospital, in Karbala, Iraq within a period from 1st of March to the 1st of June 2018.A convenient sample of 295 pregnant women, data collection was done through direct interview, using a special questionnaire for the purpose of the study. Student T-test and Analysis of Variance test were used to identify factors associated with the pregnant knowledge.

Results: In this study, 81.7% of the pregnant women had heard about Pregnancy induced hypertension. Their source of information was from relatives and friends, then health care providers .About half of the participants had a weak knowledge score (46.9%). The knowledge score is significantly associated with the age of the participants, type of family, past medical history of pregnancy induced hypertension, past medical history of gestational diabetes, practicing sport and regular antenatal care visits.

Conclusions: Generally, the findings of the study showed that the knowledge about pregnancy induced hypertension was poor among the pregnant participants. That indicate the need to increase public awareness and knowledge about the disease.

Chapter One

Introduction

1.1 *Epidemiology of Pregnancy Induced Hypertension* **(PIH)**

Pregnancy induced hypertension (PIH) also refereed as (preeclampsia), is a pattern of high blood pressure during pregnancy(1). It is one of the major causes of maternal mortality and perinatal morbidity in the world(2).Generally, it responsible for 76000 and 500000 of maternal and infant deaths respectively each year(3). Eighteen percent of maternal deaths had been attributed to PIH, and it forms the second most common cause of maternal deaths after hemorrhage (4). The increasing prevalence of PIH relates to the increased trends of obesity and childbearing in advanced age(5).

Preeclampsia develops in 8% of all pregnancies(6).Globally, it contributes to fifteen percent of preterm deliveries, and 9% to 26% of maternal deaths (7). Women living in low and middle income countries are seven times more liable to develop preeclampsia than women in high income countries(8).Preeclampsia attributes to 16% of maternal deaths in developing countries, 25% of maternal deaths in Latin America, 10% of deaths in Asia and Africa(3). In Iraq ,according to annual statistical report produced by the Ministry of Health 2016, maternal hypertension forms 12.4% of maternal deaths and is ranked the third direct cause of maternal mortality after postpartum hemorrhage and pulmonary embolism(9).

1.2 *Classification of Hypertension during Pregnancy:*

Hypertension during pregnancy is classified into four groups, as approved by the National High Blood Pressure Education Program (NHBPEP): gestational hypertension , Preeclampsia-Eclampsia, Chronic hypertension and Preeclampsia superimposed on chronic hypertension (10).

1.2.1 Gestational Hypertension: Hypertension that occurs in the second half of pregnancy in a previous normotensive woman without considerable proteinuria or other manifestations of preeclampsia (11).

1.2.2 Preeclampsia / Eclampsia: Initiation of hypertension with proteinuria or hypertension and target organ damage with or without proteinuria after 20th week of gestation in normotensive woman. Preeclampsia with seizures is referred to eclampsia (12).

1.2.3 Chronic Hypertension: Hypertension that exists before pregnancy or before the 20th week of gestation ,it is found that(20%-30%)of women with chronic hypertension will get superimposed preeclampsia(13).

1.2.4 Preeclampsia superimposed on chronic hypertension: A new onset of proteinuria in a women with chronic hypertension after the 20th week of gestation(14).

Table 1.1 Classification of PIH According to Severity by The National Institute for Health and Care Excellence(15).

Severity	Reading
Mild	(140/90–149/99) mmHg
Moderate	(150/100–159/109) mmHg
Sever	(≥160/110) mmHg

1.3 *Pathophysiology*

Although the pathophysiology of the disease is not well recognized, genetic, immunologic elements and abnormal placentation may be contributed to the development of preeclampsia (16).

In normal pregnancy, cytotrophoblasts of fetal origin invade the maternal spiral arteries and replace endothelial cell layer. This converts the spiral arteries from narrow highly resistant vessels to high-caliber capacitance vessels, which are capable of providing sufficient blood and nutrition supply to the fetus (17). In preeclampsia, reduced uteroplacental perfusion as a result of abnormal cytotrophoblast invasion of spiral arterioles leaving them narrow and highly resistant. These factors may result in endothelial damage clinically manifested by a systemic maternal syndrome (18).

1.4 *Risk factors of PIH*

Predisposing factors for preeclampsia include: advanced maternal age, increased body mass index, primigravida, multifetal pregnancy, chronic hypertension, and diabetes mellitus. The occurrence of preeclampsia happens occasionally more with twin pregnancy than with single ones (the incidence is 6-31%) (17).

Hydatidiform Mole is a risk factor for developing very early onset preeclampsia and 41.9% of partial hydatidiform molar pregnancies will develop the symptoms of preeclampsia later if left untreated (19).

1.5 *Diagnosis of PIH*

Blood pressure ≥ 140/90 mmHg , on two occasions, at least two - four hours apart and the presence of one or more plus proteinuria on dipstick testing in clean catch urine specimen taken at least four hours apart and persisting throughout gestation , or Protein excretion more than 300 mg in a 24 hour specimen of urine (20) .The other features include nausea ,vomiting ,epigastria or right hypochondrial pain, edema, severe headache, visual disturbances and oliguria.

Some women have no symptoms or they do not feel right, therefore it is important not to skip a regular antenatal date, if a person has a sense that something is wrong with their pregnancy (21) .

Table1.2: Laboratory Evaluation of PIH (22)

Investigations	Remark
Hemoglobin and Hemoconcentration	Hemoconcentration supports diagnosis of preeclampsia and is an indicator of severity. Values may be decreased, however, if hemolysis accompanies the disease.
Platelet count	Thrombocytopenia 100 suggests severe preeclampsia
Quantification protein excretion	Pregnancy hypertension with proteinuria should be considered preeclampsia pure or superimposed until proved otherwise
Serum creatinine	Abnormal or rising levels, especially when associated with oliguria suggest severe preeclampsia
Serum uric acid	Increased levels suggest the diagnosis of preeclampsia
Serum transaminase	Rising values suggest severe preeclampsia with hepatic involvement.
Serum albumin lactic acid LDH blood smear and coagulation profile	In women with severe disease ,these values indicate extent of endothelial leak albumin presence of hemolysis LDH increase schistcytosis , spherocytosis possible coagulopathy

A baseline ultrasonography should be performed at 25 to 28 weeks of pregnancy to assess fetal growth in women at risk of preeclampsia (23).

1.6 *Complications of PIH*

Maternal and fetal complications from PIH include ischemic heart disease, stroke , liver and kidney injury, abruptio placentae, disseminated intravascular coagulation (DIC) and HELLP syndrome (hemolysis, elevated liver enzyme levels and low platelet levels). Fetal complications include growth retardation, fetal distress, preterm delivery, stillbirth and neonatal asphyxia (24). Regarding long term sequelae in those who had a history of preeclampsia include: hypertension, cardiovascular and cerebrovascular diseases (25).

Afterward the risk of developing diabetes mellitus in women with PIH is two folds more than those without it (26). Studies showed that women with preeclampsia and HELLP syndrome are at risk for developing psychological problems in the perinatal periods like postpartum depression, anxiety and post traumatic stress disorder (PTSD) (21). Nearly 40 % of eclamptic fit exists before labor ,while about 16% occur after 48 hours of delivery (23).

1.7 *Prevention and treatment of PIH:*

Although, the causes of PIH are unknown, it is not easy to develop an approach for primary prevention. Therefore, secondary prevention has an important role through health education and early detection of the risk factors of PIH. Evidence showed that secondary prevention of preeclampsia in women with low calcium intake, and those at a great risk of developing severe disease can be maintained by the intake of calcium and aspirin respectively through the pregnancy. Regular antenatal care visits and timed labor can play a crucial role in the prevention of any complications (27).

A meta-analysis that evaluated the effect of initiating aspirin before 16 weeks of pregnancy, showed a decrease in the risk of preeclampsia up to 52% compared with the control group. Anyhow, there is no difference when starting aspirin after 16 weeks of pregnancy(28). Calcium supplementation throughout pregnancy as compared with placebo, appears to decrease the risk of preeclampsia to the half and reduces the risk of preterm delivery (29).

Increase in the consumption of high fiber diet , reduces the levels of triglycerides, which in turn reduces the risk of preeclampsia, Also the combination of weight reduction and good glycemic control may have linked to the reduction of preeclampsia (30). The intake of dietary folate and folic acid supplements throughout pregnancy are contributed to the reduction of preeclampsia (31). Magnesium sulfate is the drug of choice for both prevention and treatment of eclampsia (32). The incidence of eclampsia in the United Kingdom has been reduced (about half) as a results of a wide uptake of magnesium sulfate. Also it reduced the risk of abruptio placentae (more than half) when compared with placebo (33).

1.9 The Objectives of the Treatment are:

1- Maintenance of BP of the pregnant woman within normal average by using anti-hypertensive drugs.

2- Prevention of complications, such as eclampsia.

The definitive treatment of preeclampsia is maintained by delivering baby and placenta but this choice is not accessible for most women who are diagnosed before the 37th week (34) . The monitoring of the occurrence of complications must be continued for three months after labor ,as preeclampsia might be occur after labor or be presented for the first time after delivery (21).

