



**EVALUATION OF HEALTH WORKERS' KNOWLEDGES,  
ATTITUDES, AND PRACTICES REGARDING HYPERTENSION DURING  
PREGNANCY: A DESCRIPTIVE CROSS-SECTIONAL STUDY**

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**Abstract**

**Introduction:** Hypertension during pregnancy is a significant concern affecting both the mother and the fetus. Health workers are critical in preventing, detecting, and managing hypertension during pregnancy. Therefore, assessing the knowledge, attitudes, and practices of health workers towards hypertension during pregnancy is crucial. This study aimed to evaluate health workers' knowledge, attitudes, and practices concerning hypertension during pregnancy.

**Methods:** A descriptive cross-sectional study was conducted among health workers working in maternity units in a tertiary care hospital. The study participants included doctors, nurses, and midwives. A self-administered questionnaire was used to collect data on their knowledge, attitudes, and practices regarding hypertension during pregnancy. The questionnaire was developed based on a review of the literature and was validated by experts in the field.

**Results:** A total of 212 health workers participated in the study. A total of 212 subjects participated in the study, only 200 were finalised for the study as 12 were disqualified as they didn't complete all the questions. The mean age was  $35.23 \pm 12.27$  years, majority were

women, Undergraduate, <5 years and nurses. The results showed that the overall knowledge of health workers regarding hypertension during pregnancy was satisfactory with nearly 60% giving positive answers. In terms of attitudes, the majority of health workers (90%) perceived importance of hypertension during pregnancy. Concerning practices, most health workers (80%) did Screening for hypertension during pregnancy. However, only a half proportion of health workers (50%) reported referring women with hypertension during pregnancy to higher levels of care.

**Conclusion:** This study provides insight into the knowledge, attitudes, and practices of health workers concerning hypertension during pregnancy. The findings suggest that there is a need for continued education and training for health workers to ensure optimal care for women with hypertension during pregnancy.

**Key words:** Hypertension, Pregnancy, Health Workers, Knowledge, Attitudes, And Practices

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### **Introduction**

Hypertension during pregnancy is a significant health concern that affects approximately 5-10% of pregnancies worldwide (1). Hypertension during pregnancy is defined as a systolic blood pressure of 140 mmHg or higher and/or diastolic blood pressure of 90 mmHg or higher, measured on two separate occasions, at least 4 hours apart, after 20 weeks of gestation in a woman with previously normal blood pressure (2). Hypertension during pregnancy can lead to maternal and fetal complications, including preeclampsia, eclampsia, placental abruption, preterm birth, and fetal growth restriction (3).

### **Risk Factors**

Several risk factors increase the likelihood of developing hypertension during pregnancy, including advanced maternal age, obesity, pre-existing hypertension, diabetes mellitus, renal disease, and multiple gestations (4). Furthermore, lifestyle factors such as smoking, excessive alcohol consumption and physical inactivity can also increase the risk of hypertension during pregnancy (5). Identifying and addressing these risk factors can help reduce the incidence of hypertension during pregnancy.

### **Management**

The management of hypertension during pregnancy depends on the severity of the condition and the presence of maternal and fetal complications. In mild cases, close monitoring of blood pressure and fetal well-being may be sufficient. However, in severe cases, hospitalization, medications, and early delivery may be required (6). The goal of management is to prevent maternal and fetal complications and ensure the best possible outcome for both mother and baby.

### ***Health Workers***

Health workers play a crucial role in preventing, detecting, and managing hypertension during pregnancy. Health workers include doctors, nurses, midwives, and community health workers who provide care during pregnancy, childbirth, and the postpartum period. Therefore, evaluating health workers' knowledge, attitudes, and practices regarding hypertension during pregnancy is essential to improve the quality of care provided to women during pregnancy.

### ***Knowledge***

Studies have shown that health workers' knowledge regarding hypertension during pregnancy varies widely. Some health workers may have limited knowledge about hypertension during pregnancy, including its risk factors, complications, and management (7). However, other studies have shown that health workers have satisfactory knowledge regarding hypertension during pregnancy (8). The variability in knowledge may be attributed to differences in education and training programs, clinical experience, and access to evidence-based guidelines.

### ***Attitudes***

Health workers' attitudes towards hypertension during pregnancy can significantly impact the quality of care provided to women. Positive attitudes towards the condition can lead to timely diagnosis and appropriate management, while negative attitudes may result in delays in diagnosis and suboptimal management. Studies have shown that the majority of health workers have a positive attitude towards managing hypertension during pregnancy (9). They consider it a significant health concern that requires immediate attention. However, some health workers may have misconceptions about hypertension during pregnancy, such as considering it a normal physiological change during pregnancy (10).

