

Assessment of knowledge and practice of nurses working in gynecology emergency room towards pregnancy induced hypertension in selected government public hospitals found in Addis Ababa, Ethiopia

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Abstract

Background: - Pregnancy induced hypertension is one of the most common causes of both maternal and neonatal morbidity.

Objective: - To assess 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. Hospitals were selected by simple random sampling using lottery method with sample size determination of all nurses found in Gynecology emergency Room.

Result: - A total of 78 study participants were included in the study. The mean age of the respondents was 25.62 years. Out of the total study participants, 54(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: - Based on the findings of this study, the level of knowledge and practice was found to be low.

Introduction

Hypertensive diseases of pregnancy are considered to be common causes of maternal deaths worldwide. 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. Chronic Hypertension prior to conception or diagnosed before 20th week of gestation. Preeclampsia is systemic disease with hypertension accompanied by proteinuria after 20th week of gestation and eclampsia is defined as the occurrence of seizure. Severe hypertension is defined as a systolic blood pressure ≥ 160 mm Hg and/or diastolic blood pressure ≥ 110 mm Hg. 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[1, 2, 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 maternal deaths are the five obstetric causes namely hemorrhage hypertension, sepsis, obstructed labor and complication of abortion.

Pre-eclampsia and eclampsia contributes to 18% of the deaths the second after Hemorrhage as the most common cause of maternal deaths. 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%, 9.2% were classified as pre-eclamptic and gestational hypertensive respectively. 52.3% were not receiving anti natal care services. Most maternal deaths are potentially avoidable. 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% [4, 5, 6, 7, 8].

Availability of magnesium sulphate for treatment of pre-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. 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%[9, 10, 11, 12].

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.

Methodology

Research approach: Quantitative research approach was used for the present study

Research Design: A Descriptive cross-sectional facility based study design from December 08, 2016 to June, 22/2017G.C. was employed.

Setting: At Gynecology Emergency Room in Addis Ababa city Government public Hospitals

Population: All nurses working at Gynecology Emergency Room in Addis Ababa city Government public Hospitals during data collection period were considered study subjects.

Sample: All nurses who were found in Gynecology Emergency Room and doing their activities during data collection period was included in the study. Nurses who have disagree to participate, withdraw, annual leave, ill and student nurse at data collection period were excluded from the study.

Sample Size: all subjects from the selected government public hospitals

Sampling Technique: since all subjects considered from the selected government public hospitals no sampling technique is used

Data Collection Tool: 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.

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

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 performed in 10% the tool prior to the actual data collection and modification was considered.

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.

Results

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.

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 $\geq 72\%$ [Fig. 1].

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 2nd 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 37th Weeks of gestation?	76(97.4%)	2(2.6%)
Do you consider gestational hypertension after 20th weeks of Gestation without protein urea?	61(78.2%)	17(21.8%)
Do you consider pre –eclampsia mother with increased B/P after 20th 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%)
Signs and symptoms of pre-eclampsia includes(Multiple response questions)		
Severe headache	73(93.6%)	5(6.4%)
Nausea & vomiting	51(65.4%)	27(34.6%)
Epi-gastric pain	70(89.7%)	8(10.3%)

Variable	Response	
High BP with proteinuria	55(70.5%)	23(29.5%)
Thrombocytopenia	24(30.8%)	54(69.2%)
Visual disturbance	63(80.8%)	15(19.2%)
Life style modification of pregnancy to prevent BP rise includes(Multiple response questions)		
Salt reduction	64(82.1%)	14(17.9%)
Stress reassurance	71(91%)	7(9%)
Prevention of obesity	64(82.1%)	14(17.9%)
Encourage simple exercise	46(59%)	32(41%)
Magnesium toxicity includes(Multiple response questions)		
Absence of patellar reflex	65(83.3%)	13(16.7%)
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%)
Do you give any advice for a pregnant mother?	69(88.5%)	9(11.5%)
Is the type of advice given to a pregnant mother correct? (Self-rated)	59(75.6%)	19(24.4%)

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 > 55.5% have good practice but those who have scored below this have poor practice[Fig. 2].

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%)

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.

Table 3

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

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.

Discussion

54(67.9%) participants found to have adequate knowledge towards pregnancy induced hypertension. The findings of this study were lower than the finding from India 77% but higher than the findings from

Tanzania 64% and Eritrea 65% [14, 15, and 18]. 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.

