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Research Article

Effectiveness of Self-Instructional Module (SIM) On Knowledge Regarding Pregnancy Induced Hypertension (PIH) Among Staff Nurses

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ABSTRACT
Background and Objectives: Pregnancy is one of the most significant phases in a woman's life, requiring systematic and continuous care to ensure a safe delivery, early identification of complications, and timely medical intervention. Women, particularly during pregnancy, are considered a vulnerable segment of the population. In India, approximately 23 million births occur annually, with an estimated 24 million pregnancies. Of these, 7–15% are complicated, contributing to a significant burden of maternal health issues. Globally, about 529,000 women lose their lives each year due to pregnancy-related complications, and for every death, nearly 118 women experience life-threatening conditions or severe acute health issues. Pregnancy-induced hypertension (PIH) is a significant contributor to maternal, fetal, and neonatal morbidity and mortality. Women affected by PIH are more susceptible to conditions such as placental abruption, cerebrovascular accidents, organ dysfunction, and disseminated intravascular coagulation. Additionally, fetuses of mothers with PIH are at a heightened risk of experiencing intrauterine growth restriction, preterm birth, and intrauterine death. Pregnancy-induced hypertension (PIH) is a medical condition that develops during pregnancy, characterized by elevated blood pressure. Also referred to as toxemia, PIH typically arises after 20 weeks of gestation in women who previously had normal blood pressure levels. It is clinically defined as a systolic blood pressure exceeding 140 mmHg or a diastolic blood pressure above 90 mmHg. This condition involves increased vascular resistance, often accompanied by vasospasm in both small and large arteries. PIH is observed in approximately 5% to 8% of pregnancies and can impair blood flow to multiple organ systems, including the liver, kidneys, brain, uterus, and placenta.
Objectives:
1. To assess the level of knowledge regarding pregnancy induced hypertension (P.I.H) among staff nurses.
2. To evaluate the effectiveness of SIM on knowledge regarding pregnancy induced hypertension (P.I.H) among staff nurses.
3. To find out an association between mean pretest knowledge score regarding pregnancy induced hypertension (P.I.H) with their selected socio- demographic variables.

Methods: A quantitative evaluative survey approach was adopted for the present study, utilizing a pre-experimental one-group pre-test and post-test design. After obtaining ethical clearance, prior permission was sought from D.Y. Patil Hospital in Kolhapur. The intervention focused on pregnancy-induced hypertension, aiming to evaluate the effectiveness of a self-instructional module on this topic. According to Slovin's formula, the target population for the study was 124 staff nurses, from which 80 staff nurses were selected as the sample population, considering a margin of error of 0.10. After obtaining consent from the participants, 80 subjects were chosen using a non-probability purposive sampling technique. A pre-test was conducted to assess their knowledge regarding pregnancy-induced hypertension. Subsequently, the self-instructional module was administered to the subjects. A post-test was conducted seven days later, on the eighth day, using the same tool as the pre-test. After data collection, the data were tabulated and analyzed. Based on the interpretation, a scale of Good, Average, and Poor was applied.
Results: The findings of this study revealed that the mean post-test knowledge score of the subjects was higher than their mean pre-test knowledge score. The paired t-value was 14.82, with a p-value

of 0.01*, which is considered extremely significant. This indicates a notable improvement in knowledge regarding pregnancy-induced hypertension following the intervention. Therefore, the research hypothesis (H_1) was accepted.

Interpretation and Conclusion: Descriptive statistics, including the mean and standard error difference for the pre- and post-test, revealed a deficit in knowledge regarding pregnancy-induced hypertension among staff nurses. However, the post-test knowledge scores indicated a significant gain in knowledge following the administration of the self-instructional module. The paired 't' test and 'p' values were computed to assess the effectiveness of the self-instructional module, and the results clearly indicated that the intervention was effective.

Keywords: Pregnancy-Induced Hypertension, Self-Instructional Module, Staff Nurses, Knowledge Assessment, Pre-Experimental Study.