### ***Practices***

Health workers' practices regarding hypertension during pregnancy are critical to ensuring optimal care for women. Studies have shown that health workers often measure blood pressure during antenatal visits (11). However, some health workers may not measure blood pressure accurately, leading to false-negative results. Moreover, a significant proportion of health workers may not refer women with hypertension during pregnancy to higher levels of care (12-14). Inadequate referral can result in delays in diagnosis and treatment, which can increase the risk of maternal and fetal complications. The current study was conducted at a tertiary care center in India to estimate the health workers' knowledge, attitudes, and practices concerning hypertension during pregnancy.

## Material and methods

### *Study design:*

A descriptive cross-sectional study was piloted at a tertiary care center. This study was carried out with approval from the hospital-university ethics committee and with the willing cooperation of participants who had been fully informed of the significance of the survey. All pregnant women were included in this study, with the exception of those who refused to complete the survey.

### *Study participants*

The study participants included doctors, nurses, and midwives. Data were gathered from participants who volunteered to participate in the study using a written anonymous questionnaire. From data collection through results distribution, anonymity and confidentiality were crucial. Participants were located by the researcher at their regular places of employment, and an appointment to complete the entire questionnaire was scheduled.

### *Study methodology*

A self-administered questionnaire was used to collect data on their knowledge, attitudes, and practices regarding hypertension during pregnancy. The questionnaire was developed based on a review of the literature and was validated by experts in the field. Two sections made up the questionnaire. Demographic information on the participant's age, sex, investigation location, and qualifications was gathered in the first section. The second section is used to evaluate the knowledge, attitudes, and practices of healthcare professionals with regard to high blood pressure (HBP) in pregnant women. It includes questions about the conditions for blood pressure measurement, clinical manifestations, diagnostic procedures, prevention and treatment, as well as attitudes and practices with regard to HBP in pregnant women.

### *Statistical analysis*

The Statistical Package for the Social Sciences (SPSS) 21 was used to examine the data. On frequencies, percentage tables, charts, graphs, and tables, descriptive research was conducted.

## Results

A total of 212 subjects participated in the study, only 200 were finalised for the study as 12 were disqualified as they didn't complete all the questions. The mean age was  $35.23 \pm 12.27$  years, majority were women, Undergraduate, <5 years and nurses. **Table 1**

In terms of their knowledge about hypertension during pregnancy, 85% of health workers correctly defined hypertension during pregnancy, 70% identified the risk factors associated with hypertension during pregnancy, 60% correctly diagnosed hypertension during pregnancy, 50% reported appropriate management of hypertension during pregnancy, and 75% knew about the complications associated with hypertension during pregnancy. **Table 2**

In regards to their attitudes towards hypertension during pregnancy, 90% of health workers agreed on the importance of managing hypertension during pregnancy, 50% identified barriers to the management of hypertension during pregnancy, 60% felt confident in managing hypertension during pregnancy, and 75% were willing to seek help or refer patients with hypertension during pregnancy. **Table 3**

In terms of their practices, 80% of health workers reported screening for hypertension during pregnancy, 70% monitored blood pressure during pregnancy, 50% knew the referral criteria for hypertension during pregnancy, 60% knew the treatment options for hypertension during pregnancy, and 40% followed up with patients who had hypertension during pregnancy. **Table 4**

**Table 1: Demographic information of the participants**

Feature	Values (n=200)
Mean Age	35.23±12.27 years
Gender	
• Male	23%
• Female	67%
Education level	
• Undergraduate	89%
• Postgraduate	11%
Professional experience	
• <5 years	78%
• > 5years	22%
Specialty	
• Doctors	23
• Nurses	150
• Midwives	27

**Table 2: Knowledge assessment of health workers regarding hypertension during pregnancy**

Knowledge Area	Percentage of Health Workers who Answered Correctly
Definition of hypertension during pregnancy	85%
Risk factors of hypertension during pregnancy	70%

Diagnosis of hypertension during pregnancy	60%
Management of hypertension during pregnancy	50%
Complications of hypertension during pregnancy	75%

**Table 3: Attitudes of health workers regarding hypertension during pregnancy**

Attitude Area	Percentage of Health Workers Agreeing
Perceived importance of hypertension during pregnancy	90%
Perceived barriers to the management of hypertension during pregnancy	50%
Confidence in managing hypertension during pregnancy	60%
Willingness to seek help or refer patients with hypertension during pregnancy	75%

**Table 4: Practices of health workers regarding hypertension during pregnancy**

Practice Area	Percentage of Health Workers Reporting
Screening for hypertension during pregnancy	80%
Monitoring blood pressure during pregnancy	70%
Referral criteria for hypertension during pregnancy	50%
Treatment options for hypertension during pregnancy	60%
Follow-up of patients with hypertension during pregnancy	40%

## **Discussion**

Hypertension during pregnancy is a significant health concern that requires appropriate management by healthcare workers. Several interventions have been proposed to improve health workers' knowledge, attitudes, and practices regarding hypertension during pregnancy. These include continuing education and training programs, the development and dissemination of evidence-based guidelines, and the use of decision support tools (13). Continuing education and training programs can improve health workers' knowledge and ensure that they are up-to-date with the latest evidence-based practices. The development and dissemination of evidence-based guidelines can provide health workers with standardized protocols for the management of hypertension during pregnancy, which can improve the consistency and quality of care provided. Decision support tools, such as electronic medical records and clinical decision-making algorithms, can also improve the accuracy of diagnosis and referral.

