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Comparison of compliance strategies to control PIH among pregnant women with pregnancy induced hypertension in selected hospitals, Bangalore

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Abstract

Objectives: To assess, compare and associate compliance strategies to control PIH among Antenatal mothers with pregnancy Induced hypertension.

Method: A quasi experimental post-test only with control design was utilized among 166 antenatal mothers who were diagnosed as Pregnancy induced hypertension during their antenatal period selected by using purposive sampling technique. Demographic data and compliance strategies to control PIH were collected by interview method by using checklist.

Results: Data were analysed by using SPSS and MS excel. Compliance level of participants, 51 (62%) in the control group 5(6%) in the experimental group were non-compliant, 25 (31%) in the control group 24 (29%) in the experimental group were partially compliant. 6 (7%) in the control group 55 (65%) in the experimental group were compliant. Concern with second objective there is a significant difference in Compliance level between the groups Calculated t test value was (12.680), P value was .001 (0.001 < 0.05). There was no association between compliance and demographic variables.

Conclusion: One of the most important aspects of prenatal care is health maintenance. Prompt reporting of the possible problems during antenatal period to the health care professionals will help to reduce the increasing maternal mortality rates in hypertensive disorders during pregnancy. The great responsibility of the nurse is to inform of their disease and satisfactory medical information regarding pregnancy induced hypertension. Also the importance of compliance to antenatal care advices and the consequences of the hypertension complicated pregnancy to the mother and baby if she does not compliant, also should be provided by their health care providers.

Keywords: Compliance strategies, Non-compliant, partially compliant, Compliance, and Pregnancy Induced Hypertension

1. Introduction

Hypertension is one of the common medical complications of pregnancy and contributes significantly to maternal and perinatal morbidity and mortality. Hypertension is a sign of an underlying pathology which may be pre-existing or appears for the first time during pregnancy. The identification of this clinical entity and effective management play a significant role in the outcome of pregnancy, both the mother and baby ^[1] Causes of pregnancy induced hypertension are unknown ^[2].

Since the 1960's, prenatal care and the diagnosis of preeclampsia have remained largely unchanged. Treatment options have shown progress in recent decades, but remain directed at the management of overt clinical signs rather than the underlying disorder: antihypertensive therapy, magnesium sulfate, steroids for fetal lung maturation, conservative management of preterm preeclampsia, with delivery of baby and placenta remaining the only definitive, though imperfect, "cure". Delivery of a premature baby is an unsatisfactory intervention and resolution of the maternal disease isn't always immediate, leaving the mother vulnerable during the postpartum period ^[3].

Compliance should not be viewed as coercive obedience but as a negotiated agreement. In this sense compliance is part of the helping relationship achieved through negotiations between the health care professionals and patients. It is the outcome of nurse patient communication and interaction. It may be defined as extent to which an individual chooses behaviors that coincide with the clinical prescription.

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Increased attention to the area of compliance has been generated because of the impact of compliance or non-compliance of health outcomes. Non-compliance is therefore costly. It wastes the medical and human resources, and may have serious consequences for the patients and their families or significant others [4].

The primary aim of antenatal care is to achieve a healthy baby from the healthy mother at the end of the pregnancy. Ideally this care should begin soon after the conception and continue throughout pregnancy. The antenatal care includes the regular and periodic examination and advices regarding diet, hygiene, rest and sleep, bowel, clothing, shoes and belt, dental care, care of the breasts, coitus, travel, smoking and alcohol, immunization and warning signs of pregnancy. Very essential is the early identification of complications [5]. The clinical therapy for preeclampsia depends on the severity of the disease. Home care is an option for a women diagnosed with gestational hypertension and mild preeclampsia. Home care management focuses on diet, salt intake, rest and exercises and monitoring maternal and fetal wellbeing [6].

2. Objectives of the study

1. To assess compliance strategies to control PIH among mothers with pregnancy induced hypertension
2. To compare compliance strategies to control PIH between experimental and control group mothers with pregnancy induced hypertension
3. To find an association between compliance strategies to control PIH and background variables.

2.1 Null Hypothesis

H₀₁: There is no significant statistical difference in level of compliance between the groups.

H₀₂: There is no significant association between compliance and demographic variables.

3. Materials and Methods

Quantitative Quasi experimental post-test only with control group design was adopted to achieve the objectives. Formal administrative permission was obtained from the hospital authority. Participants were selected by using purposive sampling technique based on eligibility criteria. Written consent was obtained after described purpose of the study. Also they were informed and assured about that the study is only for academic purpose and the information obtained from them will be kept confidential. The participants were antenatal mothers who were diagnosed with pregnancy induced hypertension were recruited between 20-22 weeks of gestation.

Sample size was calculated by considering the following criteria. α level 0.05, Power of the study β as 80%, CI level 95% with two tail test. As result showed that 81 was minimum sample required for each arm. In both the group 85 samples were recruited. There was one drop out in experimental group, 3 drop out in control group. At the end of the study there were sample of 84 pregnant women in the experimental group, 82 were in the control group. Total of 166 samples were participated in the study.

Tool was validated by experts in different fields, modifications were as per the suggestions provided by experts, reliability was determined with equivalence- inter observer method by using the formula number of agreements/ number of agreements+ number of disagreements. There was an 100 percent agreement on all the items.

Compliance checklist was composite of 16 items such as Diet (6 items, 2 items are negative scoring item) Medication (4 items, 1 items was negative scoring item), physical activity (4 items) and maternal and fetal wellbeing (2 items, 1 items was negative scoring item). Scoring was ranged from 1 to 3 respectively Never, Sometimes, always. Compliance of the samples was categorized as Non-compliant, partially compliant and compliant.