INTRODUCTION

Pregnancy is one of the most significant phases in a woman's life, requiring systematic and continuous care to ensure a safe delivery, early identification of complications, and timely medical intervention. Women, particularly during pregnancy, are considered a vulnerable segment of the population. In India, approximately 23 million births occur annually, with an estimated 24 million pregnancies. Of these, 7–15% are complicated, contributing to a significant burden of maternal health issues. Globally, about 529,000 women lose their lives each year due to pregnancy-related complications, and for every death, nearly 118 women experience life-threatening conditions or severe acute health issues. In the United States, hypertensive disorders are responsible for around 15% of maternal deaths, ranking as the second leading cause of maternal mortality. Pregnancy-induced hypertension significantly contributes to both maternal and perinatal morbidity and mortality. These disorders are among the most prevalent medical complications during pregnancy, affecting 5–10% of pregnant women. Research conducted in South Africa reported a 12% incidence rate of hypertensive disorders during pregnancy, identifying them as the leading cause of maternal mortality, accounting for 20.7% of maternal deaths. Pregnancy-induced hypertension (PIH), commonly referred to as toxemia, is a pregnancy-related condition characterized by elevated blood pressure. It typically manifests after the 20th week of gestation in women who previously had normal blood pressure. The condition is diagnosed when systolic blood pressure surpasses 140 mmHg or diastolic pressure exceeds 90 mmHg. PIH is linked to increased vascular resistance and spasms in both small and large arteries. Occurring in approximately 5% to 8% of pregnancies, it can compromise blood circulation to vital organs such as the liver, kidneys, brain, uterus, and placenta. Pregnancy-induced hypertension (PIH) significantly impacts maternal, fetal, and neonatal health, increasing the risk of severe complications. Women diagnosed with PIH are more susceptible to conditions such as placental abruption, cerebrovascular accidents, organ dysfunction, and disseminated intravascular coagulation. Additionally, newborns of affected mothers have a higher probability of experiencing intrauterine growth restriction, preterm delivery, and stillbirth. Pregnancy-induced hypertension (PIH) is classified into three main types: gestational hypertension, preeclampsia, and eclampsia.

1. Gestational hypertension: It is identified when blood pressure rises to or exceeds 140/90 mmHg during the second trimester, typically after 20 weeks of pregnancy. Unlike preeclampsia, it does not involve kidney impairment or proteinuria. In most cases, this condition resolves following childbirth. Management strategies include routine blood pressure monitoring, lifestyle modifications, and medication when necessary. While appropriate treatment generally helps prevent severe complications, there remains a possibility of progression to preeclampsia, requiring closer supervision by healthcare professionals.
2. Preeclampsia: Preeclampsia is a serious medical condition that usually develops after the 20th week of pregnancy. It is characterized by elevated blood pressure, protein in the urine (proteinuria), swelling, headaches, and blurred vision. This condition can also affect multiple organs, including the liver and kidneys, and may result in brain injuries or other life-threatening complications. Preeclampsia endangers both the mother and the fetus. It is diagnosed when blood pressure more than 160/100 mmHg, accompanied by proteinuria greater than 0.3 g over 24 hours. The severity of preeclampsia varies, with severe cases presenting with extremely high blood

pressure (systolic ≥ 160 mmHg or diastolic ≥ 110 mmHg) recorded at least six hours apart while at rest, significant proteinuria (≥ 5 g/24 hours or ≥ 3+ on two random urine tests taken four hours apart), or signs of organ damage.