75(96.2%) of the study participants reported to treat eclampsia with magnesium sulphate. This finding was consistent with the finding from Tanzania 95%. 73 (93.6%) pregnant mother with pre-eclampsia manifest different sign and symptoms out of this severe headache was classical one which is higher than the finding from Tanzania 91% and South Africa 56.4% [15, 16]. The possible reason for the difference were it might be due to study done in primary health clinics, study period and in job training.

67(85.9%) of participants reported to treat hypertensive pregnant mother with methyldopa this finding was less than the finding from Tanzania 99%. This might be due to inaccessible drug distribution which was used to treat hypertension during pregnancy in clinic and study period. 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 was too low this might be due to sample size, study area knowledge gap due to shortage of training and period [15 & 19].

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%). 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. 68(87.2%) of nurses were measuring blood pressure. That is higher than the finding from Egypt (51.4%). 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 [13, 15, 17].

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

Conclusions

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. We 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.

Recommendations

A mechanism of raising the level of knowledge and practice towards pregnancy induced hypertension among nurses working in gynecology emergency room be created. Strengthen on job training of health personnel regarding their work to improve the level of knowledge towards pregnancy induced hypertension. There might noticeable clear guideline of management and practice of pre-eclampsia and eclampsia at hospital.

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from Addis Ababa University Institutional review Board and permission letter from each Hospitals. Confidentiality of the information is kept by not mentioning patients name and their medical registration number.

Consent for Publication

Authors already agreed on further widespread of information of publication

Availability for data and materials

Not Applicable

Competing interests:

"The authors declare that they have no competing interests"

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Authors Contribution

Author contributed from conception the research design to data collection, analysis, interpretation and total research write up also approval for publication and agreed to be accountable for all aspects of the

work.

That is WT brought the original idea. FD, LT and AT drafted and revised the work. LT, WT and AT supervised data collection. FD, WT & LT analyzed and interpreted the finding. LT and WT wrote the manuscript

