

ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCE
DEPARTEMENT OF EMERGENCY MEDICINE AND CRITICAL
CARE



ASSESSMENT OF KNOWLEDGE AND PRACTICE OF NURSES WORKING IN GYNECOLOGY EMERGENCY ROOM TOWARDES PREGNANCY INDUCED HYPERTENSION IN SELECTED GOVERNMENT PUBLIC HOSPITALS FOUND IN ADDIS ABABA,ETHIOPIA

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LIST OF ACRONYMS

AAU-Addis Ababa University

ANC- anti natal care

BP-Blood pressure

ED- Emergency Department

GA-Gestational age

HCW-Health care worker

HDP- hypertensive disorder in pregnancy

HELLP-Hemolysis Elevated Liver Enzyme Low Platelet Count

HTN-Hypertension

IMR- Infant Mortality Rate

LW-Labor Ward

Mgso4-Magnisum sulphate

MMR-Maternal Mortality rate

NGO-Non Governmental Organization

AU- African Union

PIH-Pregnancy Induced Hypertension

WHO-World health Organization

ABSTRACT

Background: - Pregnancy induced hypertension (PIH) is one of the most common causes of both maternal and neonatal morbidity. Pre Eclampsia or Eclampsia was a pregnancy specific hypertensive disease with a multi system involvement. It usually occurs after 20 weeks of gestation most often not treated early it advanced to progress eclampsia (convulsive disorder of a pregnancy) it was associated with significant maternal and fetal morbidity and mortality.

Objective: - the objective of this study is to assess the knowledge and practice of nurses working in gynecology emergency room towards Pregnancy Induced Hypertension and association of having training and work experience to their knowledge and practice in selected government public Hospitals of Addis Ababa, Ethiopia.

Methods: - Institution based descriptive cross sectional study was conducted to assess knowledge & practice of Nurses in Gynecology Emergency Room towards Pregnancy Induced Hypertension in selected Government public Hospitals found in Addis Ababa Ethiopia. The hospitals were selected by simple random sampling using lottery method with sample size determination of all nurses found in Gynecology emergency Room. The study was conducted from December 08/2016 to June 22, 2017.

Result: - A total of 78 study participants were included in the study. The mean age of the respondents was 25.62 years in which 44(56.4%) of them were less than or equal to 25 years. Out of the total study participants, fifty four (67.9%) of them found to have adequate knowledge towards pregnancy induced hypertension. However, among the total 78 charts reviewed, 39(50%) of the charts had showed good practice towards pregnancy induced hypertension. Only training was significantly associated with knowledge towards pregnancy induced hypertension at $p < 0.003$ but none of the variables were significantly associated with practice towards pregnancy induced hypertension.

Conclusion and recommendation: - Based on the findings of this study, the level of knowledge and practice was found to be low. Health institutions should create a mechanism of raising the level of knowledge and practice towards pregnancy induced hypertension and strengthen on job training regarding their work to improve the level of knowledge towards pregnancy induced hypertension.

Key words: -Chronic hypertension, gestational hypertension, pre-eclampsia, super imposed pre-eclampsia, eclampsia, knowledge and practice of nurses.

1. INTRODUCTION

1.1. Background

Hypertensive diseases of pregnancy are considered to be common causes of maternal deaths worldwide. This disease of pregnancy is an important cause of severe acute morbidity, long term disability and death among both mothers and their babies. It affects about 10% of all pregnant women around the world (World health Report, 2011). This disease condition includes chronic hypertension, gestational hypertension pre-eclampsia, superimposed pre-eclampsia and eclampsia. Pre eclampsia among hypertensive disorders stand out for its impact on maternal and neonatal health (1).

Chronic Hypertension prior to conception or diagnosed before 20th week of gestation that does not resolved post-partum called essential hypertension there is no under lined cause. 2ry hypertension there is an under lined cause. Preeclampsia is systemic disease with hypertension accompanied by proteinuria after 20th week of gestation and eclampsia is defined as the occurrence of seizure (2)

Severe hypertension is defined as a systolic blood pressure ≥ 160 mm Hg and/or diastolic blood pressure ≥ 110 mm Hg, Placental abruption, preterm delivery, perinatal death, small for gestational age infants, and neonatal respiratory distress syndrome have all been reported to occur more commonly among women who develop severe gestational hypertension without proteinuria than among women who develop proteinuria. Without severe hypertension of all pregnancies 7 to 9% are complicated by hypertension about 1% of pregnancies are complicated by pre-existing hypertension 5 to 6% by gestational hypertension without protein urea (half of which presents preterm) and 2% by pre-eclampsia (3).

Study in Jeneva (Switzerland) in 2008, 358,000 women died during or following pregnancy and chilled birth almost all of these deaths 99% occurred in developing countries and most could have been prevented. Nearly 80% of the maternal deaths are the five obstetric causes namely hemorrhage hypertension, sepsis, obstructed labor and complication of abortion.

Hypertension in pregnancy (pre-eclampsia and eclampsia) contributes to 18% of the deaths the second after Hemorrhage as the most common cause of maternal deaths (4).

Apart from causing mortality pre- eclampsia and eclampsia are associated with sever maternal perinatal morbidity like intra uterine growth retardation premature delivery and early neonatal deaths.in Ethiopia they found albuminuria in 11.5% an abnormal diastolic blood pressure in 12.5%, where 2.9% (all of whom live in urban areas) 9.2% were classified as pre-eclamptic and gestational hypertensive respectively.52.3% were not receiving anti natal care services (5).

1% of maternal deaths in Africa are due to hypertensive disorders. Causes of maternal deaths worldwide in many low--income countries Complications of pregnancy and child birth are the leading cause of death amongst women of reproductive years. Most maternal deaths are potentially avoidable (6&7). They could be prevented by access to emergency obstetric care and skilled attendance during pregnancy. Child birth and at immediate postnatal period Hypertension in pregnancy is among the few direct causes of maternal deaths that can be detected and prevented during pregnancy. Studies have shown that antenatal screening for hypertension and proteinuria followed by close monitoring and treatment of pre--eclampsia reduced eclampsia related maternal mortality in by 48--68% (7&8).

Availability of magnesium sulphate for treatment of pre--eclampsia Eclampsia at health facilities and availability of skilled health personnel with knowledge and skills in managing hypertension is vital for prevention of hypertensive related deaths (9).

Many studies have evaluated evidence based intervention related maternal deaths. Systemic screening of pregnant women during anti natal period for routine calcium supplementation for women at high risk of pre- eclampsia treatment of pre-eclampsia with magnesium sulphate and early delivery of women with pre-eclampsia and eclampsia all have been extensively studied and have potential to reduce the risk of maternal deaths 84% (10,11, 12).