3. Eclampsia: Eclampsia is a rare but serious condition involving seizures in individuals with preeclampsia. Symptoms include high blood pressure, severe headaches, blurred vision, and convulsions. This condition usually arises in the latter half of pregnancy and demands urgent medical intervention, as it leads to significant risks to both maternal and fetal health. Accurate measurement of blood pressure is crucial, as it directly impacts clinical decision-making and management. For proper measurement, the patient should be seated comfortably with her legs resting on a flat surface and her arm positioned at heart level. During labour, blood pressure can be measured with the woman in the lateral position. Antihypertensive medications are prescribed to reduce the risk of maternal complications but do not influence the progression of the disease or prevent eclampsia. These medications should be administered with care, as rapidly lowering blood pressure can negatively affect uteroplacental perfusion, potentially leading to fetal bradycardia in already compromised fetuses. Commonly used antihypertensive drugs include hydralazine (administered as a 5–10 mg intravenous bolus every 10–15 minutes), labetalol, nicardipine, and sodium nitroprusside. Magnesium sulphate is the drug of choice for preventing eclampsia. It is typically administered as a 4 g loading dose diluted in normal saline, followed by a continuous infusion of 1 g per hour. In some medical settings, symptoms or signs such as persistent headache, hyperreflexia with clonus, liver dysfunction, or severe hypertension are used as indications for magnesium sulphate prophylaxis, although their predictive value for eclampsia varies. Individual healthcare units are encouraged to establish their own protocols and monitor patient outcomes to ensure effective management of pregnancy-induced hypertension. Calcium supplementation is essential in counteracting the negative effects of magnesium sulphate and acts as an antidote for magnesium toxicity. When administered during the later stages of pregnancy, calcium has been found to effectively reduce blood pressure rather than prevent endothelial damage linked to preeclampsia. Research indicates that calcium supplementation significantly lowers the likelihood of developing preeclampsia, especially among high-risk individuals and those with inadequate dietary calcium intake. Insufficient calcium intake may lead to elevated blood pressure by triggering the release of parathyroid hormone or renin, which raises intracellular calcium levels in vascular smooth muscle, resulting in vasoconstriction. Moreover, calcium can influence smooth muscle function indirectly by increasing magnesium levels. Recent studies suggest that calcium supplementation enhances uteroplacental blood circulation by lowering the resistance index in uterine and umbilical arteries. It has also been linked to a reduced risk of preterm birth. Calcium supplementation has minimal effect on fetal and neonatal outcomes, such as low birth weight, fetal growth restriction, stillbirth, or neonatal mortality before hospital discharge. For women at moderate to high risk of preeclampsia, especially those with inadequate dietary calcium intake, a daily calcium intake of 1.5 g is recommended for women.

Need for the Study

"Excellence in Nursing, Every Step of the Way" Pregnancy-induced hypertension (PIH) is a common medical condition associated with pregnancy, often leading to complications for mother and the baby, including preterm birth. However, the impact of PIH and its associated complications can be reduced through timely interventions such as regular antenatal visits, adequate nutrition, and proper health education. In India, the prevalence of PIH varies between 1.8% and 16.7%. According to a 2017 survey, around 8–10% of pregnancies in the country are affected by this condition. Additionally, a review of 18 studies revealed that the overall estimated prevalence of PIH in India is approximately 11%. The primary complications linked to PIH include pre-eclampsia, eclampsia, antepartum haemorrhage, postpartum haemorrhage, and, in severe cases, fetal or maternal death. Early detection of hypertension during pregnancy plays a crucial role in preventing these adverse outcomes. The high prevalence of PIH, with an estimated 1 in 11 women being affected, underscores the need for healthcare professionals to prioritize early screening and effective management strategies during

