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Original Article

# A study to Evaluate the Effectiveness of an Educational Intervention on Knowledge and Self-Care Management of Pregnancy-Induced hypertension among pregnant women in Selected Hospitals of District Fatehgarh Sahib, Punjab

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**Abstract:**

**Background:** Pregnancy-induced hypertension (PIH) is a significant ob stetric complication associated with increased maternal and perinatal morbidity and mortality. Limited awareness and inadequate self-care practices among pregnant women contribute to delayed detection and poor management of PIH. Educational interventions play a vital role in improving knowledge and promoting appropriate self- care behaviors

**Materials and methods:** A quantitative research approach with a pre-experimental one-group pre-test and post-test design was adopted. Seventy pregnant women attending selected hospitals of District Fatehgarh Sahib, Punjab were selected using non-probability purposive sampling technique. Data were collected using a structured knowledge questionnaire and self-care management checklist. An educational intervention in the form of an information booklet was administered after the pre-test. Descriptive and inferential statistics were used for data analysis.

**Results:** Pre-test findings showed that 60% of participants had average knowledge, 31.43% had good knowledge, and 8.57% had poor knowledge regarding PIH. Post-test results revealed substantial improvement, with 72.86% demonstrating good knowledge, 25.71% average knowledge, and only 1.43% poor knowledge. The mean post-test knowledge score (23.37) was significantly higher than the mean pre-test score (17.77), with a computed $t$ value of 17.42 ($p < 0.05$), indicating the effectiveness of the educational intervention. Significant associations were found between knowledge scores and selected demographic variables.

**Conclusion:** The study concluded that the educational intervention was effective in improving knowledge and self-care management related to pregnancy-induced hypertension among pregnant women.

***Keywords:*** Pregnancy-Induced Hypertension, Pregnant Women, Educational Intervention, Knowledge, Self-Care Management

## Introduction

Pregnancy is a vital developmental phase in a woman's life that involves profound physiological, psychological, and social changes. Under normal circumstances, pregnancy culminates in the birth of a healthy mother and child; however, various medical complications may arise that threaten maternal and fetal well-being. Among these complications, hypertensive disorders of pregnancy remain a leading cause of maternal and perinatal morbidity and mortality worldwide. Pregnancy-induced hypertension (PIH) is one of the most common hypertensive disorders encountered during pregnancy and continues to pose a major public health challenge, particularly in low- and middle-income countries.

Pregnancy-induced hypertension is defined as the development of new-onset hypertension after 20 weeks of gestation in a previously normotensive woman, without proteinuria or systemic features of pre-eclampsia. It is clinically characterized by a systolic blood pressure of ≥140 mmHg and/or a diastolic blood pressure of ≥90 mmHg. According to the World Health Organization (WHO), hypertensive disorders complicate approximately 5–10% of pregnancies globally and account for nearly 14% of maternal deaths worldwide. The burden is disproportionately higher in developing countries, where limited access to quality antenatal care and delayed detection contribute to adverse outcomes.

Pregnancy-induced hypertension (PIH) continues to be a significant cause of maternal and perinatal morbidity and mortality despite advances in maternal healthcare. It usually develops after 20 weeks of pregnancy and complicates about 6–10% of pregnancies. PIH can lead to serious complications for both mother and fetus, making early detection and proper management essential.

Women who are primigravida, above 35 years of age, obese, diabetic, or from low-income groups with inadequate prenatal care are at higher risk of developing PIH. The condition is characterized by blood pressure ≥140/90 mmHg and may be associated with edema and proteinuria. Because it develops only during pregnancy, timely awareness and self-care practices play a crucial role in preventing adverse outcomes.

In districts like Fatehgarh Sahib, Punjab, limited data exist regarding pregnant women's knowledge and self-care management of PIH, and the impact of educational interventions remains underexplored. Therefore, there is a need to evaluate the effectiveness of structured education in improving awareness and self-management among pregnant women. The findings may support better nursing practice, maternal health education, and policy planning.

### Objectives of the Study

1. To assess the level of knowledge and self-care management practices regarding pregnancy-induced hypertension among pregnant women before and after the educational intervention.

2. To evaluate the effectiveness of an educational intervention on knowledge and self-care management of pregnancy-induced hypertension among pregnant women.

