

Research Article

A Study to Access the Effect of Planned Teaching in Relation to a Selected Aspect of Pregnancy-Induced Hypertension among Antenatal Mothers at a Government Hospital Mumbai

Sujata Raosaheb Palve

Department of Obstetrical and Gynaecological Nursing, College of Nursing, Government Medical College, Aurangabad, Maharashtra, India

ABSTRACT

Background: Hypertension is one of the common complications and contributes significantly to perinatal mortality and morbidity. Hypertension is a sign of underlying pathology which may be pre-existing or appear for the first time during pregnancy. The identification of the clinical entity and effective management plays a significant role in the outcome of pregnancy, both for the mother and the baby. **Aim:** The main aim of the study was to assess the effect of planned teaching on knowledge regarding pregnancy-induced hypertension (PIH) among antenatal mothers. **Methods:** The study was conducted on conveniently selected 30 samples of antenatal mothers in Government Hospital, Mumbai. The data collection process started from April 11, 2010, to May 2, 2010, after getting the required permission from the respective authorities. Data were collected by sociodemographic variables and self-structured knowledge questionnaire. Collected data were analyzed by descriptive and inferential statistics. **Results:** The study finds the results that the knowledge on the concept of hypertension, etiology and risk factors, signs and symptoms, investigations, exercise-related management of PIH, dietary management, prevention, and complications during PIH was significantly higher after teaching program in comparison to before teaching program. Overall knowledge of antenatal mothers to manage hypertension was significantly higher post-test in comparison to pre-test. Thus, results indicated that the planned teaching had a significant impact on knowledge regarding PIH among antenatal mothers. **Conclusion:** In this study, the post-test knowledge score was associated with education and occupation.

Keywords: Hypertension, Pregnancy, Pregnancy-induced hypertension

Address for Correspondence: Sujata Raosaheb Palve, Department of Obstetrical and Gynaecological Nursing, College of Nursing, Government Medical College, Aurangabad, Maharashtra, India. Email: sujatapalve@gmail.com

Introduction

Pregnancy-induced hypertension (PIH) complicates about 6–10% of pregnancies.^[1] It is defined as systolic blood

pressure (SBP) >140 mmHg and diastolic blood pressure (DBP) >90 mmHg. It is classified as mild (SBP 140–149 and DBP 90–99 mmHg), moderate (SBP 150–159 and DBP 100–109 mmHg), and severe (SBP ≥160 and DBP ≥110 mmHg).^[2] According to the WHO, PIH is one of the main causes of maternal, fetal, and neonatal mortality and morbidity.^[1] It is the most common cause of maternal death in Europe.^[3] In a retrospective study, over the period of 2000–2009 in a tertiary center in India, PIH was the third cause of maternal death.^[4]

PIH-associated complications are more frequent in early-onset (<gestational week 32) compared to late-onset PIH.^[5] Fetal/neonatal short-term complications include intrauterine growth restriction, small for gestational age neonate, low birth weight neonate, preterm birth, intrauterine, and perinatal death.^[6,7]

Access this article online

Website: www.innovationalpublishers.com/journal/ijnr e-ISSN: 2456-1320

DOI: <https://doi.org/10.31690/ijnr/73>

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution Noncommercial Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

How to cite this article: Palve SR. A study to access the effect of planned teaching in relation to a selected aspect of pregnancy-induced hypertension among antenatal mothers at a government hospital Mumbai. Int J Nur Res. 2019; 5(2): 10-14.

Hypertension, collagen vascular disease, obesity, black race, insulin resistance, diabetes mellitus, gestational diabetes, increased serum testosterone concentrations, and thrombophilia are considered risk factors for PIH.^[8,9] Pre-pregnancy weight, nulliparity, maternal age >30 years, increased body mass index, above-average weight gain during pregnancy, personal, and family history are also risk factors of pre-eclampsia.^[10]

Generation R study showed that women with low educational level were more likely to develop preeclampsia than women with high educational level.^[11]

The present study was aimed to assess the effect of planned teaching in relation to a selected aspect of PIH among antenatal mothers at a government hospital Mumbai Mainly Sir. J J Group of Hospital.

Subjects and Methods

A total of 30 antenatal mothers with hypertension and admitted at a government hospital, Mumbai, were included in the study. Antenatal mothers with hypertension, able to understand, speak or read Hindi, Marathi or English, and willing to participate in the study, were included in the study. Pregnant mothers with any other health problems other than hypertension during pregnancy were excluded from the study. The data collection process started from April 11, 2010, to May 2, 2010, after getting the required permission from the respective authorities. The data collection was done in four stages: Stage 1, administration of the questionnaire to the groups of antenatal mothers diagnosed with PIH, and the answers received through the questionnaire were assessed and based on their answers the gaps in their knowledge were identified by the investigator; Stage 2, the teaching plan was also prepared with attractive visual aids; planned teaching was given to the samples during their hospital stay; and Stage 4, the questionnaire was then administered to collect post-test data for the group, so as to assess the change in their knowledge.