pregnancy. Research conducted in Ethiopia, a developing nation, indicates that the prevalence of hypertension among pregnant women varies between 1.8% and 16.7%. On a global scale, hypertensive disorders, including pre-eclampsia and eclampsia, are responsible for the deaths of approximately 40,000 women annually, with the majority of cases occurring in developing countries. Pre-eclampsia alone contributes to 40%–60% of these maternal fatalities. A prospective population-based study reported the prevalence of hypertensive disorders in different countries, including Mozambique (10.9%), Nigeria (10.2%), Pakistan (9.3%), and India (10.3%). A study conducted in southern India reported the prevalence of different hypertensive disorders during pregnancy, with gestational hypertension accounting for 47.4%, pre-eclampsia for 32.6%, chronic hypertension for 8.2%, and pre-eclampsia superimposed on chronic hypertension for 11.8%. Likewise, research carried out in western India found that pregnancy-induced hypertension (PIH) had an overall prevalence of 7.8%, while a study from northern India estimated the prevalence at 6.9%. The higher incidence of hypertensive disorders in developing nations, including India, is frequently associated with factors such as poverty, malnutrition, and limited access to obstetric care. To better understand the extent of this issue, a systematic review and meta-analysis were conducted to determine the overall prevalence of pregnancy-induced hypertension (PIH) in India. The findings indicated that roughly one in every eleven pregnant women in the country experiences hypertensive disorders, with pre-eclampsia and eclampsia being the most prevalent forms. These findings highlight the importance of early screening and timely management of hypertension during pregnancy. It is crucial for governments and other stakeholders to prioritize efforts in diagnosing and treating hypertensive disorders among pregnant women. Community-based approaches are strongly recommended, alongside further national-level studies to identify factors contributing to the development of hypertension in pregnancy. Preeclampsia is a leading contributor to maternal and neonatal morbidity and mortality globally, with a disproportionately higher impact in developing nations. This condition is typically identified in the presence of pregnancy by the presence of high blood pressure along with proteinuria and/or swelling. The World Health Organization reports that complications related to pregnancy-induced hypertension (PIH) result in the death of one woman every seven minutes. Pregnancies complicated by hypertensive disorders are associated with an increased risk of complications for mother and the infant. Pregnancy-induced hypertension is a leading contributor to maternal and perinatal morbidity and mortality. In the United States, approximately 15% of maternal deaths are attributed to hypertensive disorders, making it the second most common cause of maternal mortality. Severe hypertension poses significant risks to the mother, including cardiac failure, heart attack, renal failure, and cerebrovascular accidents. For the fetus, complications include inadequate placental oxygen transfer, growth restriction, preterm birth, placental abruption, stillbirth, and neonatal death. Hypertensive disorders are the most frequent medical complications during pregnancy, with an estimated global incidence of 5–10%. In India, the prevalence of PIH is reported to be higher than the global average. A meta-analysis found the prevalence to be approximately 9%, while a systematic review and meta-analysis indicated an overall pooled prevalence of 11% in India 2024. These findings underscore the critical need for early detection, prevention, and management of hypertensive disorders in pregnancy to reduce maternal and neonatal complications.

Objectives

1. To assess the level of knowledge regarding pregnancy induced hypertension (P.I.H) among staff nurses.
2. To evaluate the effectiveness of SIM on knowledge regarding pregnancy induced hypertension (P.I.H) among staff nurses.
3. To find out an association between mean pretest knowledge score regarding pregnancy induced hypertension (P.I.H) with their selected socio- demographic variables.

Hypotheses

H1: There is a significant difference between the mean pre-test and post-test knowledge scores of staff nurses regarding PIH at a 0.05 level of significance.

H2: There is a significant association between the level of knowledge and selected demographic variables among staff nurses at a 0.05 level of significance.

METHODS

Study Design and Setting

A quantitative pre-experimental one-group pre-test post-test design was employed at Dr. D.Y. Patil Medical College Hospital and Research Institute, Kolhapur, from October 9 to October 16, 2024.

Population and Sampling

The study population comprised staff nurses at the study site. A sample of 80 nurses was selected using non-probability purposive sampling. Inclusion criteria included nurses willing to participate and available during the study period, while those on leave or with less than 1 year experience or recent PIH training were excluded.

Data Collection Tool

A structured knowledge questionnaire was developed with two sections:

- **Section A:** Demographic variables (age, gender, educational qualification, clinical experience).
- **Section B:** 36 multiple-choice questions on PIH, covering etiology, symptoms, diagnosis, and management. Scores were categorized as good (25–36), average (13–24), and poor (0–12).

The tool's content validity was established by 12 experts, and a pilot study with 10 nurses confirmed its reliability (r = 0.78).

Intervention

The SIM was a comprehensive booklet covering PIH definitions, etiology, types, clinical features, diagnosis, management, and prevention. Developed based on a literature review and expert input, it was administered post-pre-test, with the post-test conducted seven days later using the same questionnaire.