3. To find the association between knowledge score and self-care management regarding pregnancy-induced hypertension with their selected demographic variables

### Hypothesis of the Study

**$H_1$:** The mean post-test knowledge and self-care management score of pregnant women will be significantly higher than mean pre-test knowledge

**$H_2$:** There will be significant association between knowledge and self-care management score regarding pregnancy-induced hypertension of pregnant women with selected demographic variables.

### Material and Methods

The methodology should justify the design choices by showing that the chosen methods and techniques are the best fit for the research aims and objectives and will provide valid and reliable results. Scientifically sound results are produced by a good approach, but not by a bad one.

This chapter includes the following content-

**Research Approach**: For the study, the researcher used a quantitative evaluative research methodology.

**Research Design:** A Here, researcher identified pre-experimental one-group pre-test and post-test design for the study.

**Research Setting:** The present study was conducted at ***Civil Hospital, Fatehgarh Sahib***, which provides antenatal services to a large number of pregnant women and was considered an appropriate setting for the study.

**Target Population:** In the present study, the target population consisted of ***all pregnant women diagnosed with pregnancy-induced hypertension attending Civil Hospital, Fatehgarh Sahib*** during the period of data collection.

**Sample:** The sample for the present study comprised pregnant women diagnosed with pregnancy-induced hypertension who were attending Civil Hospital, Fatehgarh Sahib and consented to participate in the study.

**Sampling Technique:** A non-probability purposive sampling technique was employed to select the participants.

### Development and Description of the Tool

In the present study, a ***structured tool*** was developed by the investigator to assess the socio-demographic characteristics and knowledge regarding pregnancy-induced hypertension among pregnant women. The development of the tool involved the following steps:



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1. Extensive review of related literature.
2. Consultation with subject experts and incorporation of their suggestions.

**Description of the Tool:** Data were collected through *direct face-to-face interviews* using a structured questionnaire, which consisted of the following sections:

**Section I: Socio-Demographic Data:** This section comprised *six items* related to age, religion, type of family, monthly family income, number of pregnancies, and occupation of the pregnant woman.

Section II: Knowledge Questionnaire: This section included *30 self-structured multiple-choice questions*, divided into three subsections:

**Reliability of the Tool:** Reliability refers to the consistency and stability of an instrument in measuring a particular attribute. The reliability of the tool was established using the split-half method. The tool was administered to seven subjects, and the correlation between the two halves was calculated using Karl Pearson's correlation coefficient. The reliability coefficient of the entire tool was computed using the Spearman–Brown prophecy formula. The reliability coefficient obtained was 0.8, indicating that the tool was highly reliable.

**Pilot Study:** A pilot study was conducted at *Civil Hospital, Fatehgarh Sahib* after obtaining written permission from the concerned authority. Seven pregnant women who met the inclusion criteria were selected. Informed consent was obtained from each participant. The average time taken to complete the questionnaire was *25–30 minutes*. The findings of the pilot study indicated that the tool was *feasible, practicable, and acceptable*. No modifications were required, and the pilot study confirmed the feasibility of conducting the main study.

**Results:** The analysis was conducted in accordance with the study objectives and hypotheses. Descriptive statistics were used to summarize and organize the socio-demographic characteristics, pre-test and post-test knowledge scores, and self-care management practices.

**Section A:** Frequency and percentage distribution of the socio-demographic variables of the study participants.

**Table No. 1 Frequency and Percentage Distribution according to Age**

(N=70)

| Age | Frequency (F) | Percentage (%) |
|---|---|---|
| 18-27 yrs | 43 | 61.43% |
| 27-36 yrs | 22 | 31.43% |
| 36-40 yrs | 05 | 7.14% |
| Total | 70 | 100.00% |