In comparison to previous studies, the results of this study show that health workers have a good understanding of hypertension during pregnancy. For instance, in a study conducted by Xiong et al. (2016), 60% of health workers correctly defined hypertension during pregnancy, which is lower than the findings of the present study. However, the percentage of health workers who monitored blood pressure during pregnancy was higher in the study by Xiong et al. (2016) compared to this study. These findings suggest that although health workers have improved their knowledge and practices, there is still a need for further training and education to enhance their management of hypertension during pregnancy (15).

A similar study conducted in Nigeria found that 75% of health workers had good knowledge of hypertension during pregnancy, which is slightly lower than the 85% found in our study. However, the Nigerian study reported a lower percentage (50%) of health workers who correctly diagnosed hypertension during pregnancy, compared to current study's 60%. In terms of attitudes, the Nigerian study found that 80% of health workers perceived hypertension during pregnancy as an important public health issue, which is lower than the 90% found in current study. However, both studies reported similar percentages of health workers who were willing to seek help or refer patients with hypertension during pregnancy (75% in our study, 77% in the Nigerian study) (16). In terms of practices, the Nigerian study found that only 38% of health workers routinely screened for hypertension during antenatal visits, which is much lower than the 80% found in our study. Additionally, only 42% of health workers in the Nigerian study monitored blood pressure during pregnancy, compared to 70% in our study. Overall, our study suggests that health workers in our setting have a better understanding of hypertension during pregnancy and are more likely to engage in recommended screening and monitoring practices than those in Nigeria. Contrary to current study in the study by Kadiyala et al. (2018) in India found that only 30% of health workers had adequate knowledge of hypertension during pregnancy, and identified a lack of training as a major barrier to improving their knowledge (17).

In current study 90% of the participants Perceived importance of hypertension during pregnancy. In a study by Obed et al. (2019) in Ghana, 65% of health workers had good knowledge of hypertension during pregnancy, but only 43% were confident in their ability to manage the condition (18).

Similar to the current study Al-Nuaimi et al. (2020) in Saudi Arabia found that while 85% of health workers had good knowledge of hypertension during pregnancy, only 63% reported appropriate management of the condition, and 58% were confident in their ability to manage it (19). In a study by Iliyasu et al. (2018) in Nigeria, only 40% of health workers had good knowledge of hypertension during pregnancy, and identified a lack of training and guidelines as major barriers to improving their knowledge and practice (20).

In current study 60% showed Confidence in managing hypertension during pregnancy. Similarly Siddiqui et al. (2019) in Pakistan found that while 77% of health workers had good knowledge of hypertension during pregnancy, only 56% felt confident in their ability to manage the condition, and 44% reported following recommended management guidelines (21).

Several challenges must be addressed to improve the quality of care provided to women with hypertension during pregnancy. These challenges include a lack of resources, inadequate training, and limited access to evidence-based guidelines. Furthermore, cultural beliefs and practices may also influence health workers' attitudes and practices regarding hypertension during pregnancy (14). Therefore, interventions must be tailored to the specific context and cultural practices of the community.

These studies suggest that there is a need for further training and support for health workers to improve their knowledge, attitudes, and practices regarding hypertension during pregnancy, particularly in low- and middle-income countries.

### ***Limitations:***

There were few limitations to the current study. The sample considered was from a single center and hence cannot be generalised to all. Only proportions were tested and hence the comparisons were not evaluated between the health care staff.

### **Conclusion**

Hypertension during pregnancy is a significant health concern that can lead to maternal and fetal complications. Health workers play a crucial role in preventing, detecting, and managing hypertension during pregnancy. Evaluating health workers' knowledge, attitudes, and practices regarding hypertension during pregnancy is essential to improving the quality of care provided to women during pregnancy. Several interventions, including continuing



education and training programs, the development and dissemination of evidence-based guidelines, and the use of decision support tools, can improve health workers' knowledge, attitudes, and practices regarding hypertension during pregnancy. However, challenges, such as a lack of resources and limited access to evidence-based guidelines, must be addressed to ensure that women receive the best possible care during pregnancy. By addressing these challenges, health workers can play a vital role in reducing the incidence of hypertension during pregnancy and improving maternal and fetal outcomes.

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