Data Collection Procedure

After obtaining ethical clearance and informed consent, a pre-test was conducted on October 9, 2024. The SIM was provided, and a post-test was administered on October 16, 2024, in a controlled environment to ensure confidentiality.

Data Analysis

Data were analyzed using descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired t-test, chi-square test). The significance level was set at 0.05.

RESULTS

Part I: Description of Demographic Variables

The sample (n=80) included 47.5% nurses aged 21–30 years, 62.5% female, 55% with General Nursing and Midwifery (GNM) qualifications, and 46.3% with 1–5 years of clinical experience.

Table 1: Frequency and Percentage Distribution of Sample According to Demographic Characteristics (n=80)

Variable	Frequency	Percentage (%)
Age (years)		
21–30	38	47.5
31–40	-	-
41–50	-	-
51+	4	5
Gender		
Male	30	37.5
Female	50	62.5
Educational Qualification		
GNM	44	55.0
B.Sc. Nursing	-	-
P.B. B.Sc. Nursing	-	-
M.Sc. Nursing	2	2.5
Clinical Experience (years)		
1–5	37	46.3
6–10	-	-
11–15	-	-
16–20	7	8.8

Part II: Assessment of the Level of Knowledge Regarding PIH

Pre-test results showed 72.5% of nurses had average knowledge (score 13–24), 27.2% had

poor knowledge (score 0–12), and none had good knowledge (score 25–36). Post-test results indicated 96.3% had average knowledge and 3.8% had good knowledge, with no nurses in the poor knowledge category. Data in Table 2 and Figure 1 show the distribution of knowledge levels among staff nurses.

Table 2: Frequency and Percentage Distribution According to the Level of Knowledge (n=80)

Knowledge Level	Pre-Test Frequency	Pre-Test Percentage (%)	Post-Test Frequency	Post-Test Percentage (%)
Good (25–36)	0	0.0	3	3.8
Average (13–24)	58	72.5	77	96.3
Poor (0–12)	22	27.2	0	0.0

Figure 1: Distribution of Knowledge Levels among Staff Nurses

Part III: Effectiveness of the SIM

The mean pre-test score was 14.65 ± 2.78, and the mean post-test score was 18.56 ± 2.34. The paired t-test yielded a t-value of 14.82 ($p < 0.001$), indicating a significant improvement in knowledge, accepting H1.

Table 3: Statistical Analysis of Pre-Test and Post-Test Knowledge Scores

Test	Mean ± SD	Median	Mode	Range
Pre-Test	14.65 ± 2.78	15	14	8–20
Post-Test	18.56 ± 2.34	19	21	15–25
Difference	3.91 ± 0.13	4	7	3

Part IV: Association between Knowledge Scores and Demographic Variables

Chi-square tests showed no significant association between pre-test knowledge scores and demographic variables (age, gender, education, clinical experience), with p-values > 0.05, accepting H02 and rejecting H2.

DISCUSSION

1. Demographic Characteristics

The majority of participants (47.5%) were aged 21–30 years, 62.5% were female, 55% had GNM qualifications, and 46.3% had 1–5 years of clinical experience. These findings align with a study by Alkhalifah et al. (2024), which reported similar demographic profiles among nurses in a PIH knowledge study.

2. Assessment of Knowledge Regarding PIH

Pre-test results revealed significant knowledge deficits, with 27.2% of nurses scoring in the poor knowledge category. Post-intervention, 96.3% achieved average knowledge, and 3.8% reached good knowledge, demonstrating the SIM's effectiveness. This is consistent with a study by Dhania et al. (2021), which found educational interventions improved nurses' knowledge of PIH.

3. Association with Demographic Variables

No significant associations were found between knowledge scores and demographic variables, suggesting the SIM's effectiveness across diverse nurse profiles. This contrasts with findings from a study on caregiver burden (Walke et al., 2018), which reported associations with age and education, indicating context-specific factors influencing outcomes.

Implications of the Study

The findings have implications for nursing practice, education, administration, research, and general education in schools and colleges.

Nursing Practice

1. Nurses can assess knowledge deficits in PIH management and provide targeted education.
2. Develop training plans tailored to nurses' needs to enhance PIH care.
3. Provide resources and education on PIH management to improve patient outcomes.