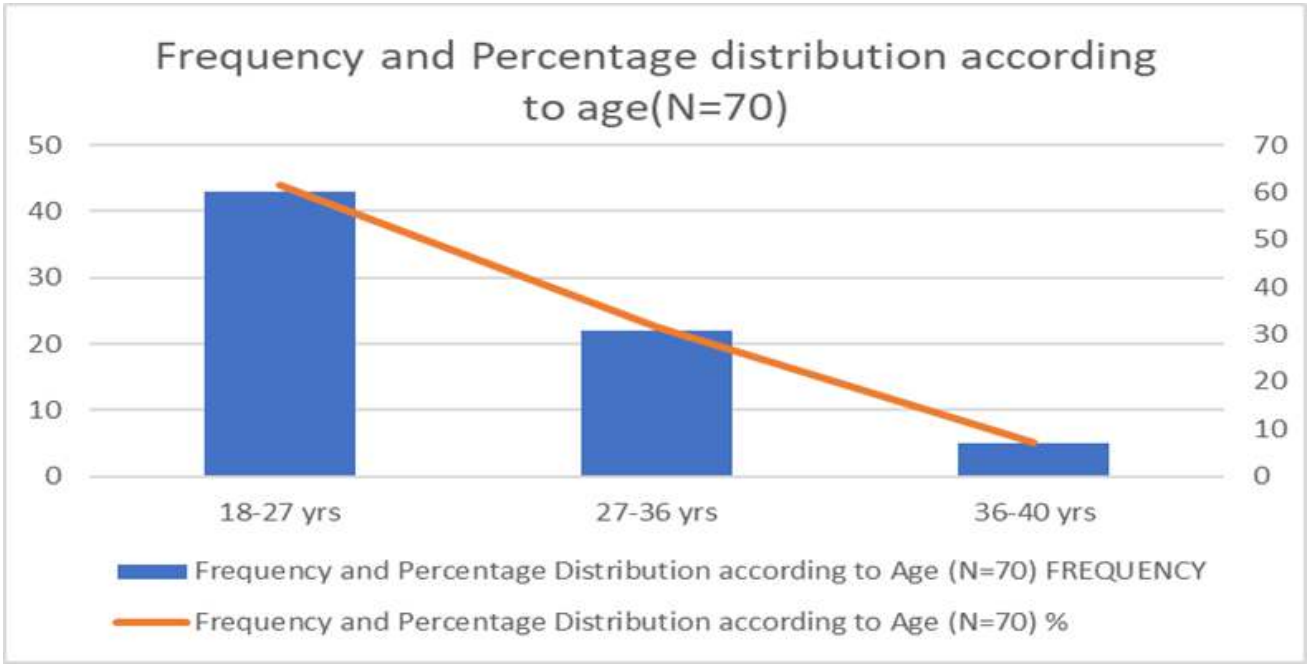


**Figure-1-Bar Graph represents the Age Distribution of pregnant women**



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Table No. 2: Frequency and Percentage Distribution according to Religion

(N=70)

| Religion | Frequency(f) | Percentage (%) |
|---|---|---|
| Sikh | 52 | **74.29%** |
| Hindu | 7 | **10.00%** |
| Muslim | 5 | **7.14%** |
| Other | 6 | **8.57%** |
| **Total** | **70** | **100.00%** |

Table No. 3: Frequency and Percentage distribution according to family type

| Type of Family | Frequency(f) | Percentage (%) |
|---|---|---|
| Single family | 28 | 40% |
| Joint family | 36 | 51.43% |
| Other family | 6 | 8.57% |
| **Total** | 70 | 100% |

Table No. 4: Frequency and Percentage distribution Family Income

| Family Income | Frequency(f) | Percentage (%) |
|---|---|---|
| 10000 | 09 | 12.86% |
| 10000-25000 | 34 | 48.57% |
| 25000 | 27 | 38.57% |
| **Total** | 70 | 100% |

Table No. 5 Frequency and Percentage distribution according to No. of Pregnancy

| No. of Pregnancy | Frequency(F) | Percentage (%) |
|---|---|---|
| 1st Pregnancy | 22 | 31.43% |
| 2-3 Pregnancy | 43 | 61.43% |
| <3 Pregnancy | 5 | 7.14% |
| Total | 70 | 100% |

Table No. 6 Frequency and Percentage distribution according to occupation

| Occupation | Frequency(f) | Percentage (%) |
|---|---|---|
| House wife | 48 | 68.57% |
| Private-job | 10 | 14.29% |
| Govt. Job | 7 | 10.00% |
| Self employed | 5 | 7.14% |
| **Total** | **70** | **100%** |



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**Table No. 7 Pre-test and post-test Level of knowledge and self-care management practices regarding pregnancy-induced hypertension among pregnant women**

| Knowledge Level | Respondent | | | |
|---|---|---|---|---|
| | Pre-Test | | Post-Test | |
| | Frequency | %age | Frequency | %age |
| Poor (0-10) | 6 | 8.57% | 1 | 1.43% |
| Average (11-20) | 42 | 60.00% | 18 | 25.71% |
| Good (21-30) | 22 | 31.43% | 51 | 72.86% |
| Total | 70 | 100% | 70 | 100% |