Interventions are however required to be given by skilled health providers. Limited literatures exist on how knowledgeable the health care professionals are regarding to hypertension in pregnancy and its management in developing countries where maternal deaths are high. Many of the root causes are related to poverty and inequity of opportunity for women in low income countries primarily in Africa and Asia maternal mortality is still 100-1200 times than it is in

Europe and North America. There is no other public statistic the disparity between rich and poor countries is so wide (13).

Discrepancy challenging to meeting millennium development goal to reduce maternal mortality by 75% between 1990 & 2015. In high mortality countries today especially for the poorest populations health systems frequently the source of catastrophic cost and Deeping social exclusion. The picture for maternal while not yet benefiting from as carefully calibrated epidemiological mapping was similarly clear. Skilled care in delivery and particularly access to emergency obstetric care in the case of complications would greatly reduce maternal deaths by about 75% according to world's estimates (14).

Pre- eclampsia is disorder of placental development thought to arise a mismatch between utero placental and fetal demands. The resulting placental release of biologic factors systematic maternal endothelial cells dysfunction and end organ complications that include sever hypertension, eclampsia, pulmonary edema and HELLP syndrome. Hypertensive diseases of pregnancy are characterized by multi system involvement with complications commonly occurring in the renal, hepatic, cardiovascular, hematologic and central nervous system (15).

Early detection of hypertension requires accurate measurement of the woman's blood pressure. Professional nurse should carefully do this task. Blood pressure measurement and urinalysis are the main stay of the diagnosis monitoring of hypertensive diseases during pregnancy. Early detection and multi disciplinary treatment is important together with obstetric intervention. gestational hypertension is high blood pressure after mid pregnancy without protein urea this diagnosis is used only during definitive diagnosis made post-partum (16&17).

Hypertension defined as sustained blood pressure of greater or equal to 140/90mmHg. sever hypertension should be treated. All anti-hypertensive have shown or should be assumed to cross the placenta reach the fetal circulation, ACE inhibitors angiotensin receptor antagonist when taken in later in pregnancy are associated with characteristic fetopathy and are the only anti-hypertensive agents contraindicated in pregnancy. Atenolol is not recommended for use in pregnancy give particular concerns about its potential to increase the risk of small for gestational age infant (18).

24hours ambulatory blood pressure monitoring can show alterations in the normal pattern of blood pressure variation. Features particularly relevant in pre-eclampsia as these women showed an impairment in night time fall on blood pressure present in both normotensive and gestational hypertensive patients. But there is no randomized controlled trial evidence to support the use of ambulatory blood pressure monitoring during pregnancy (19).

According to a population based study in South Africa the incidence of hypertensive disorders of pregnancy (HDP) was 12%. Other hospital based studies showed the HDP was the commonest cause of maternal death which contributed for 20.7% of maternal deaths in the country. Studies in Ethiopia show that the incidence of HDP is around 5% of which majority were due to severe preeclampsia. According to one study eclampsia complicates 0.7% of the pregnancies. These disorders are major causes of maternal and perinatal morbidities and mortalities (33).

1.2. Statement of problem

Globally PIH affects about 10% of all pregnant women around the world (World Health Report 2011).

In South Africa population based study the incidence of hypertensive disorders in pregnancy is 12%.other hospital based study in this country shows that the commonest cause of maternal death 20.7%.

In Ethiopia the incidence of hypertensive disorder in pregnancy is 5%.majority will be due to sever pre-eclampsia eclampsia complicates 0.7% of pregnancies this disorders are major causes of maternal and perinatal morbidity (1 & 33).

Mortality and morbidity for women and their children associated with pre-eclampsia and its complications are major Burdon particularly in low and middle income country.

Even though there are few studies exploring hypertensive disorders in pregnancy has been found to be common and has been associated poor maternal and perinatal outcome.

So to assess the knowledge and practice of nurses towards handling of PIH is the critical point.

Many women 70% are attending anti natal care in developing countries. The incidence of hypertension in pregnancy and pre-eclampsia are similar in developed and developing countries.

However death due to pre-eclampsia are few in developed compared to developing countries showing there is missed opportunity to prevent hypertensive related maternal deaths in the countries due to substandard quality of care given. The reason for substandard care on hypertension in pregnancy differ between developing countries driving the need to have local data what are the main problems health system side are equipment and supplies drugs, low knowledge and skills among providers or poor referral system (25).

There is need for cheap and reliable tools with which the diagnostic preventive and management challenges associated with hypertensive disease during pregnancy in low income countries.it is recommended that countries incorporate magnesium sulphate protocols in to the national health and or policies. The use of magnesium sulphate for treatment of eclampsia and sever pre-eclampsia will significantly advance the safe mother hood agenda and contribute to reaching millennium development goals by 2015 (13&16)

Follow up and treatment of pregnant hypertensive women are important because of it can prevent pre-eclampsia serious end organ damages. The mortality and morbidity for the women and their children associated with pre-eclampsia and its complication (13).

1.3. Significance of the study

- ❖ The purpose of this study will be done on to assess Knowledge, practice and association of having training and work experience to their knowledge & practice of nurses on selected Hospitals.
- ❖ The study tries to understand them how to know and activate towards PIH for early detection and management of mother with hypertensive disorder and follow up purpose.
- ❖ Improvement of the prioritization of mother with pregnancy induced Hypertension to care in the gynecology emergency room in which in turn would enhance the effectiveness of the care and service rendered.
- ❖ It would also assist in improving to pregnancy induced Hypertension care system place when this research completed. Finally the result of this research will serve as a base for further research.
- ❖ The finding of this study would lead to an organized intervention that provides good information about its development of the cause and predisposing factors of pregnancy induced Hypertension.

2. LITERATURE REVIEW

An article published in international journal of Gynecology and obstetrics revealed that in low income countries challenges associated with hypertensive disease during pregnancy relate to the lack of cheap and reliable tools for diagnosis, management and prevention. Although there is clinically proven, highly effective, cheap and safe intervention for pre-eclampsia/eclampsia. There are barriers to its large scale implementation for reducing the impact of this preventable contributor to maternal morbidity and mortality (16).

Review from European journal of obstetrics, gynecology and reproductive biology looked at different methods to reduce maternal and perinatal mortality in rural and pre-rural settings. one of the setting was Nigeria. In Nigeria professional midwives were trained in interpersonal communication and lifesaving obstetric skills while referral Hospitals were refurbished and equipped that made maternal deaths decline among all causes (22).