The first choice antihypertensive oral drugs that is recommended are: methyldopa, hydralazine, labetalol, and long acting nifedipine(only after 20 weeks of pregnancy).While using intravenous drugs in emergent cases (35).

Table 1.3. The Target Readings of BP in Pregnant Women According to Special Settings (12).

Settings	Target blood pressure
Hypertension without target organ damage	140 -150 / 90-100 mmHg
Complicated or secondary HT	<140/90 mmHg
Preeclampsia- ≥150/100	must be treated with BP target (130-150/80-100)

1.10 _Knowledge about PIH_

Knowledge has an important role in the prevention and control of diseases. Knowledge means what people understand of any given subject(36), it has been suggested that 50% of the complications can be prevented by proper patient education and counseling .This accentuate the need for women with PIH to understand and realize the alarming features associated with PIH and request the appropriate care (37)

Health education through the antenatal care centers can play a crucial role by identifying women at an increased risk of preeclampsia, Thus early detection and proper management of the disease can be maintained (38).

World Health Organization (WHO) developed new guidelines to increase the number of contacts of pregnant women with health care

providers during her gestation from 4 to 8. The guideline uses the term 'contact' as it implies an active connection between a pregnant woman and a health care provider that is not implicit with the word 'visit' to improves communication between health providers and pregnant women, detect complications and increases the likelihood of positive pregnancy outcomes (39).

Research studies have shown that preeclampsia is often present due to poor knowledge, deficient information at proper time to ask for help and often where to ask help (40).

Objectives of the Study

1- To determine the level of knowledge towards PIH among pregnant women.
2- To study the factors affecting the levels of knowledge about PIH according to selected variables.

Chapter Two

Subjects &

Method

2.1 Study Design: A cross sectional study.

2.2 Study Setting: The study was conducted in outpatient clinic and in patient wards of gynecology and obstetrics Teaching Hospital in Karbala, Iraq. Within a period from 1st of March to the 1st of June 2018.

The data collections took about three hours a day, three days a week (Saturday, Tuesday, and Thursday).

2.3 Sampling Method: convenient sampling of 295 pregnant women through direct interview who attended gynecology and obstetrics teaching hospital in Karbala for any cause.

2.4 Pilot Study : A pilot study has been conducted in gynecology and obstetrics teaching hospital in Karbala , It was done over a period of two weeks on 16 pregnant participants to assess the feasibility of the questionnaire and to overcome any difficulties or related issues that may arise during data collection. Pilot sample was excluded from the study sample.

2.5 Ethical Issue

1. Approval of scientific committee of Kerbala university/College of Medicine.

2. Approval of Karbala Health Directorate and Karbala Teaching Hospital of gynecology and obstetrics.

3. Verbal consent was obtained from each participant; the questionnaire was conducted to each patient in a private environment to ensure their privacy.

2.6 Questionnaire Form: A predesigned questionnaire was used to collect the data, the characteristics known to be important from other

studies and from personal experiences were used in the model. The data collection was done through direct interview with the pregnant participants. The aim and content of the study were explained to the participants and they were asked to answer the questionnaire.

The first part of questionnaire included socio-demographic information for the pregnant participants that included:

-Age, Marital status, educational status, employment status, residence,

-Economic level and type of family: extended and nuclear (Nuclear family refers to parents and their children, whereas the extended family refers to their relatives, as well – such as grandparents, aunts, uncles and cousins(41).

The second part includes information about gynecological and medical history of the participants that include:

-Gestational age: Calculated by the date of last menstrual period or ultrasound report if present.

-Parity: primigravida, multigravida.

-Medical and family history of gestational hypertension.

-Medical history of gestational diabetes.

-Practicing sport and its type.

-History of folic acid intake in first three months of pregnancy.

-History of regular antenatal care visits.

The third part of the questionnaire contained questions that measured the level of knowledge of the pregnant women concerning PIH. The questions were close ended questions in the form of yes, no and don't

know options. The total time required to complete questionnaire was about 15 minutes. The questions were directed on signs and symptoms, risk factors, complications and the preventive measures of PIH.

2.7 <u>Statistical Analysis</u>: Data was analyzed using statistical package for the social sciences (SPSS version 23) computer software program.

Descriptive statistics were presented as frequency tables, Continuous variables were expressed as mean ± standard deviation and categorical variables as numbers and percentages. Student –t test and F test used to find the association between categorical variables and continuous variables. The mean differences was considered to be statistically significant when the P-value was found to be less than 0.05.

2.8 <u>Scoring system of participants' knowledge:</u>

The knowledge of the pregnant participants about PIH includes ten questions, from question 3-12 all ten questions included in the knowledge score were weighted equally. Each question was worth one (1) point .the main questions 3,4,5,11,12 and main question with subdivisions 6,7,8,9,10 The answer of question was as the following: I don't know=0 score, No answer=0 score and Yes answer=1 scores.
The total score of pregnant knowledge were 34 scores.

For a maximum score of 34 points (100%), and the total knowledge score was calculated as:

$$\frac{\text{subject's knowledge score}}{\text{maximum knowledge score}(34)} \times 100\%$$

<u>Levels of knowledge were Classify into 3 groups</u>:

Poor knowledge: 0 - 49%

Fair knowledge: 50 - 69%

Good knowledge: 70 - 100%.

2.9 <u>Limitations of the Study</u>

- Random sampling was not applied.

- Since the study was cross sectional, the temporal relationship cannot be firmly established.

- Time limitation.

- Small sample size.

Chapter Three

Result

A total of 295 pregnant women were enrolled this study. The mean age was 25.3 ±5.9 . Other socio-demographic factors are shown in table 3.

Table 3.1 Distribution of Pregnant Women according to Some Socio-Demographic Variables.

Variable		Frequency	Percent
Age	<20 years	35	11.9%
	20-30 years	191	64.7%
	30-40 years	62	21%
	>40 years	7	2.4%
	Mean (±SD) = 25.3(±5.9).Maximum=40 years. Minimum =14 years.		
Marital status	Married	293	99.3%
	Separated	2	0.7%
Educational level	Illiterate	37	12.5%
	Read and write	21	7.1%
	Primary school	87	29.5%
	Secondary school	82	27.8%
	University	68	23.1%
Occupation	Housewife	241	81.7%
	Student	20	6.8%
	Employee	34	11.5%
Residence	Rural	59	20%
	Urban	236	80%
Economic level	Weak	117	39.7%
	Fair	144	48.8%
	Good	34	11.5%
Type of family	Extended	145	49.2%
	Nuclear	150	50.8%
Total	295		

The mean week of gestation was 26.1±8.7 weeks. Ninety two (31.2%) pregnant participants were primigravida and 203 (68.8%) pregnant participants were multigravida, other variables as shown in table 4.

Table 3.2 Distribution of Some Obstetric, Gynecological, Past Medical and Family History among Pregnant Participants.

Variable		Frequency	Percent
Weeks of Gestation	<13 weeks	28	9.5%
	13-27 weeks	130	44.1%
	>27 weeks	137	46.4%
Parity	Primigravida	92	31.2%
	Multigravida	203	68.8%
Past medical History of PIH	Positive	31	10.5%
	Negative	264	89.5%
Past medical History of Chronic Hypertension	Positive	6	2%
	Negative	289	98%
Past medical History of Gestational Diabetes	Positive	10	3.4%
	Negative	285	96.7%
Family History of Gestational Hypertension	Positive	42	14.2%
	Negative	236	80%
	Don't Know	17	5.8%
History of Practicing Sport	Yes	34	11.5%
	No	261	88.5%
History of Folic Acid Intake	Yes	241	81.7%
	No	54	18.3%
Regular Ante Natal Care	No	253	85.8%
	Yes	42	14.2%