A structured questionnaire was prepared to assess the knowledge of antenatal mothers diagnosed with hypertension. The tool was prepared and given to 10 subject experts for validation. There was common agreement among the experts, who were incorporated thereafter in the tool. Thus, the content validity of the tool was established. The first draft of the tool consisted of demographic data (personal data, medical data, and obstetric data) and 34 multiple choice questions on knowledge assessment regarding selected aspects of care during pregnancy diagnosed with hypertension. Based on suggestions given by the experts, the necessary modification of the tool was made and the final tool was prepared which consists of 34 multiple choice questions grouped under different sub-headings.

The reliability of the questionnaire was calculated using the test re-test method. The coefficient of correlation was found to be 0.93. A pilot study was done to assess the feasibility. The pilot study was conducted from April 4,

2010, to April 10, 2010. It was performed on three antenatal mothers diagnosed with hypertension during pregnancy. The observations of the group were recorded (group with planned teaching). The pilot study helped the investigator to assess the feasibility and practicability of the tool and helped her to gain more clarity about the data gathering process.

Statistical analysis

Data were presented as frequency, percentages, and mean. Association of risk factors with the knowledge was measured using Chi-square test. Paired *t*-test was used to compare knowledge before and after the planned teaching program.

Results

Demographic variables

Table 1 shows the demographic variables of the study participants. 50% of the subjects aged between 18 and

Table 1: Distribution of demographic variables

Variables	n (%)
Age	
18–25 years	15 (50)
25–35 years	12 (40)
35–45 years	3 (10)
45 years and above	0 (0)
Education	
Illiterate	1 (3.3)
Primary	3 (10)
Secondary	13 (43.3)
Higher secondary	8 (26.7)
Collegiate	5 (16.7)
Religion	
Hindu	22 (73.3)
Muslim	7 (23.3)
Christen	1 (3.3)
Type of family	
Nuclear family	12 (40)
Joint family	16 (53.3)
Extended family	2 (6.7)
Habits	
Smoking	0 (0)
Tobacco chewing	0 (0)
Alcohol	0 (0)
Tea/coffee	30 (100)
Monthly income of the family	
Rs. 1000–3000	9 (30)
Rs. 3001–5000	7 (23.3)
Rs. 5001–8000	7 (23.3)
>Rs. 8001/-	7 (23.3)
Occupation	
Housewife	23 (76.67)
Laborer	3 (10)
Skilled worker	4 (13.33)

25 years followed by 40% in 25–35 years. There was no subject aged >45 years. 43.3% of subjects had secondary

Table 2: Distribution of medical data

Variable	n (%)
Diagnosed as hypertension	
Before pregnancy	0 (0)
After pregnancy	30 (100)
Trimester of pregnancy	
First trimester	1 (3.3)
Second trimester	4 (13.3)
Third trimester	25 (83.3)
Any other medical/surgical illness in the past	
Yes	1 (3.3)
No	29 (96.7)

Table 3: Distribution of obstetric data

Variables	n (%)
Gravida and Para	
Primigravida	19 (63.3)
Second gravida	4 (13.3)
>2	7 (23.3)
Previous history of pregnancy	
Full-term	6 (20)
Preterm	5 (16.7)
Previous history of labor	
Full-term normal delivery	22 (73.3)
Cesarean section	5 (16.7)
Forceps/vacuum delivery	3 (10)
Outcome of pregnancy	
Living	7 (23.3)
Abortion	4 (13.3)
Still birth	0 (0)

Table 4: Comparison of pre-test and post-test scores

Variables	Mean scores	S ²	t _{Cal}	D.F.	t _{0.05,29}
Concept of hypertension					
Pre-test	2.33	0.5929	5.135	29	2.05
Post-test	3.00				
Etiology/risk factors					
Pre-test	1.30	1.24	9.832	29	2.05
Post-test	3.30				
Signs and symptoms					
Pre-test	4.83	1.31	9.57	29	2.05
Post-test	6.83				
Investigation of hypertension					
Pre-test	1.20	0.4238	2.52	29	2.05
Post-test	1.50				
Management (exercise and relaxation)					
Pre-test	5.27	1.3225	7.365	29	2.05
Post-test	6.83				
Dietary management					
Pre-test	3.20	0.764	7.309	29	2.05
Post-test	4.37				
Preventions and complications					
Pre-test	2.1	1.5230	8.137	29	2.05
Post-test	3.93				