The low levels of HDP related mortality in rural China and Sri Lanka suggest that reductions of 85% or more are within reach provided that most women give birth with a health professional that can refer them to higher levels of care when necessary. Results from studies of severe acute maternal morbidity in Indonesia and Bolivia also suggest that mortality in women with severe pre-eclampsia or eclampsia in hospital can be reduced by more than 84%, even when the women arrive late(8).

Meta –analysis from British medical journal states that mean arterial pressure is better predictor for eclampsia than systolic blood pressure or increased blood pressure. Blood pressure measurements at the first anti natal visit for the healthy normotensive women in the first and second trimester do not help predict pre-eclampsia (13).

Another meta-analysis from Elsevier revealed that the only interventions shown to prevent pre-eclampsia are anti-plat late agents primarily low dose aspirin and calcium supplementation. Magnesium sulphate can prevent and control eclamptic seizures. For pre-eclampsia it more than halves the risk for eclampsia (number needed to treat 100,95%confidence interval 50 to 100) and probably reduces risk of maternal death (2).

Based on Saudi Arabia said nurses were quite good on practice in the area of hypertension in pregnancy, as 95.6% of them scored –Satisfactory”. Most of the questions related to the skill of measuring blood pressure. Questions on management were answered correctly by 86.1 and 9.7% of them. The mean score of this section on practice was quite high for nurses being 8.3 marks out of a total score of 12 marks. The nurses’ level of knowledge was very low since only five of them (5.5%) scored –Satisfactory” on the questions in this section. The deficiencies were in areas dealing with diagnosis and quality of care for hypertensive mothers. The questions included simple definitions and associated symptoms of high blood pressure. Most of them (96.7%) wrongly considered salt restriction and weight reduction as important in the health education of hypertensive pregnant women. Mean scores on knowledge was 9.02 marks out of a total score of 20 marks which was quite low (32).

When blood pressure is measured in the first or second trimester of pregnancy, the mean arterial Pressure is a better predictor for pre-eclampsia than systolic blood pressure, diastolic blood pressure, or an increase of blood pressure (20).

Review from expert review states that most anti-hypertensive agents are safe but angiotensin converting enzyme inhibitors are teratogenicity and fetotoxic. The first line anti-hypertensive treatment that should be administered is methyldopa. if pre-eclampsia exists labetalol is used. hypertensive disorders of pregnancy increased risk of cardio vascular diseases in later life (21).

An article from British current hypertension reports states that there are consensus that blood pressure should be treated when it is sustained at ≥ 160 MmHg systolic and/or ≥ 110 mmHg diastolic because of the short term risk maternal vascular damage particularly stroke. There is no consensus regarding management of non-sever hypertension (3).

An intervention review from the Cochrane collaboration says that there is no randomized controlled trial evidence to support the use of ambulatory blood pressure monitoring during pregnancy (19).

The WHO countdown report from 2010 states that 76% of women Tanzania 15-49 years attended anti natal care with a skilled health provider at least once during pregnancy. Around

43% delivered with skilled health professional and 51% received post natal care after delivery. The infant mortality rate was 74% 1000 live births (23&24).

The Kilimanjaro region has a good coverage of anti natal care. While the percentage of women who gave live birth and received ANC from professional health worker for Tanzania is 94% the percentage Kilimanjaro region is 99.2% (26).

Study done at Egypt shows all nurses hadn't used automated methods for measuring the blood pressure and proteinuria .They also hadn't used continuous electronic fetal monitoring. In addition, all nurses hadn't reached to excellent level of performance regarding assist in patient preparation for fetal wellbeing according to grade and level of evidence based nursing practice. All nurses hadn't monitored the warning signs of eclampsia. While half of the sample (51.4%) had check the blood pressure and take the daily blood sample at good level of performance according to competent practice points of evidence based nursing practice. Also the practice done at excellent level was 4.3% of the nurses. Less than three quarters of the sample (64.3%) hadn't given instructions to preeclampsia women. While less than half of the sample (45.7%) hadn't done the fetus assessment according to general management of evidence practice. Also the practice done at excellent level ranged from (1.4% to 2.9%) regarding general management for preeclampsia women. In addition, more than half (61.4%) of the nurses had average practice regarding administration of calcium supplementation during pregnancy (27).

Study done in Kenya shows that despite many women slums getting antenatal care (97% in slums against 88% nationwide), a considerable number of women (48% same as the national average) do not make the recommended number of four visits. Further, only 7% of slum women initiate the visit in the first trimester of pregnancy as required; this is low compared to the national average of 11% of Kenyan women who make first visit in the first three months of pregnancy. Number and timing of antenatal care visits are critical in reducing pregnancy complications. Educated women and those from wealthier households are more likely to make the recommended four antenatal visits (28).

An investigation done at Eretria depicts knowledge score regarding emergency obstetric management majority (65%) of the staff had adequate knowledge and (35%) of them had moderately adequate knowledge and none of them hand inadequate knowledge regarding

emergency obstetric management. In addition, knowledge score regarding Pre eclampsia/ eclampsia management 48.3% of the staff had adequate knowledge 50% of the staff had moderately adequate knowledge and 1.7% of the staff had inadequate knowledge. As well all demographic variables (like age, sex, marital status, professional qualification and experience in maternity) had no association with knowledge regarding emergency obstetric management (29).

According to Tanzania, all the health facilities had working BP machines and stethoscopes. Dipsticks for detecting proteinuria were available in 43% of health facilities. Less than half 43% had magnesium sulphate. Methyldopa was available in 40% of health facilities. The availability of supplies in the health centers and hospitals is almost the same and higher than the dispensaries. 86% percent of healthcare workers mentioned prime gravidity as the risk factor for preeclampsia. Advanced age was mentioned by 23% of healthcare workers. The symptoms of severe preeclampsia that was most mentioned was severe headache 91%. Very few health care workers recognized nausea and vomiting as a symptom of severe preeclampsia only 12% of healthcare workers reported this. Almost all healthcare workers 99% knew methyldopa is the drug used to control raised blood pressure and 29% would use hydralazine to control blood pressure. To control and prevent eclampsia, 95% of healthcare workers would give magnesium sulphate. More than half 64% of healthcare workers had adequate knowledge in managing patients with preeclampsia and eclampsia. Those who had training 77% had adequate knowledge (30).