After recruitment participants were explained about how to mark the entries of listed items in the compliance log book. Experimental group participants were provided with clear instruction on strategies to be followed to control pregnancy induced hypertension whereas the control group were not. Control group participants were not withheld with any of the treatment modalities. They were requested to bring the log book at all antenatal visit. The investigator checked the log book and calculated the compliance scoring of each visit to avoid missing of data. Cumulative Compliance scoring (CCS) was made as three point of time. First CCS was considered as Posttest 1 (24-28 gestational week), second CCS is posttest 2 (28-32 gestational Weeks) and third CCS as Posttest 3 after delivery (within 48 hours of delivery). All three CCS was added for statistical analysis. Appropriate statistical tests were used like percentile, t-test and chi-square.

4. Results

Statistical analysis reports were presented as per the objectives. Figure 1 depicts the percentage distribution of overall compliance level between the groups. CCS value shows 31 percentage of control group participants and 29 percentage of experimental group were partially compliant to the management of pregnancy induced hypertension.

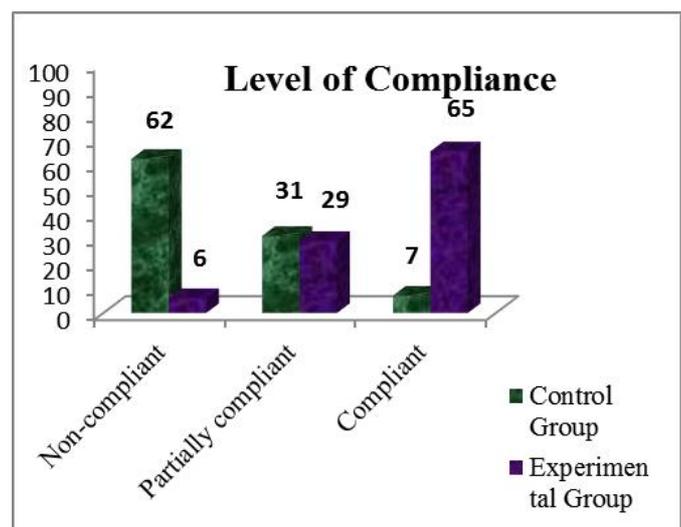


Fig 1: Percentage Distribution of Level of Compliance of Study Participants

Table 1: Area Wise Distribution of Mean and Standard Deviation of Compliance Scores of study Participants, N=82+84

Area	No of items (3 CCS)	Max score	Control group		Experimental group	
			Mean	Std. Dev	Mean	Std. Dev
Diet	18	54	40.74	5.60	43.40	3.57
Medication	9	27	18.40	1.41	20.83	2.15
Rest and exercises	9	27	19.82	2.39	21.13	2.34
Physical activity	6	18	13.15	1.88	15.04	1.38
Maternal and fetal monitoring	6	18	11.51	1.80	16.85	1.32
Total	48	144				

Table 1 represents the mean and standard deviation of compliance score level by area wise. Experimental group mean were higher than control group mean value.

Table 2: Effectiveness of Compliance strategies (N = 166)

S. No	Group	Mean	SD	t-value	DF	P value
1	Control	55.52	7.796	12.680	164	.001
	Experimental	69.33	6.159			

Above table shows that there is a significant difference in Compliance level between the groups Calculated t test value was (12.680), P value was .001 ($0.001 < 0.05$) hence the researcher reject the null hypothesis (H_{01}).

In concern with third objective statistical values represent that there was no association between compliance and demographic variables in both the groups. Hence the researcher accepts the null hypothesis (H_{02}).

5. Discussion

Compliance towards antenatal care was consistent with the study conducted by Bassani DG and team (2009) to improve the uptake of prenatal care showed that 40% of women had inadequate or partially inadequate prenatal care [7]. The present study result was inconsistent with the study conducted by Yoong AFE and team (1992) on Audit of compliance with antenatal protocols revealed that the compliance to a set of agreed protocol was poor even though system was available and a protocol manual had been distributed [8].

Women with high scores on a pattern characterized by processed meat, salty snacks, and sweet drinks were at increased risk [OR for tertile 3 vs. tertile 1: 1.21; 95% CI: 1.03, 1.42]. These findings suggest that a dietary pattern characterized by high intake of vegetables, plant foods, and vegetable oils decreases the risk of preeclampsia, whereas a dietary pattern characterized by high consumption of processed meat, sweet drinks, and salty snacks increases the risk by Brantsaeter AL *et al* (2009). This was consistent with the present study result [9].

Preeclampsia occurred more ($p < 0.05$) among pregnant women with rare daily servings of vegetables (33.3%) than pregnant women with 3 or more daily servings of vegetables (3.7%) (RR=8.8 CI 95% 0.6 to 0.98) were significant ($p < 0.01$) protective factors against Pre-eclampsia by Longo MB and team (2008). Which was consistent the present study result [10]. There was no association found between demographic variables and compliance strategies [11].

Present study brings the concept of compliance strategies to control pregnancy induced hypertension was effective. Mean scoring on level of compliance were higher in experimental group and t-test showed that it was statically significant. And there was no association was found between compliance score and demographic variables.

6. Recommendations

1. A comparative study to find out effectiveness of video teaching and pamphlet on management of pregnancy induced hypertension.
2. Similar evaluative research study can be conducted in community settings.

7. Conclusion

One of the most important aspects of prenatal care is health maintenance. Prompt reporting of the possible problems during antenatal period to the health care professionals will help to reduce the increasing maternal mortality rates in hypertensive disorders during pregnancy. The great responsibility of the nurse is to inform of their disease and satisfactory medical information regarding pregnancy induced hypertension. Also the importance of compliance to antenatal care advices and the consequences of the hypertension complicated pregnancy to the mother and baby if she does not compliant, also should be provided by their health care providers.

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