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Figures

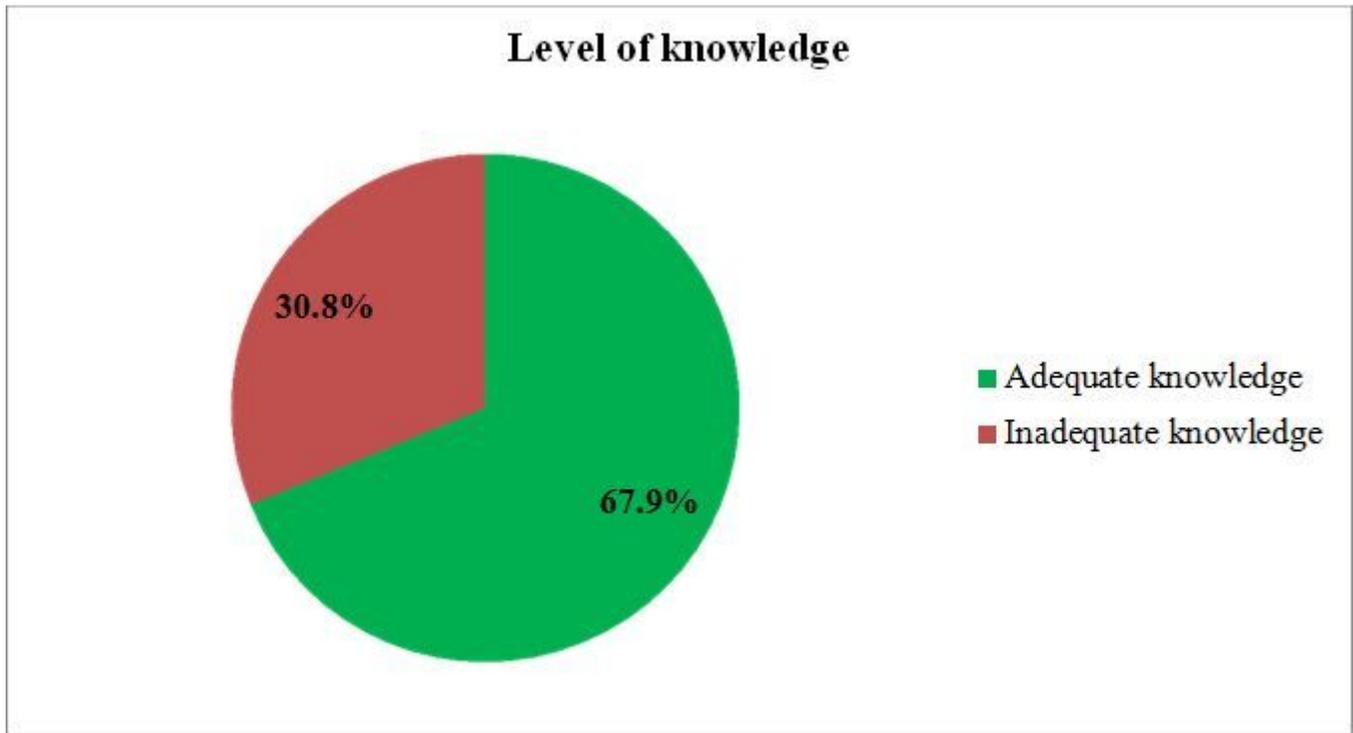


Figure 1

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

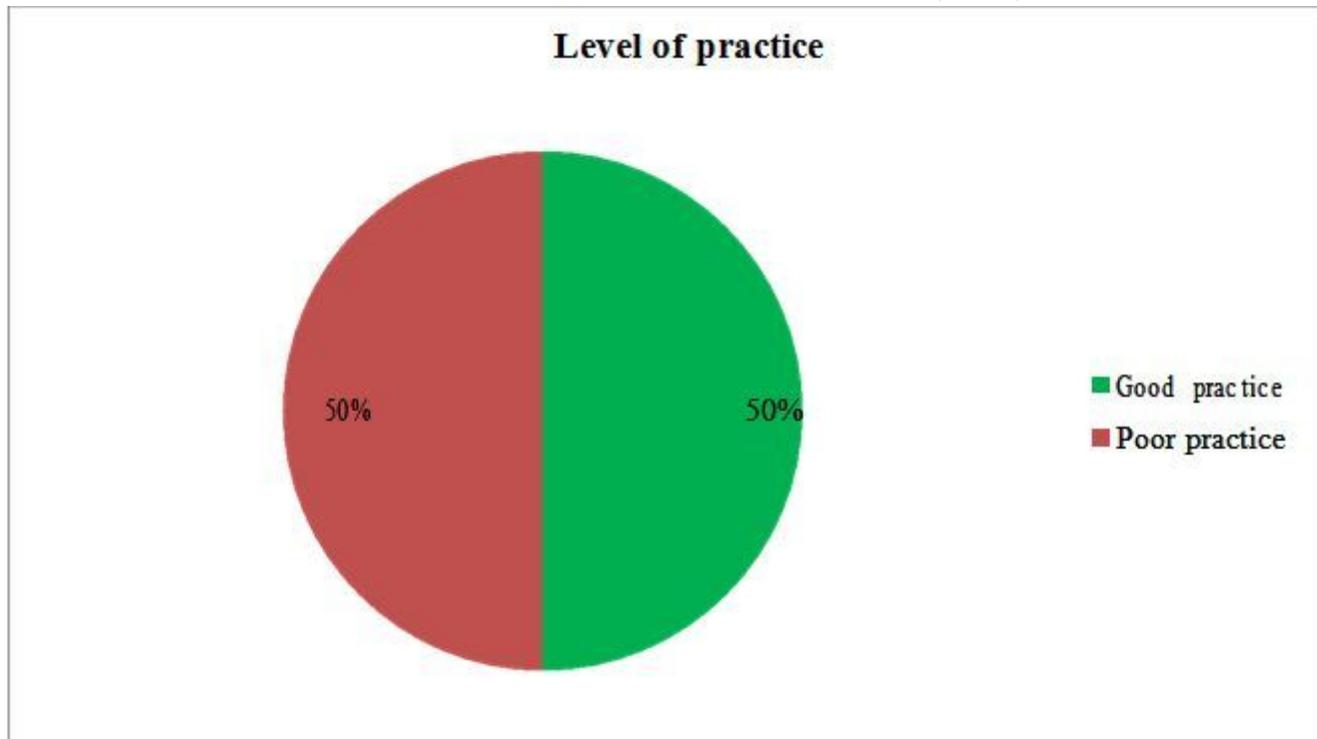


Figure 2

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