The pregnant participants who are practicing sport were 34. They were practicing regular walking 32(94.2%), mainly in the third trimester, while 2(5.8%) were practicing sport at home, only in third trimester and no one was practicing sport at a gym.
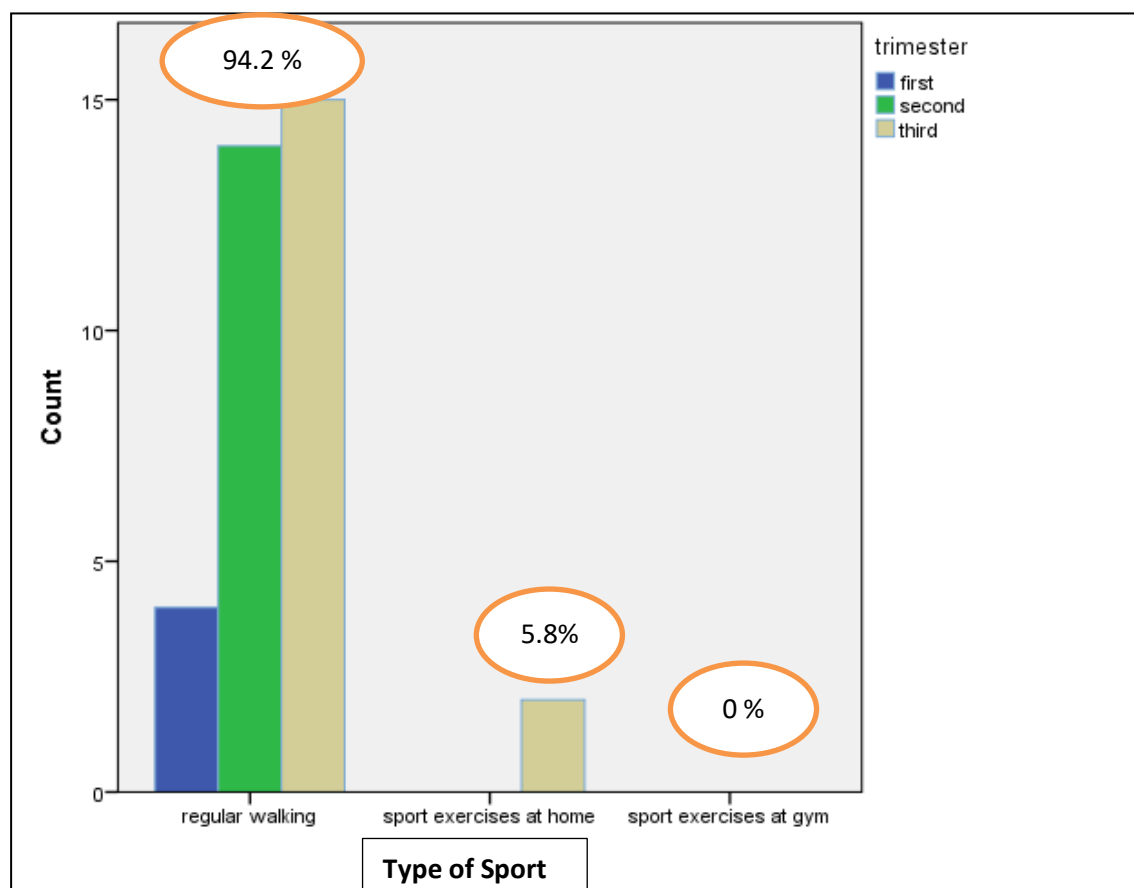

Fig 3.1 Distribution of physical activity according to Trimester of Pregnancy.

The number of the pregnant participants that have not heard about PIH were 54 participants, while the pregnant participants that heard or knew about PIH a total of (241). About 153 (63.5%) participants knew about PIH from their relatives and friends, while 61(25.3%) participants know about PIH from medical staff and only 22 (9.1%) participants knew about PIH from media and 5(2.1%) participants know about PIH from school/university.

Table 3.3: Sources of Knowledge about PIH

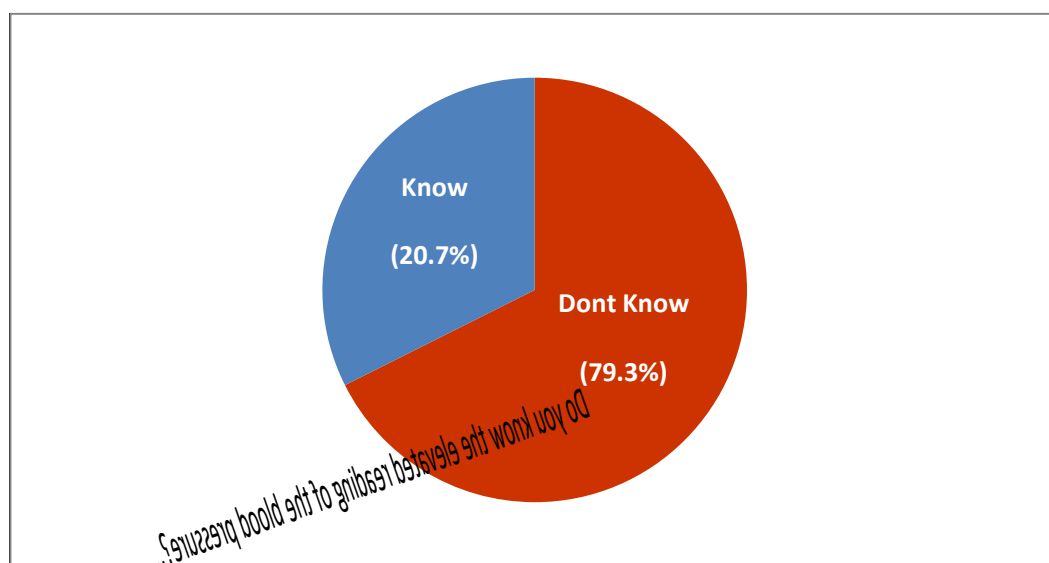| Sources of Knowledge	Frequency	Percent
School/University	5	2.1%
Media	22	9.1%
Health Care Providers	61	25.3%
Relatives /Friends	153	63.5%
Total	241	

Fig 3.2 Knowledge about the Elevated Reading of BP. (N= 241)
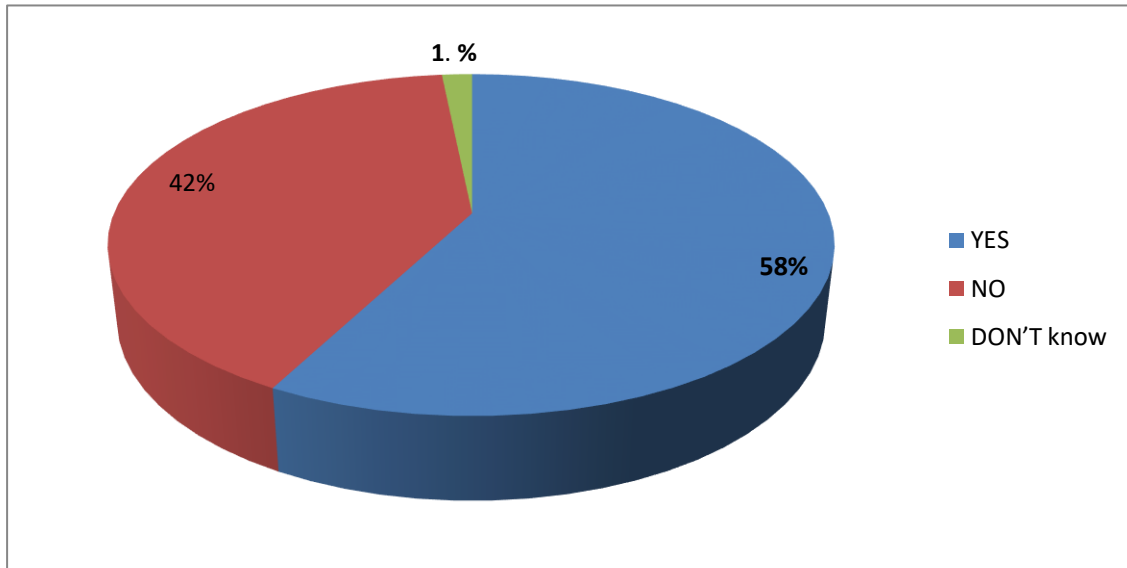
Fig 3.3: Knowledge about the Genetic Cause of PIH. (N=241)
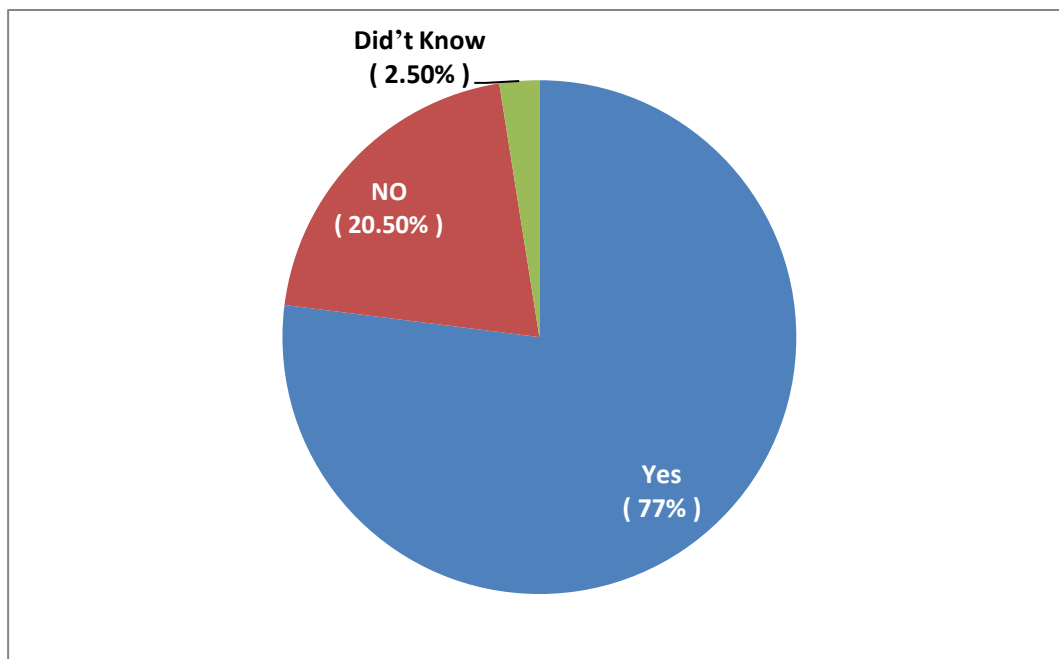
Fig 3.4: Knowledge about the time Occurrence of PIH. (N= 241)