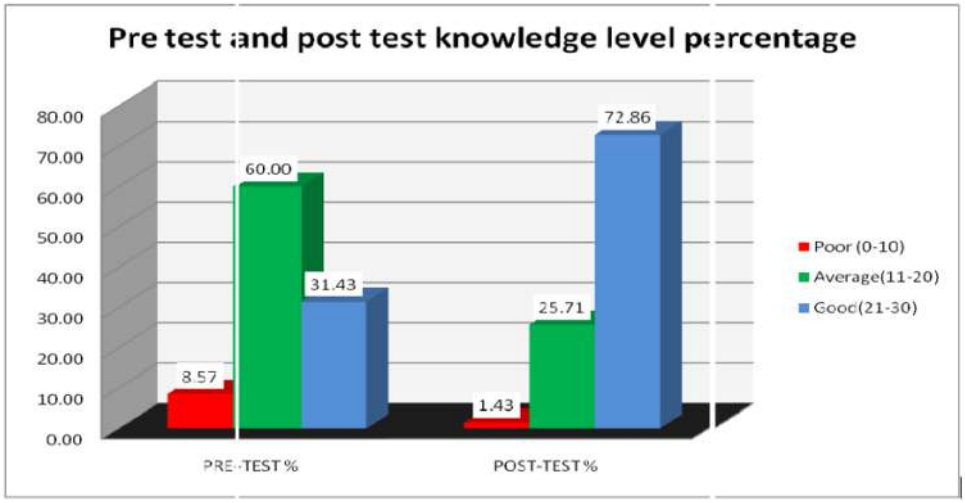


**Figure 2- Level of knowledge and self-care management practices regarding**

**Table No.9 Pre-test and Post-test interventional knowledge and self-care management regarding pregnancy-induced hypertension**

| Knowledge and self-care management | Mean | S.D. | S.E.D. | T-Ratio |
|---|---|---|---|---|
| Pre-test scores | M1=17.77 | 4.7 | 1.2578 | 16.85 |
| Post-test scores | M2=23.37 | 3.6 | | |

*Significant at 0.05 level of significance.

**Table No. 10 :** Analysis of the significant association between level of knowledge and self care management regarding pregnancy-induced hypertension with their selected socio-demographic variables

| Demographic Variable Age | Groups | Mean | Standard Deviation | T-Ratio |
|---|---|---|---|---|
| 18-27 yrs | Pre-test(N=70) | 17.28 | 7.14 | 6.158(Significant) |
| | Post-test(N=70) | 23.60 | 4.77 | |
| 27-36 yrs | Pre-test(N=70) | 17.47 | 5.25 | 6.651(Significant) |
| | Post-test(N=70) | 23.37 | 5.24 | |
| 36-40 yrs | Pre-test(N=70) | 17.48 | 2.51 | 13.48(Significant) |
| | Post-test(N=70) | 25.61 | 2.69 | |

*Significant at 0.05 level of significance.



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**Discussion**

The findings were interpreted to evaluate the effectiveness of the educational intervention on knowledge regarding pregnancy-induced hypertension among pregnant women. The primary objective of the study was to compare pre-test and post-test knowledge scores following the intervention. The results demonstrated a significant improvement in post-test knowledge scores, indicating that the educational intervention was effective in enhancing knowledge among pregnant women.

**Conclusion:**

The study findings revealed that most participants had only average knowledge regarding pregnancy-induced hypertension (PIH) in the pre-test, which significantly improved after the educational intervention. Post-test results showed a marked increase in good knowledge levels and a decline in poor knowledge. The rise in mean knowledge score from 17.77 to 23.37, supported by a statistically significant t-value (17.42, $p < 0.05$), confirms the effectiveness of the structured teaching program. Hence, educational interventions play a vital role in enhancing pregnant women's knowledge and promoting better self-care management of PIH.

**Recommendations**

1. Conduct similar studies with larger sample sizes to generalize findings.

2. Include control groups in future studies to strengthen evidence.

3. Compare the effectiveness of different teaching strategies in improving knowledge regarding PIH.

4. Implement structured teaching programs regularly in hospitals to enhance maternal awareness and self-care practices.

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**Conflict of Interest:** There are no conflicts of interest.

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