Study at South Africa showed that results showed that many participants were not able to define hypertension (33.7%), gestational hypertension (43.6%) or chronic hypertension during pregnancy (29.7%). Furthermore, 27.7% had no understanding about pre-eclampsia, 43.6% did not associate obesity as a risk factor with the development of pre-eclampsia and 36.6% had no knowledge about the effects of pre-eclampsia on the mother. Only 56.4% of the participants responded correctly to the question about the clinical manifestations of severe pre-eclampsia and the factors influencing BP, and 61.4% responded incorrectly to the appropriate position of the patient for correct reading of BP. Only 28.9% responded correctly with reference to the prevention of pre-eclampsia, only 33.7% were able to advise the type of relaxation suitable for pregnant women with hypertension and only 26.7% responded correctly about the route to be used for the administration of magnesium sulphate. Male midwives accoucheur just had

significantly better knowledge of the management of HDPs ($p = 0.05$), but otherwise gender was not significant. Midwives who had no regular support from a doctor had a significantly better total knowledge score. There was no correlation between age and any of the knowledge scores, but greater experience was correlated, on the one hand, with better knowledge of HDPs (Spearman coefficient 0.28, $p < 0.01$) and, on the other, with worse knowledge of its management (Spearman coefficient -0.24 , $p = 0.02$) (31).

Study conducted in Ethiopia regarding high risk pregnancies states the need for an improved social environment appropriate training of community health workers and strengthening maternity services including family planning services.it also revealed that 85% of all the pregnancies in this specific study had at least one risk and therefor was considered a high risk pregnancy.(5)

3. OBJECTIVES

3.1. General objectives

To assess knowledge and practice of nurses working in gynecology emergency rooms towards pregnancy induced Hypertension and association of having training and work experience to their knowledge and practice selected government public hospitals in Addis Ababa 2017Gc.

3.2. Specific objectives

- To assess the Knowledge of nurses working in Gynecology Emergency Room towards pregnancy induced hypertension.
- To describe the practice of nurses working in Gynecology Emergency Room towards pregnancy induced hypertension.
- To identify association between training and work- experience against the dependent variables among nurses towards pregnancy induced hypertension.

4. METHODOLOGY

4.1. Study area and period

4.1.1. Study Area:

The study was conducted at selected government public Hospitals in Addis Ababa a capital city of Ethiopia and capital of AU. Addis Ababa have population of 3,475,952 according to 2007 census and annual growth rate of 2.7% its area was estimated to be 530km² with altitude range 2200-3000 m above sea level. The average temperature was 22.8^oc and average rainfall of 1,180.4mm Addis Ababa have 41 hospitals 13 public 28 NGO & private 29 health center 122 health station, 37 health post and 382 modern private clinics. From this, study was conducted on 5 selected public hospitals those selected by simple random sampling using lottery method those were, Tikur Ambessa specialized hospital, Zewditu Memorial hospital, Ghandy Memorial hospital, st.poul's millennium medical college hospital and Yekatit 12 hospital medical college.

4.1.2 .Study & Data collection period:

This study was done from December 08, 2016 to June, 22/2017and data was collected from March 08 to April 09,2017Gc.

4.2. Study Design

Descriptive cross-sectional facility based study design was employed.

4.3. Population

4.3.1. Source of population

All nurses employed in Addis Ababa city selected government public Hospitals in the study period.

4.3.2. Study population

All nurses in Gynecology Obstetrics ward, Gynecology out patient department and gynecology emergency room during study period.

4.3.3. Study Subject

All nurses working at Gynecology Emergency Room in Addis Ababa city Government public Hospitals during data collection period.

4.4 Eligibility criteria

4.4.1. Inclusion criteria

All nurses who were found in Gynecology Emergency Room and doing their activities during data collection period was included in the study.

4.4.2. Exclusion criteria

Nurses who have disagree to participate, withdraw, annual leave, ill and student nurse at data collection period were excluded from the study.

4.5. Sample size and Sampling procedure

All nurses in gynecology emergency room were included. Since I considered all subjects from the selected government public hospitals there was no need of sample size calculation and sampling procedure because sample study subjects were small.

4.6. Data collection method & tools

Structured questionnaire with closed and open ended questions were used to gather the needed information from nurses. Questionnaire was prepared in English because they were no language barriers all were educated health personnel.

Prior to the actual data collection, pre-testing performed in 10 % of the participant's from Ras Desta hospital The participants for pre-tested were not include in the final study participants.

Data collector and supervisor were trained for one day before the data collection procedure.

The principal investigator and the supervisors checked the collected data for completeness and corrective measures taken accordingly. The collected data cleaned, coded and explored before analysis.

Observational check list also used to assess practice of nurses by reviewing charts in five hospitals that have hypertension during pregnancy practice question focused on do nurses

measure blood pressure, take urine sample to test, which blood pressure variable are you use as result and do you treat hypertensive pregnant mother with anti-hypertensive drug.

- ❖ From TASH 18 charts.
- ❖ From Zewditu memorial Hospital 15 charts.
- ❖ From Ghandy memorial Hospital 18 charts.
- ❖ From Yekatit 12 Medical college Hospital 15 charts.
- ❖ From st Paul's mellinium medical college Hospital 12 charts. Total of 78 charts.

4.7. Data Analysis

Data entry and analysis were performed using Epi info version 6 and SPSS version 20.0 for windows. The data was entered and cleaning was done. The generated data compiled by frequency tables, charts and graphs.

4.8. Variables

4.8.1. Dependent Variables

- Level of knowledge (Adequate/Inadequate)
- Level of Practice(Good/Poor)

4.8.2. Independent variables

❖ Socio-demographic variables:

- ✓ Age
- ✓ Sex
- ✓ Level of Education
- ✓ Work of Experience
- ✓ In job training

4.9. Data Quality Assurance

Data quality material designed properly and supervision carried out on daily bases to check completeness and consistency both by the supervisor and by principal investigator to keep the quality of data. Pretest might be performed (in 10%) the tool prior to the actual data collection and modification could be considered.

4.10. Ethical considerations

Ethical clearance was obtained from departmental research and ethical review committee of the department of emergency medicine and critical care and from the department of gyna/obs emergency faculty of medicine Addis Ababa University. Official letter of permission from the department was submitted to Addis Ababa health bureau and different selected hospitals in order to conduct the research. All the collected data was kept confidential and no one except the members of the research team had access to the collected information. All paper and computer records of the study is kept in a secured place under lock and the name and/or other personal information is not be notified in any report.

4.11. Operational Definition

Knowledge: In this research nurses were categorized as having adequate knowledge when they scored the mean value $\geq 72\%$ and above to the given questions where as those who scored below the mean value were categorized as having inadequate knowledge towards pregnancy induced hypertension because of my data enter SPSS version 7 window 20.0 changed in to mean value of knowledge of participants by statistical analysis.