The percentages for knowledge regarding risk factors of PIH were: 78.1% for ″advance maternal age″, 50.2% for chronic kidney disease and 59.8% for ″gestational diabetes″ as shown in figure 6
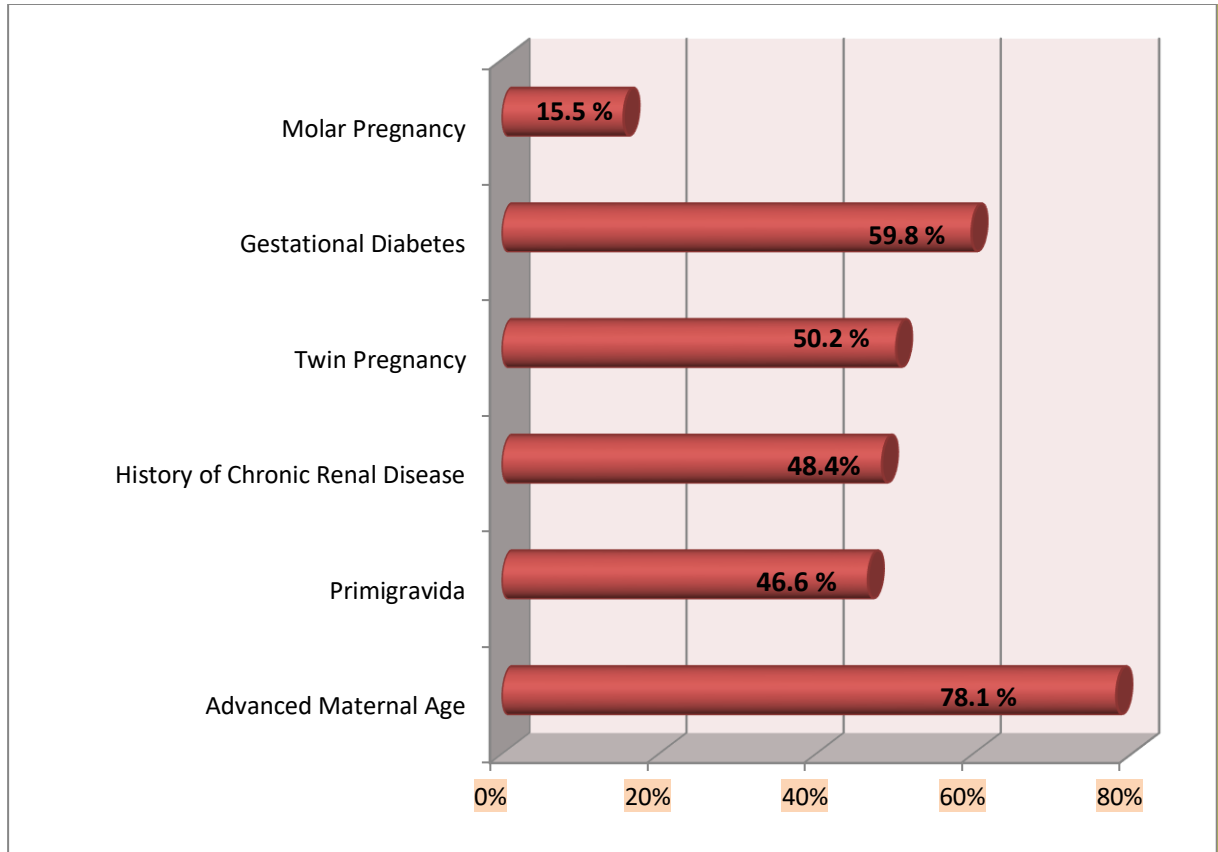
Fig 3.5 Knowledge about Risk Factors of PIH. (N= 241)

The most responses about signs and symptoms related to PIH were: 98.3% for ″headache″, 84.4% for ″dizziness″ and 63.3% for ″swelling of hands, face and feet″ as shown in figure 7.
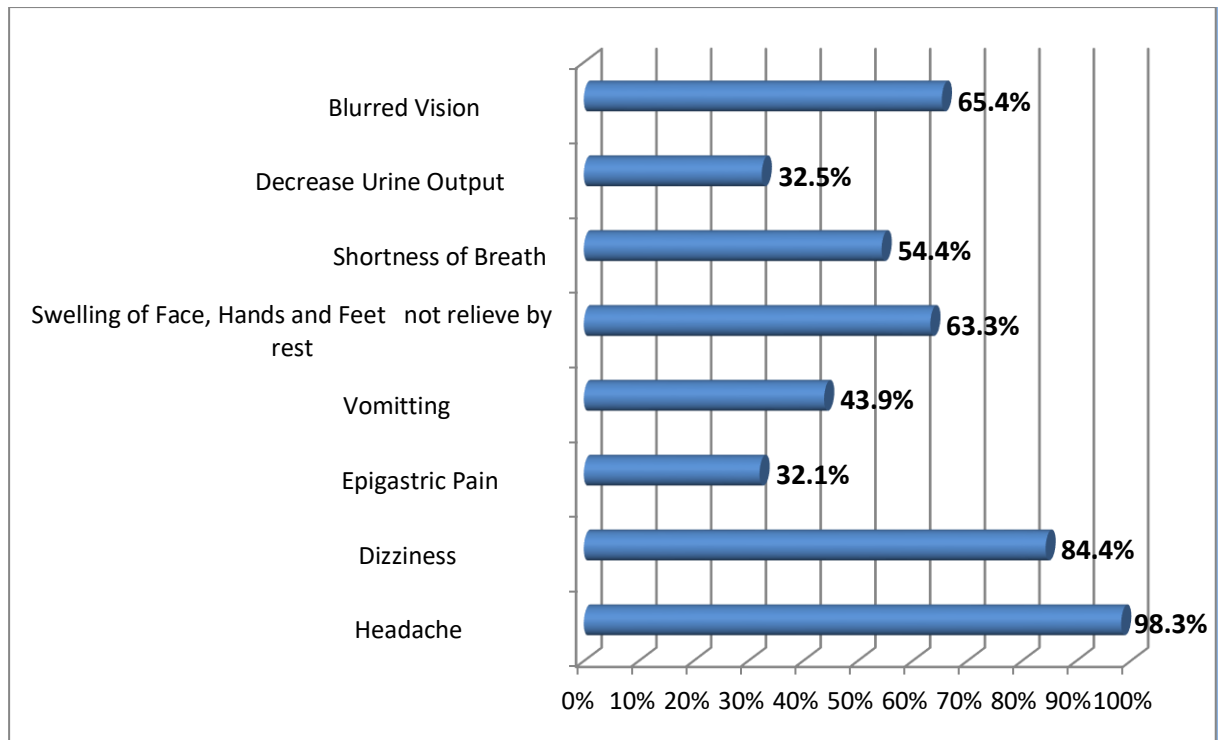
Fig 3.6: Knowledge about Clinical Features of PIH. (N= 241)

The percentage of responses knowledge about PIH complications on the mother were: 71.4 % for ″vision problems″, 54.7% for ″ bleeding during pregnancy ″ and 51.2% for ″ stroke″.
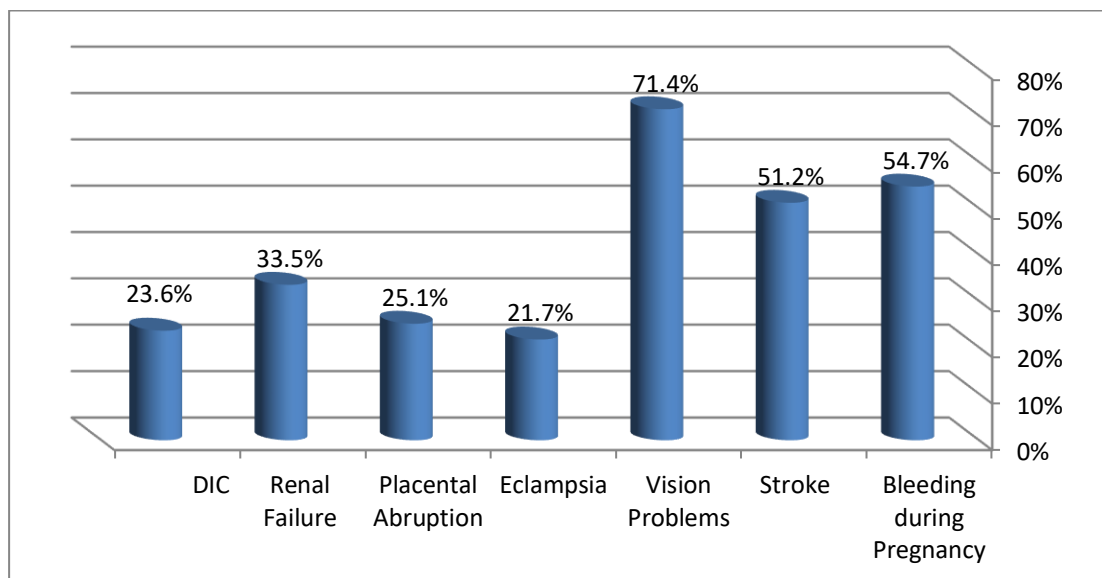
Fig 3.7 Knowledge about Maternal Complications of PIH. (N= 241)