Nursing Education

1. Include PIH-focused modules in nursing curricula to prepare students for clinical practice.
2. Collaborate with other disciplines to provide comprehensive education on PIH.
3. Emphasize practical training in PIH management for nursing students.

Nursing Administration

1. Implement SIM-based training programs for continuous professional development.
2. Train nursing staff on PIH management to enhance care quality.
3. Develop policies to support ongoing education and resource allocation for PIH training.
4. Allocate funding and personnel for PIH educational initiatives.

Nursing Research

1. Conduct studies to assess long-term knowledge retention post-SIM intervention.
2. Test the effectiveness of alternative educational interventions for PIH.
3. Explore nurses' experiences with PIH management across diverse settings.
4. Develop tools to measure knowledge and evaluate training effectiveness.

General Education in Schools and Colleges

1. Incorporate maternal health education, including PIH, into school curricula.
2. Teach stress management strategies to support students with caregiving responsibilities.
3. Educate students on maternal health to reduce stigmas around PIH.
4. Provide counseling and support for students affected by maternal health issues.

Limitations

1. The small sample size and single-center setting limit the generalizability of findings.
2. The short duration between pre-test and post-test may not reflect long-term knowledge retention.
3. The pre-experimental design lacks a control group, limiting causal inferences.

Recommendations

1. A similar study can be done by using various tools and techniques.
2. A similar study can be done by using various teaching learning strategies.
3. A similar study can be done replicated on large sample.
4. The study has been done using experimental research design.

CONCLUSION

The SIM significantly improved staff nurses' knowledge of PIH, as evidenced by a mean post-test score increase from 14.65 to 18.56 ($p < 0.001$). This intervention demonstrates potential as an effective tool for enhancing nursing practice and improving maternal and neonatal outcomes. Ongoing educational initiatives and resource support are essential to sustain these improvements.

BIBLIOGRAPHY

1. Podder, Lily & B, Tapati. (2016). International Journal of Recent Scientific Research. Vol. 7, pp. 13948-13954. Podder, Lily & B, Tapati.
2. Gestational Hypertension (Pregnancy-Induced PIH) Preeclampsia, Toxemia [Internet]. 2018. Available from: https://www.healthpages.org/pregnancy/pregnancy-pregnancy-induced-hypertension-pih/
3. Kintiraki, E., Papakatsika, S., Kotronis, G., Goulis, D., & Kotsis, V. (2015). Pregnancy-Induced hypertension. HORMONES, 211–223. Available from: https://doi.org/10.14310/horm.2002.1582
4. Cleveland Clinic. Gestational hypertension: Causes, symptoms & treatment [Internet]. Cleveland Clinic. 2022. Available from: https://my.clevelandclinic.org/health/diseases/4497-gestational-hypertension
5. Sibai BM. Diagnosis, prevention, and management of eclampsia. Obstetrics and Gynaecology [Internet]. 2005 Feb 1;105(2):402–10. Available from: https://pubmed.ncbi.nlm.nih.gov/15684172/
6. Cleveland Clinic. Preeclampsia: Symptoms, Causes, Treatments & Prevention [Internet]. Cleveland Clinic. 2024. Available from: https://my.clevelandclinic.org/health/diseases/17952-preeclampsia
7. Cleveland Clinic. Eclampsia: Causes, symptoms, diagnosis & treatment [Internet]. Cleveland Clinic. 2022. Available from: https://my.clevelandclinic.org/health/diseases/24333-eclampsia
8. Lowe SA, Bowyer L, Lust K. Guideline for the Management of Hypertensive Disorders of Pregnancy 2014 [Internet]. 2014 [cited 2025 Jan 10]. Available from: https://ranzcog.edu.au/wp-content/uploads/SOMANZ-Hypertensive-Disorders-Pregnancy.pdf