Practice: In this research nurses were categorized as having good practice when they scored the mean value $\geq 55.5\%$ and above to the given questions where as those who scored below the mean value were categorized as having poor practice towards pregnancy induced hypertension enter practice question in to SPSS version 7 window 20.0 changed in to mean value of practice of participants by statistical analysis.

- ✓ **Chronic hypertension:** BP > 140/90mm/hg exist before 20wks of gestation and stay greater than 12wks post-partum.
- ✓ **Gestational hypertension:** hypertension which occurs after 20wks of gestation without protein urea and stops with in 6wks post-partum.
- ✓ **Pre-eclampsia:** Hypertension after 20wks of gestation with mild $\geq 140/90$ mm/hg and sever form $\geq 160/110$ mm/hg. With protein urea sudden increase in protein urea causes development of HELLP syndrome the cause is unknown.
- ✓ **Super imposed pre-eclampsia:** pre-eclampsia in a woman with chronic hypertension or chronic renal disease (department of health 2007).
- ✓ **Eclampsia:** pre-eclampsia plus convulsion.

4.12. Dissemination of Results

- The finding of the study will be submitted and presented to the department of emergency medicine and critical care, college of health sciences & AAU.
- It will also be disseminated through presentations in different professional Association meetings and annual conferences. The paper will also be submitted to national or international peer reviewed scientific journals for possible publications.
- AA FMH (Addis Ababa federal ministry of health).
- AAU Department of Gynecology and Obstetrics.

5. RESULTS

5.1. Socio-demographic characteristics of respondents

A total of 78 study participants were included in the study. The mean age of the respondents was 25.62 years in which 44(56.4%) of them were less than or equal to 25 years where as the rest were greater than 25 years. Fifty or 64.1% of them were females and seventy two (92.3%) were Bsc midwife nurses while only 4(5.1%) and 2(2.6%) were BSC nurses and diploma midwife nurse respectively.

Regarding experience of respondents, 52(66.7%) of them served for 1-5 years while, 22(28.2%), 3(3.8%) and 1(1.3%) of them served for less than 1 year, 6-11 years and greater than 11 years respectively and all of them attained their academics training in Ethiopia. However, fifty three (67.9%) of the study participants did not have any on-job training.

5.2. Level of knowledge towards pregnancy induced hypertension

Based on the operational definition of this study, participants were given 34 ‘_yes’ or ‘_no’ questions and fifty four (67.9%) of them found to have adequate knowledge who scored $\geq 72\%$

Figure 1: Level of knowledge towards pregnancy induced hypertension among nurses working in gynecology emergency room in selected public hospitals in Addis Ababa 2017(N=78).

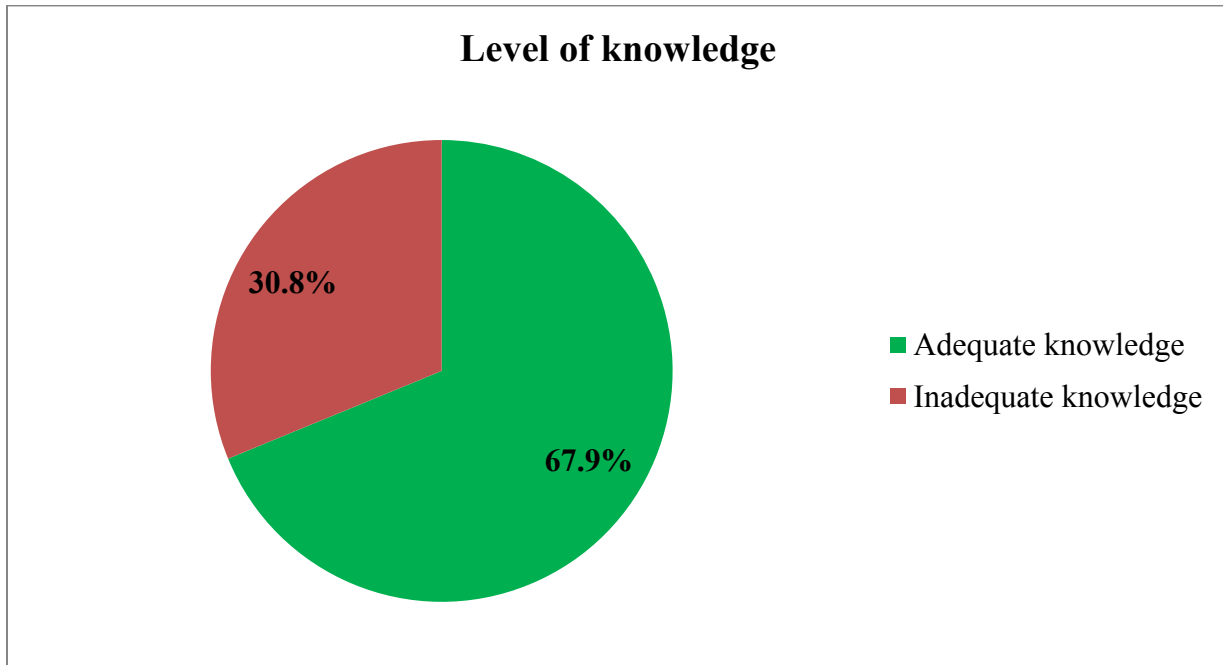


Table 1: Questions to assess knowledge towards pregnancy induced hypertension among nurses working in gynecology emergency room in selected public hospitals in Addis Ababa 2017 (N=78).

Variable	Response	
	Yes	No
Do you use manual BP measurement equipment?	71(91%)	7(9%)
Do you use mean arterial BP, systolic and diastolic BP as a result?	62(79.5%)	16(20.5%)
Do you measure the BP of pregnant mother without risk for the first time in the 1st and 2 nd trimester?	68(87.2%)	10(12.8%)
Do you measure BP of pregnant mother in each visit?	65(83.3%)	13(16.7%)
Are there any supplementary tests for pregnant mother with high BP?	70(89.7%)	8(10.3%)
Do you initiate hypertensive Rx for pregnant mother with a blood pressure of over 160/110	62(79.5%)	16(20.5%)
Do you treat hypertension during pregnancy with methyldopa?	67(85.9%)	11(14.1%)
Are you treating pre- eclampsia mother in the hospital after 37 th weeks of gestation?	76(97.4%)	2(2.6%)
Do you consider gestational hypertension after 20 th weeks of gestation without protein urea?	61(78.2%)	17(21.8%)
Do you consider pre –eclampsia mother with increased B/P after 20 th week’s gestation with protein urea?	65(83.3%)	13(16.7%)
Is eclampsia different from gestational hypertension & pre-eclampsia by developing high BP with convulsion?	70(89.7%)	8(10.3%)
Pregnancy induced hypertension includes(Multiple response questions)		
Eclampsia	55(70.5%)	23(29.5%)
Gestational hypertension	73(93.6%)	5(6.4%)
Pre-eclampsia	67(85.9%)	11(14.1%)
Chronic hypertension	21(26.9%)	57(73.1%)
Super imposed pre-eclampsia	51(65.4%)	27(34.6%)