➤ The most frequent fetal Complications that reported by the participants 82.5% for ″fetal death″ and 55.3% for ″preterm baby″.
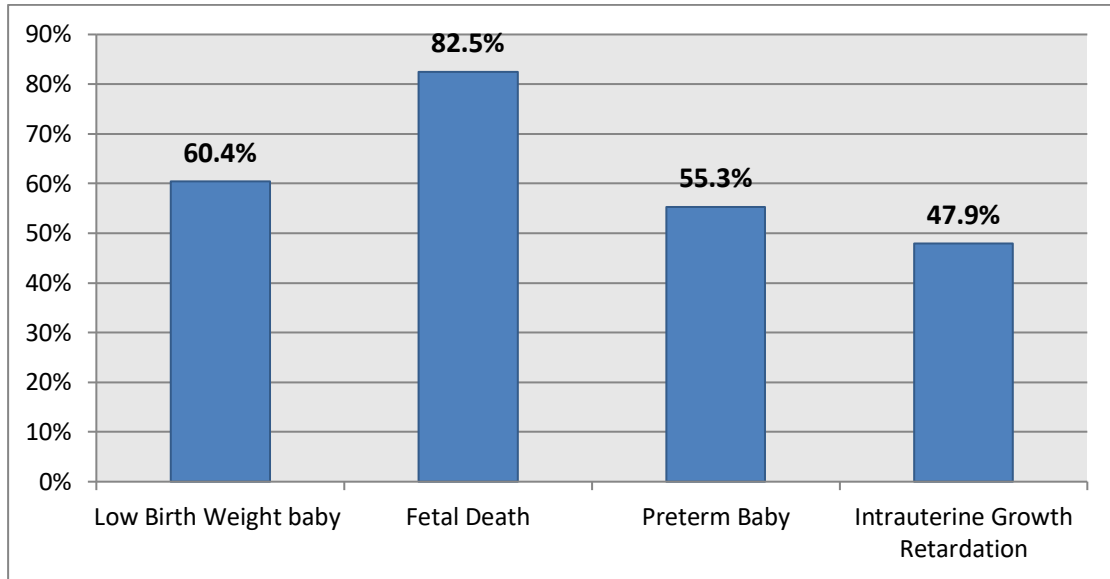
Fig 3.8: Knowledge about Fetal Complication Related to PIH.

Preventive measures of PIH: High percent (99.1%) of respondents mentioned yes for ″adherence to the appropriate time of treatment″ and 98.3% mentioned yes for ″decrease salts and fat food″.
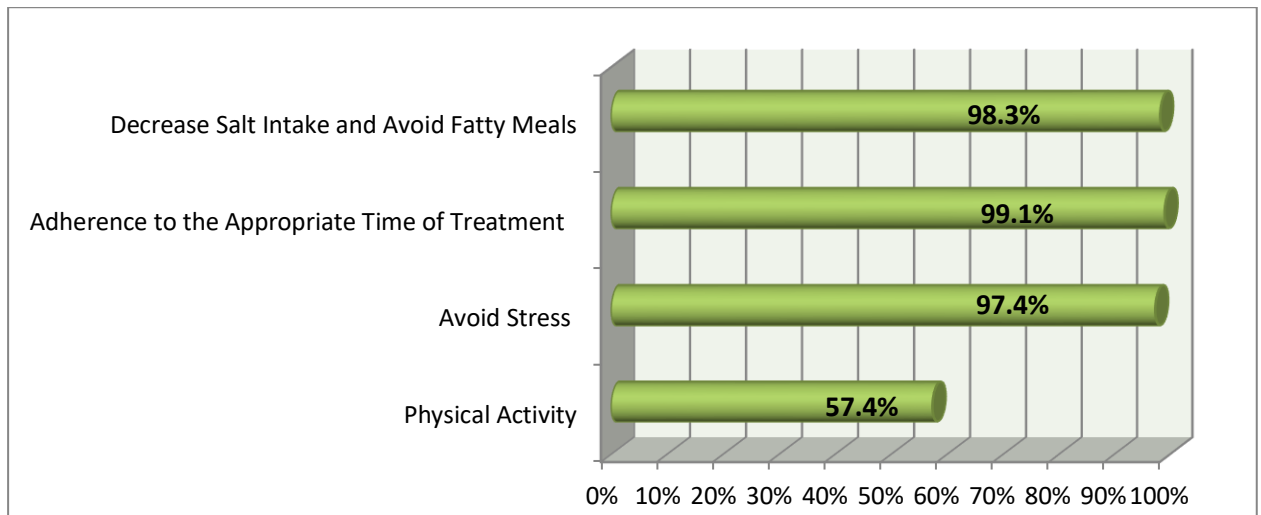
Fig 3.9 Knowledge about the Preventive Measures of PIH.
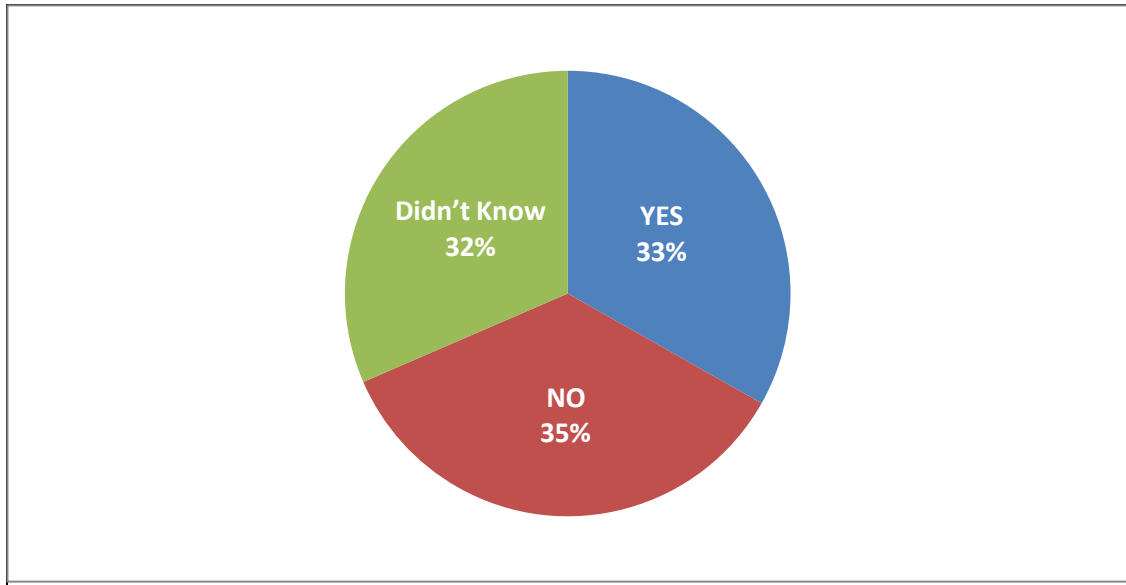
Fig 3.10 Knowledge about Aspirin Prophylaxis in PIH.
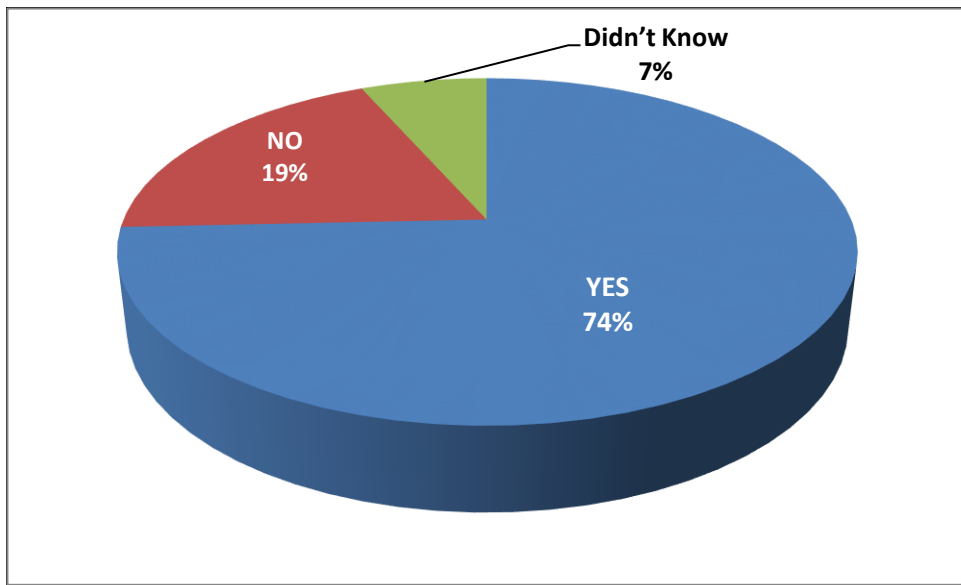
Fig 3.11 Knowledge about Follow up of PIH after Delivery.
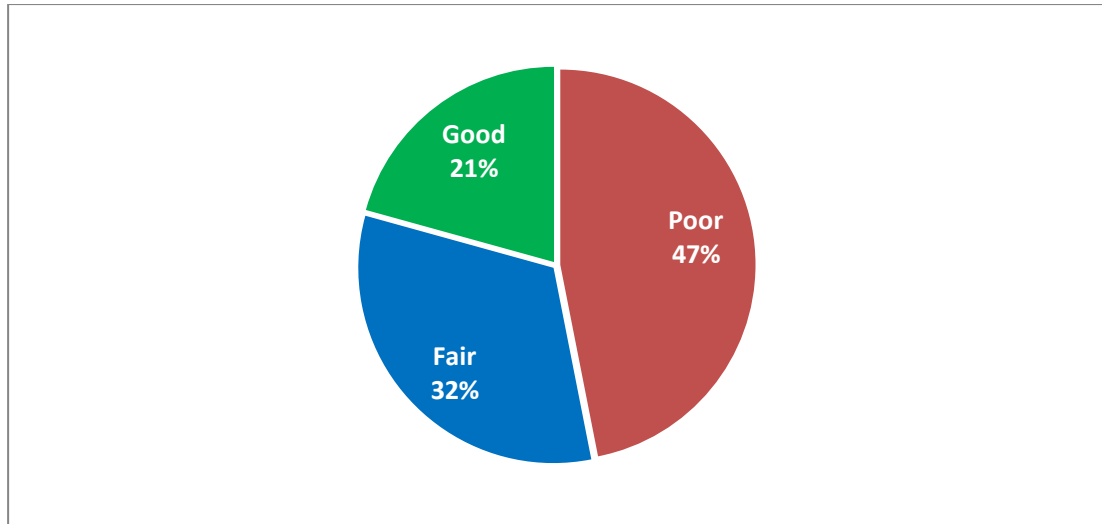
Fig 3.12 Distribution of Knowledge Levels among the Participants.