9. Alessia Mammaro, Carrara S, Cavaliere A, Ermito S, Dinatale A, Pappalardo EM, et al. Hypertensive Disorders of Pregnancy. Journal of Prenatal Medicine [Internet]. 2024;3(1):1. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC3279097/
10. Guideline for the Management of Hypertensive Disorders of Pregnancy 2014 Available from: https://ranzcog.edu.au/wp-content/uploads/SOMANZ-Hypertensive-Disorders-Pregnancy.pdf
11. John S, M. Vanitha, Babu A, Priya Sushma, Ashihrii Eloni Regina, Reena Wilma Frank. Prevalence of Pregnancy-Induced Hypertension and Its High-Risk Factors among the Antenatal Women. Journal of Health and Allied Sciences NU [Internet]. 2021 May 12 [cited 2024 May 19];11(03):154–7. Available on: www.thieme-connect.com/products/ejournals/pdf/10.1055/s-0041-1726687.pdf
12. Bhadoria A, Dhinwa M, Gawande K, Jha N, Anjali M, Sinha S. Prevalence of hypertensive disorders of pregnancy in India: A systematic review and meta-analysis. Journal of Medical Evidence [Internet]. 2021 [cited 2022 Jan 20];2(2):105. Available from: https://www.researchgate.net/publication/354206458_Prevalence_of_hypertensive_disorders_of_pregnancy_in_India_A_systematic_review_and_meta-analysis
13. Dhinwa, Manisha & Gawande, Kanchan & Sinha, Smita. (2021). Hypertensive Disorders of Pregnancy in India: Journal of Medical Evidence. 2. 105. 10.4103/JME.JME_168_20. Available on: (PDF) Prevalence of Hypertensive Disorders of Pregnancy in India: A Systematic Review and Meta-Analysis
14. Belay AS, Wudad T. Prevalence and associated factors of pre-eclampsia among pregnant women attending antenatal care at Mettu Karl referral hospital, Ethiopia: a cross-sectional study. Clin Hypertens [Internet]. 2019 [cited 2025 Apr 13];25:14. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6733046/
15. George, B. J. (n.d.). Nursing Theories-The Basic for Professional Nursing Practice (6th ed., pp. 66-77). Norwalk: Appleton And Lange.
16. Verghese, A. (n.d.). Review of literature. Scribd. https://www.scribd.com/presentation/1605 40758/Review-of-Literature
17. Ain SN, Gull S, Qulsum R, Khan ZA, Qureshi UA. Prevalence of pregnancy induced hypertension and associated factors in Kashmiri women attending a tertiary care hospital at Srinagar: a cross-sectional study. International Journal of Reproduction, Contraception, Obstetrics and Gynaecology [Internet]. 2023 Jan 25;12(2):387–90. Available from: https://www.ijrcog.org/index.php/ijrcog/article/view/12678
18. Bhadoria A, Dhinwa M, Gawande K, Jha N, Anjali M, Sinha S. Prevalence of hypertensive disorders of pregnancy in India: A systematic review and meta-analysis. Journal of Medical Evidence. 2021;2(2):105 Available from Journal of Medical Evidence
19. Muti M, Tshimanga M, Notion GT, Bangure D, Chonzi P. Prevalence of pregnancy induced hypertension and pregnancy outcomes among women seeking maternity services in Harare, Zimbabwe. BMC Cardiovascular Disorders. 2015 Oct 2;15(1) Available from Prevalence of pregnancy induced hypertension and pregnancy outcomes among women seeking maternity services in Harare, Zimbabwe - PubMed
20. Peter BB, Okafor UB. Pregnancy-induced hypertension awareness, knowledge and its risk factors: A cross-sectional study. Pakistan Journal of Medical Sciences [Internet]. 2024 Feb 3;40(4). Available from: https://www.researchgate.net/publication/377959408_Pregnancy-induced_hypertension_awareness_knowledge_and_its_risk_factors_A_cross-sectional_study_Pregnancy-induced_hypertension_and_its_risk_factors
21. Ngania CT. Assessment of Knowledge and Practices on Hypertension in Pregnancy among Pregnant Women at Hoima Regional... ResearchGate [Internet]. 2024 Jun 13; Available from: https://www.researchgate.net/publication/381378310_Assessment_of_Knowledge_and_Practices_on_Hypertension_in_Pregnancy_among_Pregnant_Women_at_