level education while 3.3% of subjects were illiterate. 16.7% of subjects completed their college education. 73.3% of subjects were Hindu while 23.3% of subjects were Muslims. Only 3.3% of subjects were Christian. 53.3% of subjects were living in the joint family while 40% of subjects belonged to the nuclear family. Only 6.7% of subjects were living in an extended family. None of the subjects had habits of smoking, tobacco, and alcohol abuse. All the subjects were consuming tea or coffee. 30% of subjects were earning <Rs. 3000/month while 23.3% subjects' each family income was 3001–5000, 5001–8000, and >8000. Majority of the subjects (76.67%) were a housewife while 13.33% of subjects were skilled workers. 10% of the subjects were involved in labor work. A detailed presentation has been shown in Table 1.

All the study subjects (100%) were diagnosed with hypertension after pregnancy. 83.3%, 13.4%, and 3.3% of these subjects were in 3rd, 2nd, and 1st trimester, respectively. 96.7% of the subjects have no other medical or surgical illness [Table 2].

Nearly 63.3% of the subjects were primigravida while 23.3% of subjects were multigravida. 20% of the subjects had a previous history of a full-term pregnancy. 13.3% subjects' outcome of previous pregnancy was abortion while for 23.3% of subjects' outcome of pregnancy was living. 73.3% of subjects had previous full-term normal delivery while 16.7% had a cesarean section [Table 3].

Effect of planned teaching

Our study observed that knowledge of subjects regarding the concept of hypertension, etiology and risk factors, signs

and symptoms, investigations of hypertension, exercise and relaxation-related management of PIH, and prevention and complications during PIH was significantly higher after teaching program in comparison to before teaching program. Overall knowledge of subjects regarding knowledge and various aspects of hypertension was significantly higher post-test in comparison to pre-test (29.77 vs. 20.23; $t_{cal}=5.135$) [Table 4].

Risk factors

Our study observed that age, type of family, family income, parity, and labor history, were not associated with knowledge of hypertension while education and occupation were significantly associated with knowledge of antenatal mothers about hypertension [Table 5].

Discussion

Pre-eclampsia is PIH of unknown etiology. Pre-eclampsia can be quite serious as it can lead to various complications both for the mother and the baby. In fact, complications of PIH, such as preeclampsia and eclampsia, are the leading cause of maternal death in India. Hypertension complicates an estimated 6–8% of all pregnancies. Pre-eclampsia is a multisystem disorder that complicates 3–8% of pregnancies and is a major source of morbidity and mortality worldwide. Although the cause for pre-eclampsia is unknown, there does appear to be certain risk factors associated with the condition. The factors that have been postulated to influence the risk of pre-eclampsia among the mothers include diabetes, renal disease, and obesity, multiple pregnancy primiparity, age >30 years, personal or family history of pre-eclampsia and chronic hypertension.

Hypertensive disorders of pregnancy are the primary cause for early hospitalization, labor induction, maternal, and fetal morbidity. Although perfect remedy is not available, it is possible to minimize the hazards through early detection and prompt action. Effective health education about hypertensive disorder helps pregnant women to take care of her and to have a safe childbirth. This trend of knowledge indicates a wide awareness and knowledge of certain specifics in relation to PIH; such awareness is needed to adjust factors that influence the individual's own self-performance.

Our study observed that the planned teaching significantly improved the knowledge of mothers about hypertension. Our results are in concordance with Nayak^[12]. Nayak determined the effectiveness of structured teaching programmed on PIH among primigravida mothers attending the antenatal clinic. He observed that the mean of post-test (27.25) knowledge was significantly higher than the pre-test (13.96) knowledge score. Similar findings were also observed by Kaur and Sharma *et al.*,^[13] Heikham and Raddi,^[14] and Fadare *et al.*^[15] We also observed that education and occupation were significantly associated with knowledge of antenatal