The mean score of pregnant women knowledge increased with the increase of age among participants and there was a significant mean differences between them (P value ≤0.05).

The mean score for pregnant women who live in nuclear families was higher than pregnant women who live with an extended family and there was a significant mean difference between them (P value ≤0.05).as shown in table 6

Table 3.4 **Relation of some Socio-demographic Factors to Participants Knowledge score**.

Variable		Frequency	Scoring of pregnant knowledge	
			Mean ±SD	Significant
Age	<20 years	27	15.7±4.2	**0.001***
	20-30 years	149	17.6±5.7	
	30-40 years	58	19.1±5.2	
	>40 years	7	24.7±5	
Educational level	Illiterate	23	17±3.5	0.106*
	Read and write	14	18.2±6.7	
	Primary school	72	16.6±5.3	
	Secondary school	72	18.6±5.7	
	University	60	19.1±6.2	
Occupation	Housewife	195	17.9±5.4	0.175*
	Student	18	16.4±4.1	
	Employee	28	19.5±7.5	
Economic level	Weak	94	17.7±5.4	0.839*
	Fair	117	18.2±5.6	
	Good	30	18.1±6.8	
Residence	Rural	45	18.5±5.7	0.52**
	Urban	196	17.9±5.6	
Type of family	Extended	111	16.7±5.2	**0.002****
	Nuclear	130	19±5.8	

*ANOVA test   ** Student T test   Significant p value ≤ 0.05.

The mean score for pregnant knowledge in all trimester was approximately the same and there was no statistical difference between weeks of gestation and knowledge scoring (P value >0.05).as shown in table 3.5

Table 3.5 Relation of some Obstetrics, Gynecological and Past Medical History with Knowledge Score.

Variables		Frequency	Scoring of pregnant knowledge	
			Mean ±SD	Significant
Weeks of Gestations	First trimester	24	18±4.8	0.83*
	Second trimester	104	17.9±5.9	
	Third trimester	115	17.9±5.6	
Parity	Primi gravida	62	17.5±5.2	0.45**
	Multigravida	179	18.1±5.8	
Past Medical History of PIH	+ve	31	21.1±4.2	**0.001****
	-ve	210	17.5±5.7	
Past Medical History of Chronic Hypertension	+ve	6	20±6.1	0.38*
	-ve	235	17.9±5.6	
Past Medical History of Gestational Diabetes	+ve	10	22±6.3	**0.02****
	-ve	231	17.8±5.6	
Family History of PIH	+ve	40	19±6.6	0.184*
	-ve	191	17.9±5.5	
	Don't know	10	15.4±2	
History of Practicing Sport	Yes	34	21.6±5.2	**0.002****
	No	207	17.4±5.4	
History of Folic Acid Intake	Yes	199	18.1±5.8	0.302**
	No	42	17.1±4.9	
Regular Antenatal Care Visits	Yes	24	20.7±5.2	**0.013****
	No	217	17.7±5.6	

*ANOVA test   ** Student T test, significant p value ≤ 0.05.

The mean score of pregnant knowledge is significantly associated with past history of PIH, gestational diabetes and regular antenatal care visits

(P value ≤ 0.05).

Chapter Four

Discussion

Pregnancy induced hypertension is one of the most common obstetric problems of pregnancy that attribute to maternal and neonatal mortality and morbidity (42). This study has been performed to determine the level of knowledge towards PIH among the pregnant women attending the gynecology and obstetrics teaching hospital in Karbala, Iraq.

In the present study the majority (81.7%) of the pregnant participants had heard about PIH while 18.3% of them had not heard about it. Our findings were consistent with similar study performed in Nigeria 2016. It was found that 82% of the pregnant women had heard about PIH and 18% had not heard about it before (43).

The main source of knowledge by the participants was from friends/relatives (63.5%) followed by health care providers (25.3%), then media (9.1%) and school/university (2.1%) .

A study done in India (2017), the main sources of knowledge were parents, friends and relatives followed by heath personnel, this similar to our study in their sources of knowledge (44).

While in a study done in Utah 2018 ,the main sources of information was health care providers (45), and the study done in Nigeria 2016 the most popular source of information were hospitals and clinics (43).

Unfortunately, health care providers were not reported as a most popular source of knowledge in this study which can be related to factor to their inadequate knowledge towards PIH or they may not take up their proper role to provide health education.

Another explanation that contributed to this result is irregular visit by pregnant women to health institutions including primary health care except for treat a disease not for prevention of it.

This point must be managed by effective health education programs for health care providers about PIH.

Regarding knowledge about the elevated reading of BP during pregnancy, low percent (20.7%) of the pregnant participants know the right reading of elevated BP while high percent (79.3%) of them didn't know that. This result might be related to a low percent of those who had a previous history of PIH, chronic hypertension or family history of gestational hypertension (10.5%, 2%, 14.2%) respectively. As those women were expected to know the right reading of BP due to their previous experience.

While the high percent of incorrect knowledge might be attributed to their false concept that hypotension is miss concept with gestational hypertension. This is an alarming point that must be addressed during health education strategies.

More than half (58%) of the participants had known that PIH is due to a genetic cause. This is an important issue to be known by the pregnant women as a genetic cause cannot be modified and any pregnant in line with ANC visits.

A high percent (77%) had known about the time of occurrence of PIH in the second half of pregnancy.

Regarding to knowledge about the risk Factors of PIH, a higher percentages (78.1%) were for "the advanced maternal age" and

"gestational diabetes" (59.8 %) than other factors. This is probably because of most of the pregnant participants believed that generally increasing age is a risk for hypertension and other cardiovascular diseases. Also they think that the hypertension and diabetes can occur at the same time that's mean any one with diabetes mellitus is also liable to be affected with hypertension at the same time.

   Regarding to knowledge about clinical features related to PIH, the majority (98.3%) of the participant mentioned headache. Also the majority of the participants in the study in Nigeria 2016 mentioned frontal headache (43). This is not un expected finding as many people think that headache is a first sign of an elevated BP.

     Regarding to knowledge about PIH complications on the pregnant women: higher percent was for blurred vision(71.4%), bleeding during pregnancy (54.7%) while eclampsia was the lowest percent(21.7%). The later low percent is probably because of most of the pregnant participants did not hear about eclampsia. While seizure had a higher percentage of knowledge about PIH complications in a study done in Nigeria 2016 (43), This differences might be related to the differences in questionnaire form.

     Regarding to knowledge about complications of PIH on the fetus; a higher percentages (82.5%) were to "death of the fetus" and 60.4% for "low birth weight baby", this result was differed from the study done in South Africa 2015 where the participant did not know that when the blood pressure is high they can even lose their babies (42).

 High percentage of the pregnant participants knew most of the preventive measures of PIH. This was corresponding to study done in

Nigeria 2016, where a large percentage of women knew the preventive measures of PIH (43).

About 33.2% of the participants knew the effect of aspirin in PIH prophylaxis, because some of them had taken aspirin in the first trimester of pregnancy and heard about its effect from their doctors and relatives, while the other respondents (35.3%) had an idea that aspirin has a harmful effect during pregnancy and may cause abortion. This is an alarming point that must be corrected by health programs.