Hoima_Regional_Referral_Hospital_Hoima_District-Western_Uganda_2022

22. Sharif, N. S. a. A., Alosimi, N. Z. A., Majrashi, N. E. F. A., Alkhalifah, N. S. M., Alfageer, N. F. S., & Cabalsa, N. M. O. (2024). Knowledge of public health nurses on hypertensive disorders of pregnancy in Riyadh City: A cross-sectional study. World Journal of Advanced Research and Reviews, 21(2), 1479–1485. https://doi.org/10.30574/wjarr.2024.21.2.0535
23. Karkada, Sushmitha & Noronha, Judith & Lewis, Mitchelle & Ullal, Chandini. (2024). ASHA-led community-managed intervention programme to improve maternal and neonatal outcomes in pregnant women with pregnancy hypertension: A study protocol. Journal of Advanced Nursing. n/a-n/a. 10.1111/jan.16301
24. Khuan L, Zulkifli NQNM, Rashid NA, Mohammed A. Knowledge among Pregnant Women Regarding Pregnancy-Induced Hypertension at a Public Hospital in Malaysia. The Malaysian Journal of Nursing [Internet]. 2023 Jan 1;14(03):102–9. Available from: https://www.researchgate.net/publication/368989688_Knowledge_among_Pregnant_Women_Regarding_Pregnancy-Induced_Hypertension_at_a_Public_Hospital_in_Malaysia
25. Stan D, Dobre CE, Mazilu DC, Brătilă E. Practices, attitudes and knowledge of midwives and nurses regarding gestational diabetes and pregnancy-induced hypertension. Journal of Medicine and Life [Internet]. 2023 Feb 1;16(2):227–34. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10015574/
26. Zohora FT, Aktar S, Hossain MdI. Evaluation of knowledge, awareness, treatment and prevention towards pregnancy induced hypertension among the pregnant women in Bangladesh: a hospital based cross-sectional study. International Journal of Community Medicine and Public Health [Internet]. 2022 Mar 25;9(4):1671. Available from: https://www.researchgate.net/publication/359487153_Evaluation_of_knowledge_awareness_treatment_and_prevention_towards_pregnancy_induced_hypertension_among_the_pregnant_women_in_Bangladesh_a_hospital_based_cross-sectional_study
27. Agbeno EK, Osarfo J, Owusu GB, Aninng DO, Anane-Fenin B, Amponsah JA, et al. Knowledge of hypertensive disorders of pregnancy among pregnant women attending antenatal clinic at a tertiary hospital in Ghana. SAGE Open Medicine [Internet]. 2022 Jan 1; 10:205031212210884. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8943573/
28. Ezeigwe A, Ojukwu C, Mba C, Nseka E. Knowledge and awareness of pregnancy-related hypertension and utilization of exercises as its preventive strategies: Survey of pregnant women in Enugu State, Nigeria. Nigerian Journal of Medicine [Internet]. 2021 Jan 1;30(5):526. Available from: https://www.researchgate.net/publication/355301545_Knowledge_and_awareness_of_pregnancy-related_hypertension_and_utilization_of_exercises_as_its_preventive_strategies_Survey_of_pregnant_women_in_Enugu_State_Nigeria
29. Abbood E, Jobori SSA, Alsafi W. Knowledge About Pregnancy Induced Hypertension… Al Ebrahimi, et. Al, 2019. 2212 Karbala. ResearchGate [Internet]. 2019 Dec 1; Available from: https://www.researchgate.net/publication/340385519_Knowledge_About_Pregnancy_Induced_Hypertension_Al_Ebrahimy_et_Al_2019_2212_Karbala
30. Stellenberg EL, Ngwekazi NL. Knowledge of midwives about hypertensive disorders during pregnancy in primary healthcare. African Journal of Primary Health Care & Family Medicine [Internet]. 2016 Apr 11;8(1). Available from: https://pubmed.ncbi.nlm.nih.gov/27247155/