Have you got any in or on-job training related to your work?	25(32.1%)	53(67.9%)
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Signs and symptoms of pre-eclampsia includes(Multiple response questions)

Severe headache	73(93.6%)	5(6.4%)
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Nausea & vomiting	51(65.4%)	27(34.6%)
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Epi-gastric pain	70(89.7%)	8(10.3%)
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High BP with proteinuria	55(70.5%)	23(29.5%)
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Thrombocytopenia	24(30.8%)	54(69.2%)
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Visual disturbance	63(80.8%)	15(19.2%)
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Life style modification of pregnancy to prevent BP rise includes(Multiple response questions)

Salt reduction	64(82.1%)	14(17.9%)
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Stress reassurance	71(91%)	7(9%)
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Prevention of obesity	64(82.1%)	14(17.9%)
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Encourage simple exercise	46(59%)	32(41%)
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Magnesium toxicity includes(Multiple response questions)

Absence of patellar reflex	65(83.3%)	13(16.7%)
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Decrease urine output	69(88.5%)	9(11.5%)
-----------------------	-----------	----------

Respiratory depression	70(89.7%)	8(10.3%)
------------------------	-----------	----------

Is calcium gluconet anti-dot for magnesium toxicity?	67(85.9%)	11(14.1%)
--	-----------	-----------

Do you treat eclampsia with magnesium sulphate?	75(96.2%)	3(3.8%)
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Do you give any advice for a pregnant mother?	69(88.5%)	9(11.5%)
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Is the type of advice given to a pregnant mother correct? (Self-rated)	59(75.6%)	19(24.4%)
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5.3. Level of practice towards pregnancy induced hypertension

An observational checklist containing eleven questions was employed to review charts. Among the total charts reviewed, 39(50%) of the charts had showed good practice towards pregnancy induced hypertension.

The mean value of participants as having good practice by reviewing some charts in different hospitals pregnant mother with hypertension to observe nurses practice which depend on necessary 11 practice evaluator question so they scored the mean value that is $\geq 55.5\%$ have good practice but those who have scored below this have poor practice.

Figure 2: Level of practice towards pregnancy induced hypertension among nurses working in gynecology emergency room in selected public hospitals in Addis Ababa 2017(N=78).

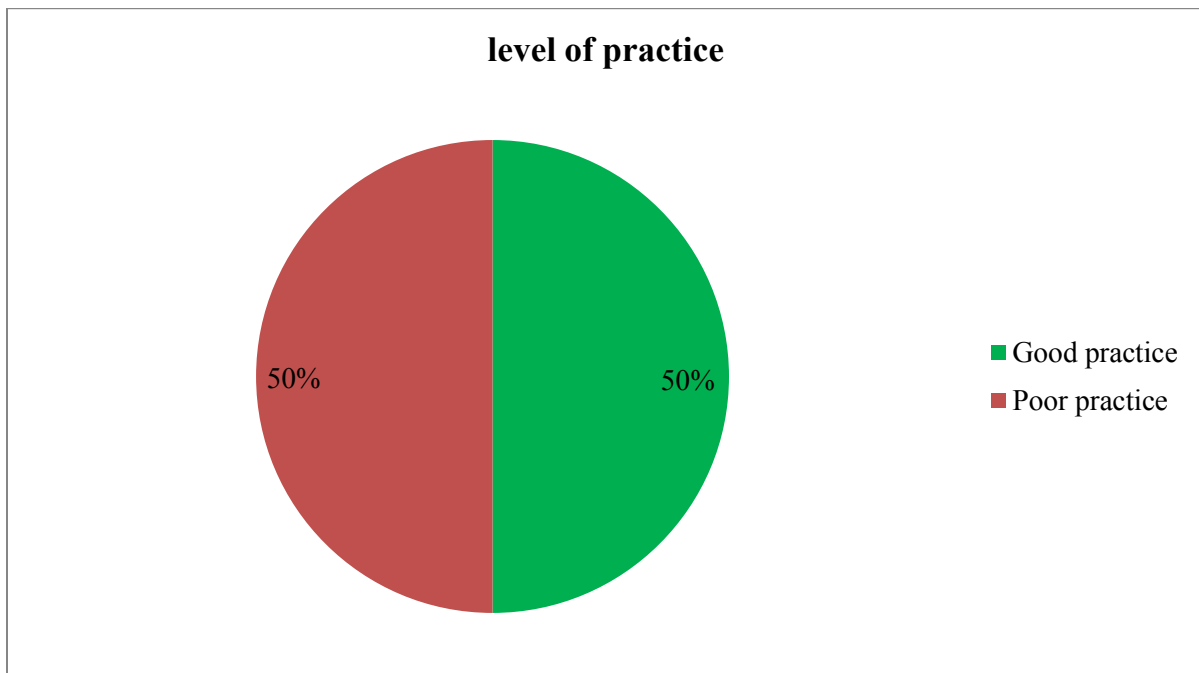


Table 2:Observational checklist to assess practice towards pregnancy induced hypertension among nurses working in gynecology emergency room in selected public hospitals in Addis Ababa 2017 (N=78).

Variable	Response	
	Yes	No
Did Nurses measure BP?	68(87.2%)	10(12.8%)
Type of BP measurement equipment? (Multiple response checklist)		
Manual	69(88.5%)	9(11.5%)
Automatic	16(20.5%)	62(79.5%)
24 hour monitoring equipment	41(52.6%)	37(47.4%)
Which type of BP variable was used?(Multiple response checklist)		
MAP	22(28.2%)	56(71.8%)
Systolic and diastolic BP	65(83.3%)	13(16.7%)
Systolic or diastolic BP	0	78(100%)
Diastolic	7(9%)	71(91%)
Did BP measured several times for pregnant hypertensive mother?	59(75.6%)	19(24.4%)
Did urine taken for test?	66(84.6%)	12(15.4%)
Is any Rx given for treating hypertension for pregnant mother?	63(80.8%)	15(19.2%)

Table3. Inventory checklist to assess the availability of equipments to support practice towards pregnancy induced hypertension for nurses working in gynecology emergency room in selected public hospitals in Addis Ababa City.