About 74.3% of the participants had a knowledge about the follow up of PIH after delivery while 19.1% of them were un aware about that. The later finding may be due to their false belief that the effect of PIH ends with delivery and no need for follow up. While 6.6% of respondents had no knowledge about that. One of the most common myths that patients hear is that "delivery is the cure for preeclampsia." While delivery of the baby and the placenta begins the healing process for the patient, preeclampsia can continue or even manifest for the first time after delivery (21). This is a very important issue that requires emphasis on it in health education programs.

This study has shown that 46.9% of pregnant participants had poor knowledge. These results were similar to study done in Iran 2006 (40). While 20.7% had good knowledge about PIH which is different to the study in Utah 2018 that showed the higher percentage had a high level of awareness (45).

Differences in questionnaire forms and the way for data analysis might be contributed to that differences.

Regarding the associated factors with the knowledge score, the age of the participants was associated significantly with the knowledge score

(increase score with increase age). This is similar to study done in Belgaum (Indian city) 2010 (46), while in another study done in Mangalore(Indian city) (2014) it had shown that no association between age and knowledge score (47).

Regarding the type of the family in this study is also associated significantly with the knowledge score, the pregnant women who live in a nuclear family had a higher knowledge score than those who live within an extended family. This may be explained that the mother can take care of her personal requirements in a considerable way and she will be more relaxed than she would be in an extended family. This is disagree to the study done in India(2010) which showed that no significant association exists between the type of family and knowledge score (46).

In this study there was no significant association between the educational level and the knowledge score while in a study done in Zabol (Indian city)in 2014 (48), it had revealed that there was a significant association between the educational level and the knowledge score about PIH.

Also there was no significant association between the economic status, occupation and residential area with knowledge score. This result was similar to study in India(2014) that showed no significant association between the knowledge score of pregnant women and occupation, monthly income, gravida and gestational age (47).

Regarding the past medical history of gestational hypertension and gestational diabetes, they are associated significantly with the knowledge score, and the participants with positive past history had a higher score than those with a negative past history. This is similar to the study done in India in 2013 (49).

The pregnant participants who practice sport had a higher knowledge score with significant association than pregnant women who do not practice sport.

The pregnant participants who had regular antenatal care visits during pregnancy had a higher knowledge than the pregnant women with no regular visits and there was a significant association between them.

ANC can aid pregnant women to understand the alarming signs of preeclampsia during pregnancy and delivery and provides the pregnant women with medications for PIH to prevent pre-eclampsia and eclampsia (50).

Chapter Five

Conclusions &

Recommendations

Conclusions

- ➢ A high percent of the pregnant participants had heard about PIH and their source of information was relatives/friends rather than heath care providers and media .

- ➢ A larger percentage of the pregnant participants had poor knowledge about PIH.

- ➢ Knowledge score of the pregnant participants is significantly associated with the age, past medical history of PIH and gestational diabetes, type of family, practicing sport and regular antenatal care visits.

Recommendations

- There is need for improving the knowledge of pregnant women by health education programs , which can be directed in the antenatal clinics and wards of the hospital throughout instruction booklets explaining PIH.

- Public awareness programs through mass media can play a very important role for increasing the knowledge regarding PIH .

- Encourage earlier booking visit in the first 12 weeks of pregnancy. The following antenatal care visits should be accentuated at 20, 26, 30, 34, 36, 38 and 40 weeks of pregnancy respectively.

- Encourage paramedical staff to involve continuing educational programs in the form of workshops, training programs, conferences for improving nursing care about PIH to raise awareness among mothers and neonate's health. This can also aid in increasing pregnant women awareness on the disease.

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Appendix

(Questionnaire)

Knowledge Towards PIH among Pregnant Women Attending

Gynecological and Obstetrics Teaching Hospital in Karbala.

Part 1: Demographic data

1-Age   : _____years

2-Marital status : Married□   Divorced□   Separated□

3-Education level : Illiterate□   read and write□   Primary school□

Secondary school□   University□

4-Occupation :   House wife□   Employee□   Student□

5-Residence   :   Rural □   Urban □

6-Economic level : Low□   Moderate□   High □

7-Type of family : extended□   nuclear □

Part 2: Past Obstetrics and Past Medical History:

1-Gestational age : Lmp □   or   Ultrasound report□

2-Parity: primi□   multi gravida □

3-Past history of gestational hypertension: yes□   No □

4-Past history of chronic hypertension : yes□   No□

5-History of gestational diabetes during pregnancy: yes□   No□

6-Family history of pregnancy induced hypertension: yes□ No□

Don't know□

7-Do you have exercise during pregnancy : yes   No if yes:

Regular walking ___ Sport exercise at home__Sport exercise at gym__

8- Do you take folic acid through the first three months of pregnancy:
yes□   No□

9-Do you keep visiting the primary health care center on time: yes□ No□

PART3: Knowledge Questions About PIH

1-Do you know that hypertension can occur during pregnancy :

 yes I know _____No I don't know

2- Where did you hear or learn about PIH? medical staff □ media□
friends/relatives□ school/university □ .

3-Do you know the elevated reading of blood pressure during
pregnancy? Yes___ NO___ if yes mention BP reading__ mmhg.

 4-Do you know that pregnancy induced hypertension is due to
hereditary cause? *Yes__ No___don't know___.

5-Do you know that pregnancy induced hypertension occur during the
2nd half of pregnancy? *Yes___No___ Don't know____

6- The risk factors associated with PIH are:

 1-Advance maternal age: * Yes□   No□   Don't know□

  2- Primi: * yes□   No □   Don't know □

 3- History of chronic renal disease: *Yes□   No□   Don't know □

4- Twin pregnancy: *Yes □   No □   Don't know □

42

5- Gestational diabetes: *Yes☐   No☐   Don't know ☐

6- Molar pregnancy: *Yes☐   No☐   Don't know☐

7 -Signs and Symptoms of PIH are:

1-Headache: *yes☐   No ☐   Don't know ☐

2-Dizziness : *yes ☐   No☐   Don't know☐

3-Epigastric pain: * yes☐   No☐   Don't know☐

4-Vomiting: *yes☐   No☐   Don't know☐

5-Swelling of face, hands and feet not relieved by rest: *yes☐ No☐

Don't know☐

6-Shortness of breath: * yes☐   No ☐   Don't know ☐

7-Decrease urine output: * yes☐   No ☐   Don't know☐

8-Blurred vision: * yes ☐   No ☐   Don't know☐

8- The complications of PIH are:

1-Bleeding during pregnancy: * yes☐   No☐   Don't know ☐

2- Stroke: *yes ☐   No☐   Don't know ☐

3-Vision problems: *yes☐   No☐   Don't know ☐

4-Eclampsia   * yes☐   No ☐   Don't know☐

5-Placental abruption: * yes☐   No☐   Don't know☐

6-Renal failure: *yes☐   No ☐   Don't know☐

7-Disseminated intravascular coagulation: * yes☐   No ☐   Don't know ☐

43

9- The complications of PIH on the fetus:

1-Low birth weight baby: * yes □   No□   Don't know

 2-Fetal death: * yes □   No □   Don't know□

3-Preterm baby: * yes □   No□   Don't know□

4-Intrauterine growth retardation: *yes □   No□   Don't know□

10- The preventive measures of PIH are:

1- physical activity: * yes□   No□   Don't know□

2- Avoid stress: * yes□   No □   Don't know □

3- Adherence to deadline for treatments: * yes□ No □   Don't know□

 4-Decrease salt intake ,avoid fatty meals: * yes□ No□ Don't know □

11-Do you know that aspirin cat as prophylaxis from PIH: *Yes □ No□
Don't know □.

12- Should the disease be followed for the first three months after
pregnancy: * yes□   No□   Don't know□

Note. Correct responses are denoted with an asterisk (*)

استبيان عن: المعرفة حول ارتفاع ضغط الدم الناتج عن الحمل بين النساء الحوامل في مستشفى النسائية والتوليد التعليمي في كربلاء المقدسة لعام 2018

التسلسل :

الجزء الاول: المعلومات الديموغرافية للمشتركة الحامل

1- العمر: .....سنة

2- الحالة الاجتماعية: متزوجة □   ارملة □   منفصلة □

3- التحصيل الدراسي: امية □ تقرا وتكتب □ ابتدائية □ ثانوية □ معهد كليه او اعلى □

4- نوع العمل : ربة بيت □   طالبة □   موظفة □

5- محل السكن : ريف □   حضر □

6- المستوى الاقتصادي : ضعيف □   متوسط □   جيد □

7- نوع العائلة : كبيره وممتدة □   صغيرة□

الجزء الثاني :التاريخ التوليدي والمرضي للمشتركة الحامل

1- عمر الحمل الحالي: تاريخ اخر دورة شهرية قبل الحمل ▭ السونار ▭

2- عدد الولادات السابقة : اولية الحمل □   اثنين واكثر □

3- هل تم تشخيصك مسبقا بارتفاع ضغط الدم خلال الحمل: نعم □   لا □

4- هل لديك تاريخ طبي لمرض ارتفاع ضغط الدم قبل الحمل : نعم □   لا □

5- هل لديك اصابه بسكر الحمل خلال الحمل الحالي : نعم □   لا □

6- هل لديك احد من افراد عائلتك (امك او اختك)مصابة بضغط الدم خلال الحمل: نعم □ لا□

لا اعرف □

7- هل تقومين بممارسة النشاطات الرياضية :نعم □ لا □ اذا كان الجواب نعم ما هو نوع الرياضة:

1.المشي بشكل منتظم 2 . تمارين رياضية في البيت   3.تمارين رياضية في النادي

8- هل تحرصين خلال الاشهر الثلاث الاولى من الحمل على تناول الفولك اسد: نعم □   لا □

9-هل تواظبين على زيارة المركز الصحي وفق ما يحدد له في كارت الرعاية الصحية الأولية

للام الحامل: نعم ☐   لا ☐

الجزء الثالث : اسئلة متعلقة بالمعرفة

1-هل تعلمين عن ارتفاع ضغط الدم الناتج عن الحمل : نعم اعلم .... لا اعلم ....