Table 5: Risk factors

Variables	Good	Average	Poor	t_{cal}
Age (years)				
18–25	6	9		4.41
25–35	2	10		
35–45	2	1		
Education				
Illiterate	0	0	1	39.43
Primary	0	3	0	
Secondary	2	11	0	
Higher secondary	4	4	0	
Collegiate	4	1	0	
Family type				
Nuclear	5	7	0	9.49
Joint	4	11	1	
Extended	1	1	0	
Income				
1000–3000	2	7	0	7.54
3001–5000	1	6	0	
5001–8000	3	3	1	
>8000	4	3	0	
Occupation				
Housewife	4	18	1	11.78
Laborer	3	0	0	
Skilled worker	3	1	0	
Obstetric history				
Primi	6	12	1	1.16
Second	2	2	0	
Multi	2	5	0	
Labor history				
Normal	7	14	1	3.51
Cesarean	3	2	0	
Forceps	0	3	0	

mothers about hypertension. Shamsi *et al.* reported that the family history of hypertension is an important risk factor for pre-eclampsia and happens more frequently in the women having a family history of hypertension.^[16] Low socioeconomic status, teenage pregnancy, and family history of hypertension also affected the outcome of PIH in primigravidas and reported to be higher in these cases as shown by Parmar *et al.*^[17]

Conclusion

Our study observed that teaching programs are effective in increasing knowledge of women about PIH, which would be further helpful in the prevention of early complications of the disorder.

References

1. World Health Organization. WHO Recommendations for Prevention and Treatment of Pre-Eclampsia and Eclampsia. Geneva: World Health Organization; 2011.
2. Visintin C, Mugglestone MA, Almerie MQ, Nherera LM, James D, Walkinshaw S, *et al.* Management

- of hypertensive disorders during pregnancy: Summary of NICE guidance. *BMJ* 2010;341:c2207.
3. Wildman K, Bouvier-Colle MH, MOMS Group. Maternal mortality as an indicator of obstetric care in Europe. *BJOG* 2004;111:164-9.
4. Khumanthem PD, Chanam MS, Samjetshabam RD. Maternal mortality and its causes in a tertiary center. *J Obstet Gynaecol India* 2012;62:168-71.
5. Gong YH, Jia J, Lü DH, Dai L, Bai Y, Zhou R, *et al.* Outcome and risk factors of early onset severe preeclampsia. *Chin Med J (Engl)* 2012;125:2623-7.
6. Bakker R, Steegers EA, Hofman A, Jaddoe VW. Blood pressure in different gestational trimesters, fetal growth, and the risk of adverse birth outcomes: The generation R study. *Am J Epidemiol* 2011;174:797-806.
7. Yücesoy G, Ozkan S, Bodur H, Tan T, Çalışkan E, Vural B, *et al.* Maternal and perinatal outcome in pregnancies complicated with hypertensive disorder of pregnancy: A seven year experience of a tertiary care center. *Arch Gynecol Obstet* 2005;273:43-9.
8. Roberts JM, Pearson G, Cutler J, Lindheimer M, NHLBI Working Group on Research on Hypertension During Pregnancy. Summary of the NHLBI working group on research on hypertension during pregnancy. *Hypertension* 2003;41:437-45.
9. Koual M, Abbou H, Carbonnel M, Picone O, Ayoubi JM. Short-term outcome of patients with preeclampsia. *Vasc Health Risk Manag* 2013;9:143-8.
10. Kintiraki E, Papakatsika S, Kotronis G, Goulis DG, Kotsis V. Pregnancy-induced hypertension. *Hormones (Athens)* 2015;14:211-23.
11. Silva LM, Coolman M, Steegers EA, Jaddoe VW, Moll HA, Hofman A, *et al.* Low socioeconomic status is a risk factor for preeclampsia: The generation R study. *J Hypertens* 2008;26:1200-8.
12. Nayak D. Effectiveness of structured teaching programme on pregnancy induced hypertension among primigravida mothers. *Int J Adv Nurs Sci Pract* 2015; 2:49-53.
13. Kaur RR, Sharma S. A quasi experimental study to assess the effectiveness of exhibition on knowledge regarding pregnancy induced hypertension among antenatal mothers attending antenatal outpatient department of selected hospitals, Jalandhar, Punjab. *Int J Adv Nur Manag* 2015;3:367-71.
14. Heikham GC, Raddi SA. Effectiveness of planned teaching programme (PTP) on knowledge regarding management of selected obstetric emergencies among the final year GNM students of selected school of nursing, Belgaum, Karnataka one group pretest post test pre experimental study. *Int J Sci Res* 2015;4:1336-40.
15. Fadare RI, Akpor OA, Oziegbe OB. Knowledge and attitude of pregnant women towards management of pregnancy-induced hypertension in Southwest Nigeria. 2016;11: 29764.
16. Shamsi U, Hatcher J, Shamsi A, Zuberi N, Qadri Z, Saleem S, *et al.* A multicentre matched case control study of risk factors for preeclampsia in healthy women in Pakistan. *BMC Womens Health* 2010;10:14.
17. Parmar MT, Solanki HM, Gosalia VV. Study of risk factors of perinatal death in pregnancy induced hypertension (PIH). *Commun Med* 2012;3:703-7.