Item	Tikur Anbesa specialized hospital		Zewditu memorial hospital		Gandy memorial hospital		Yekatit 12 hospital medical college		St,Paul's millennium medical college hospital	
	yes	no	yes	no	yes	no	yes	no	yes	no
Weighting scale	✓		✓		✓		✓		✓	
B/p machine	✓		✓		✓		✓		✓	
manuel	✓		✓		✓		✓		✓	
Authomatic	✓		✓			✓	✓			✓
24 hour	✓		✓		✓		✓		✓	
Iv canula	✓		✓		✓		✓		✓	
Iv fluid	✓		✓		✓		✓		✓	
Magnissium sulphate	✓		✓		✓		✓		✓	
Diazepam	✓		✓		✓		✓		✓	
Metyledopa	✓		✓		✓		✓		✓	
Hayderalizin	✓		✓		✓		✓		✓	
Labetelol		✓	✓		✓			✓		✓
Diuretics		✓	✓		✓		✓		✓	
ACEI		✓		✓		✓	✓			✓
Nephidipin	✓		✓		✓		✓		✓	
Calcium Gulconate	✓		✓		✓		✓		✓	
Glucometer	✓		✓		✓		✓		✓	
PICT	✓		✓		✓		✓		✓	

NB Availability was checked during data collection period in Gynecology emergency room.

5.4. Chi-square test result

Existence of association between training, experiences against the dependent variables was tested using chi-square test. Only training was significantly associated with knowledge towards pregnancy induced hypertension at $p < 0.003$ but none of the variables were significantly associated with practice towards pregnancy induced hypertension.

6. DISCUSSION

Out of the total study participants, fifty four (67.9%) of them found to have adequate knowledge towards pregnancy induced hypertension. The findings of this study were lower than the finding from India 77% (34) but higher than the findings from Tanzania 64% (30) and Eritrea 65% (29). The possible reason for the discrepancies might be related to the degree of on-job training, sample size, difference in study period and study was done clinics from Tanzania.

Out of the total study participants, seventy three (93.6%) of them correctly define Gestational hypertension as one component of pregnancy induced hypertension. This finding is higher than the finding from South Africa 43.6% (31). The possible reason for the difference could be related to study was done in primary clinics and the study period and in or on job training.

Seventy five or 96.2% of the study participants reported to treat eclampsia with magnesium sulphate. This finding was consistent with the finding from Tanzania 95% (30).

Out of the total participants seventy three or (93.6%) in this study mentioned pregnant mother with pre-eclampsia manifest different sign and symptoms out of this severe headache was classical one this finding were higher than the finding from Tanzania 91% (30) and South Africa 56.4% (31) the possible reason for the difference were it might be due to study done in primary health clinics, study period and in job training.

Sixty seven or 85.9% of participants in this study reported to treat hypertensive pregnant mother with methyldopa this finding was less than the finding from Tanzania 99% (30) this might be due to inaccessible drug distribution which was used to treat hypertension during pregnancy in clinic and study period.

In this study the knowledge of participants regarding sign and symptom of Mgso4 toxicity and anti dote was sixty eight or 87.2% and sixty seven or 85.9% respectively but the finding from Sudan Omdurman military university hospital showed that knowing of sign symptom of Mgso4 toxicity and anti dote to Mgso4 toxicity was too low this might be due to sample size, study area (military hospital) knowledge gap due to shortage of training and period (advancement of different technologies now to knowledge acquisition) (35)

Among the total 78 charts reviewed, 39(50%) of the charts had showed good practice towards pregnancy induced hypertension. This finding is lower than the finding from Saudi Arabia (95.6%) (32). This may happen due to the fact that Saudi Arabia is economically more advanced than Ethiopia and this in turn may have its own impact on the level of practice towards pregnancy induced hypertension the impact of chart review rather than direct observation nurses shortage of documentation even activity was done.

Out of the total study participants, 68(87.2%) of nurses were measuring blood pressure. This finding is higher than the finding from Egypt (51.4%) (27). the probable reason for the differences may be in or on-job training regarding pregnancy induced hypertension, difference in study period the difference in study Area.

Necessary equipment's and supplies for management of hypertension in different public hospitals of Addis Ababa city was almost available by inventory check list this finding was consistent with the finding from Tanzania.(30)

Only training was significantly associated with knowledge towards pregnancy induced hypertension at $p < 0.003$. The possible justification for the finding may be related to the fact that professionals may acquire enough knowledge from on-job training. However, experience had no association with knowledge towards pregnancy induced hypertension. This finding is in line with the finding from Eritrea (29).

None of the variables were significantly associated with practice towards pregnancy induced hypertension. The possible reason for the finding might be related sample size.

STRENGTH AND LIMITATIONS OF THE STUDY

❖ **Strength**

- The study includes all nurses in gayn/obs emergency room from different hospitals this was its own strength.

❖ **Limitation**

- Chart review to observe practice of participants were employed to conduct this study due to time constraint because all the data to observe the practice of nurses from selected hospitals of gayn/obs emergency room were picked from clients chart who develops hypertension during pregnancy this was its own impact on gaining areal information because of documentation deficit even activity was done.
- Study done on Addis Ababa selected public hospitals challenges chart review to the practice of nurses towards PIH because of nurses duty was masked by physicians and gayn/obs residents. We assume all pointes documented in charts were physicians or gayn/obs residents responsibility.
- It is difficult to collect data in some hospitals like St paul's millennium medical college hospital because of poor management system to time in IRB committee office.

7. CONCLUSION

- ❖ Based on the findings of this research, the level of knowledge and practice were found to be low.
- ❖ Moreover, training was identified as a factor affecting the level of knowledge.
- ❖ However, both training and experience didn't have association with practice towards pregnancy induced hypertension.
- ❖ Continuous professional development was critical in health workers both in theory and clinical practice.
- ❖ I found sufficiency of supplies in selected public hospitals but the overall knowledge and practice of participants were less although the supplies were enough regarding the management of pregnancy induced hypertension.

8. RECOMMENDATION

According to the findings of this research, the following recommendations were forwarded.

❖ **Hospitals need to:**

- Create a mechanism of raising the level of knowledge and practice towards pregnancy induced hypertension among nurses working in gynecology emergency room
- Strengthen on job training regarding their work to improve the level of knowledge towards pregnancy induced hypertension.
- Noticeable clear guideline of management and practice of pre-eclampsia and eclampsia at hospital.
- Give motivation nurses to take attention the importance of taking urinalysis BP measurement regular bases during pregnancy and importance of documentation.
- All Institutions ready for availability of different equipment's and drugs like labetalol in st paul's and TASH during the study period.