2-من اين علمت او سمعت عن ارتفاع ضغط الدم الناتج عن الحمل : عنصر طبي........ وسائل الاعلام....... الاقارب / الاصدقاء .... مدرسة / جامعة.........

3-هل تعرفين القراءة المرتفعة لضغط الدم الناتج عن الحمل ؟ نعم .... لا...... اذا كان الجواب نعم القراءة.......ملم زئبقي.

4-هل تعلمين ان ارتفاع ضغط الدم الناتج عن الحمل ممكن ان يكون وراثي ؟نعم.. لا.. لا اعلم

5-هل تعلمين ان ارتفاع ضغط الدم الناتج عن الحمل يحدث خلال النصف الثاني من الحمل ؟ نعم..... لا.....لا اعلم ......

6- ان من عوامل الخطورة للإصابة بارتفاع ضغط الدم الناتج عن الحمل هي:

1.تقدم سن الامهات :   نعم ☐   لا☐   لا اعرف ☐

2.الحمل الاول: نعم ☐   لا ☐   لا اعرف ☐

3.تاريخ مرض الكلى المزمن: نعم ☐   لا ☐   لا اعرف ☐

4.الحمل بتوأم :   نعم ☐   لا ☐   لا اعرف ☐

5.مرض سكر الدم :   نعم ☐   لا☐   لا اعرف ☐

6.الحمل العنقودي :   نعم ☐   لا ☐   لا اعرف ☐

7-من الاعراض المصاحبة لارتفاع ضغط الدم الناتج عن الحمل هي :

1. الصداع :   نعم ☐   لا ☐   لا اعرف ☐
2. الدوار :   نعم ☐   لا ☐   لا اعرف ☐
3. الم اعلى البطن (منطقة المعدة او الكبد) : نعم ☐   لا ☐   لا اعرف ☐
4. التقيؤ :   نعم ☐   لا ☐   لا اعرف ☐
5. تورم في الوجه واليدين والقدمين لا يخفف بالراحة : نعم ☐   لا ☐ لا اعرف ☐
6. ضيق النفس :   نعم ☐   لا ☐   لا اعرف ☐
7. قلة الادرار :   نعم ☐   لا ☐   لا اعرف ☐
8. تشوش الرؤيا :   نعم ☐   لا ☐   لا اعرف ☐

8ـ من المضاعفات التي تحدث للام لارتفاع ضغط الدم الناتج عن الحمل هي :

1.النزيف خلال الحمل :   نعم ☐   لا ☐   لا اعرف ☐

2. السكتة الدماغية: نعم ☐   لا ☐   لا اعرف ☐

3. مضاعفات في الرؤية :   نعم ☐   لا ☐   لا اعرف ☐

4.ارتعاج الحمل: نعم ☐   لا ☐   لا اعرف ☐

5.انفصال المشيمة المبكر عن جدار الرحم :   نعم ☐   لا ☐   لا اعرف ☐

6.عجز الكلية: نعم ☐   لا ☐   لا اعرف ☐

7.النزيف الجسيمي المنتشر :   نعم ☐   لا ☐   لا اعرف ☐

9ـ المضاعفات التي تحدث للجنين لارتفاع ضغط الدم الناتج عن الحمل هي:

1.ولادة جنين منخفض الوزن :   نعم ☐   لا ☐   لا اعرف ☐

2. ولادة جنين ميت :   نعم ☐   لا ☐   لا اعرف ☐

3.مولود قبل الاوان (غير مكتمل النمو) :   نعم ☐   لا ☐   لا اعرف ☐

4.تحدد او قلة وصول الدم للجنين :   نعم ☐   لا ☐   لا اعرف ☐

10- ان من الاجراءات الوقائية لتفادي مضاعفات ارتفاع ضغط الدم الناتج عن الحمل هي :

1.ممارسة النشاطات الرياضية :   نعم ☐   لا ☐   لا اعرف ☐

2. تجنب الانفعالات النفسية :   نعم ☐   لا ☐   لا اعرف ☐

3.الالتزام بالمواعيد المحددة للعلاج: نعم ☐   لا ☐   لا اعرف ☐

4.اتباع نظام غذائي للتقليل من الاملاح والدهون : نعم ☐   لا☐   لا اعرف ☐

11- هل تعلمين ان الاسبرين ممكن ان يقي من مضاعفات ارتفاع ضغط الدم خلال الحمل: نعم ☐   لا ☐   لا اعرف ☐

12- هل يجب متابعة المرض بعد الحمل للأشهر الثلاثة الاولى: نعم ☐   لا ☐   لا اعرف ☐

العدد/ ٢١٢١

التاريخ: ١ / ٤ / ٢٠١

إلى// دائرة صحة كربلاء- مكتب المدير العام/ مركز التدريب والتنمية البشرية
وحدة البحـــوث

الموضوع // تسهيل مهمة

أشارة إلى كتابكم ذي العدد (451) فــــــي 2018/4/11
نـود أعلامكم بتسهيل مهمة طالبة الدراسات العليا دبلوم عالي / طب أسرة
(إيمان عبود هويدي) لانجاز بحثها الموسوم (وعي النساء الحوامل حول ارتفاع
ضغط الدم الناتج عن الحمل ومضاعفات في مدينة كربلاء لعام / 2018) علمــاً أن
لاتتحمل دائرتنــا أي نفقات مادية ...

للتفضل بالاطلاع مع الاحتـــرام ..

د. إبراهيم حبيب نصير الركابي
مدير م. النسائية والتوليد التعليمــي

نسخه منه الى//
=========
وحدة التدريب والتطوير/ مع الاوليات
الاضبارة العامة

فائزة/4/15

الخلاصة

ارتفاع ضغط الدم الناتج عن الحمل : وهو شكل من اشكال ارتفاع ضغط الدم اثناء الحمل ,وهو احد الاسباب الرئيسية لوفيات الامهات والمراضة الوليدية في العالم .

الهدف من الدراسة: تحديد مستوى معرفة النساء الحوامل حول ارتفاع ضغط الدم الناتج عن الحمل .

طريقة العمل: أجريت دراسة مقطعية على عينة مكونة من 295 امرأة حاملا في العيادة الاستشارية وردهات مستشفى النسائية والتوليد التعليمي ، كربلاء المقدسة ، العراق .في الفترة من 1 اذار حتى 1 من حزيران 2018م. تم جمع البيانات من خلال استبيان مقابله وتحليلها باستخدام البرنامج الاحصائي spss .

تم استخدام اختباري T و ANOVA لتحديد العوامل المرتبطة بمعرفة الام الحامل.

نتائج الدراسة : في هذه الدراسة 81.7% كانت نسبة النساء الحوامل اللواتي سمعن عن ارتفاع ضغط الدم الناتج عن الحمل .كان مصدر المعرفة الاقارب والاصدقاء يليهم مقدمي الخدمة الطبية . حوالي نصف المشتركات حصلن على درجة ضعيفة (46.9٪) من المعرفة.

درجة المعرفة مرتبطة بعمر المشتركات ، ونوع الأسرة ، والتاريخ الطبي السابق لارتفاع ضغط الدم الناتج عن الحمل ، والتاريخ الطبي السابق لداء السكري في مرحلة الحمل ، وممارسة الرياضة والرعاية الصحية المنتظمة خلال فترة الحمل .

الاستنتاجات: عموما ، أظهرت نتائج هذه الدراسة أن المعرفة حول ارتفاع ضغط الدم الناتج عن الحمل كانت ضعيفة بين النساء الحوامل.

المعرفة حول ارتفاع ضغط الدم بين النساء الحوامل في مستشفى النسائية والتوليد التعليمي في كربلاء المقدسة لعام 2018

رسالة مقدمة الى مجلس كلية الطب ـ جامعة كربلاء كجزء من متطلبات نيل شهادة الدبلوم العالي في طب الأسرة

من قبل

ايمان عبود هويدي الابراهيمي

بإشراف

م. شهرزاد شمخي الجبوري   **أ .م . د وسن غازي الصافي**

بورد نسائية وتوليد   بورد طب مجتمع

1440 هـ   2018 م