❖ **For Nurses;**

- Motivate themselves to acquire good knowledge and practice towards pregnancy induced hypertension
- Devote their time for learning from their peers about pregnancy induced hypertension
- Involve any in or on-job training offered by their working institution.

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APPENDIXES

1. QUESTIONERS

Consent Form

I am conducting a study in Addis Ababa city selected Governmental Hospitals aiming at assessing the Knowledge and practice of nurses to PIH assigned in emergency gynecology Rooms of Addis Ababa hospitals.

All nurses who will meet the inclusion criteria during time of data collection would be requested to participate in the study. If the request is positively agreed, then participant would be asked questions through self-administered questioner and would be observed while doing routine activities.

You are kindly requested to participate in this study and give out your opinions and views. All information would be kept secretly no name is needed on my research paper. Your participation was vital however your participation was voluntarily. You were free to participate, refuse or withdraw at any time even without any effects. However your participation was highly demanded and would be appreciated. Therefore I have read and understand the importance of this study.

Respondent signature

Interviewer Signature

.....

.....

Date.....

Date.....

PART 1: SOCIO DEMOGRAPHIC CHARACTERISTICS.

- 1. Sex 1. Male 2. Female
- 2. Age:.....
- 3. Position at clinic
 - 1. Nurse BSC 2. Midwife BSC 3. Diploma in midwife
- 4. How long have you worked here
 - 1. <1year 3. 6---11year
 - 2. 1---5year 4. ≥than 11 year
- 5. Where were you educated?
 - 1. In Ethiopia 2. Other country specify

PART 2: KNOWLEDGE ASSESSMENT QUESTION.

- 1. With which equipment do you measure blood pressure?
 - 1. Automatic 2. Manuel
 - 3. 24 hour monitoring
- 2. Which blood pressure variable do you use as a result?
 - 1. Mean Arterial BP 3. Systolic BP
 - 2. Diastolic BP 4. Sys & Dias BP 5. Sys/Dias
- 3. When do you measure the BP of a pregnant woman, without any risk factors, for the first time?
 - 1. 1st trimester 3. 3rd trimester
 - 2. 2nd trimester
- 4. How often do you measure the BP of pregnant women without any risk factors?
 - 1. Every week 2. Every month
 - 3. Every trimester 4. Only one time during the pregnancy
 - 5. in each visit 6. Never
- 5. Are there any supplementary tests or exams done if the women has high BP (defined here as 160/90)?
 - 1. Correct 0. Incorrect

- 6.** When are the BP considered so high, that you would initiate treatment?
1. Over 150/100
 2. Over 160/110
 3. Over 170/120
 4. Over 180/130
- 7.** What would you give to treat pre-eclampsia?
1. β ---blockers
 2. ACE---blockers
 3. Methyldopa
 4. Diuretics
- 5.** I would not give any specific medication
- 6.** Other Please specify which:.....
- 8.** Where would you treat a pre---eclamptic woman after 37th week of gestation?
1. In the hospital
 2. As an outpatient
- 9.** When do you consider gestational hypertension?
1. before 20 wks of gestation
 2. after 20wks of gestation with protein urea
 3. after 20wks of gestation without protein urea
 4. before 20 wks of gestation without protein urea
- 10.** Pre-eclamptic mother have
1. B/P increase any time during gestation
 2. B/P increase with protein urea after 20wks of gestation
 3. Increase B/P without protein urea after 20wks of gestation
 4. Increase B/P with protein urea before 20wks of gestation
- 11.** How do you differentiate eclampsia from gestational hypertension & pre-eclampsia?
1. B/P >160/110
 2. high B/P with protein urea
 3. High B/P with convulsion
 4. Other specifies
 5. Not differentiate
- 12.** pregnancy induced hypertension includes. If it is possible circle more than one
1. Eclampsia
 2. Gestational hypertension
 3. Pre-eclampsia
 4. chronic hypertension
 5. Super imposed pre-eclampsia
- 13.** Have you got any training which is related to your job? 1. Yes 2.no
- 14.** Sign and symptoms of pre eclampsia include. If it is possible circle more than one.
1. Sever head ache
 - 2.nausea & vomiting
 3. epi gastric pain
 4. High B/P with protein urea
 - 5.thrombocytopenia
 6. Visual disturbance

15. A life style modification for prevention of B/P during pregnancy is. If it is possible circle more than one.

1. Salt reduction

2. Stress reassurance

3. Prevention of obesity

4. encourage simple exercise

16. Magnesium toxicity includes. if it is possible circle more than one.

1. Absence of patellar reflex

2. Decrease urine output

3. respiratory depression

17. Anti dot for magnesium sulphate toxicity

1. Calcium gluconate

2. iron sulphate

3. Bicarbonate

4. Sodium chloride

5. All

18. What would you give to treat eclampsia?

1. Correct

0. Incorrect

19. Does nurse give any advice regarding BP for those with high BP?

1. Yes

2. no

20. If yes what sort of advice specify... 1. Correct

0. incorrect

PART 3; PRACTICE ASSESSMENT QUESTION.

3.1-Observation checklist

1. Nurses measure BP?:

1. Yes

2. No

2. Nurses use what kind of equipment for BP measurement?

1. Manuel

2. Automatic

3. 24-hours monitoring

3. Nurses use which BP-variable as a result?

1. Systolic BP

2. Diastolic BP

3. MAP

4. Sys/Dias BP

5. Syst&Dias

4. Does the Nurse measure the BP several times for those with high BP?

1. Yes 2. No

5. Does the Nurse take urinalysis for those with high BP?

1. Yes 2. No

6. Any treatment given for those with high BP?

1. Yes 2. No

3.2. INVENTORY CHECK LIST.

1. Weighting scale

2. Number of BP measurement equipment's.

Manuel:..... .Automatic:..... .24-hours monitoring:.....

3. Availability of different B/P medication.

ACE-inhibitors:..... β -blockers:..... Haydralizin.....

Methyldopa:..... Diuretics:..... Nifidipin.....

4. Availability of magnesium sulphate. Yes No

5. Glucometer Yes /no

6. Calcium gluconat Yes/no

7. PICT Yes/no

8. IV fluid Yes/no

9. IV cannula Yes/no

2. DECLARATION

I, the undersigned, declared that this is my own work and all the source of materials used for this thesis has fully acknowledged.

Name: Wolelaw Tadele

Signature: _____

Date of Submission: _____

Place: AAU

This paper has been submitted for examination with my approval as a university advisors.

Advisors:

1. Dr. Finot Debebe

Signature: _____

Date: _____

2. Achamyelesh Tadele

Signature: _____

Date: _____