



Research Article

EFFECTIVENESS OF NURSE LED INTERVENTION ON LEVEL OF STRESS AND PHYSIOLOGICAL PARAMETER AMONG ANTENATAL MOTHER WITH PREGNANCY INDUCED HYPERTENSION

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ABSTRACT

**Background/Objective:** Pregnancy is one of the wonderful and noble services by nature. Pregnancy Induced Hypertension (PIH) is a condition which can affect the health of mother and baby. In India, the incidence of pregnancy induced hypertension ranges is from 5-15%. Due to PIH the mother may get chance to stay in hospital for a longer duration, which leads to increased stress in the mother. The aim of the study was to evaluate the effect of Nurse Led Intervention to reduce stress and Physiological parameter (blood pressure) among antenatal mothers with PIH.

**Materials and Methods:** Quasi Experimental Research Design (one group Pre- test and Posttest) method was adopted. 50 antenatal mothers with Pregnancy induced hypertension were selected using simple random sampling technique. Nurse Led intervention is given in the form of structured teaching programme on the basis of causes, risk factors, prevention and management of PIH for 15 minutes and selected pranayama (Chandranadi pranayama and pranava pranayama) for 15 minutes daily for 7 days. Pre and post test data was done by COHEN perceived stress scale and sphygmomanometer.

**Results:** The results revealed that the pre and posttest mean stress value was 23.94 and 13.54 respectively. The obtained paired 't' test value was 13.547. The pretest and posttest physiological parameter (Blood Pressure) mean value was 107.64 and 97.54 respectively. The obtained paired 't' test value was 7.189. It was highly statistically significant at p <0.001 level. It indicates that there was reduction in the level of stress and physiological Parameter (Blood Pressure).

**Conclusion:** The present study findings reveal that the Nurse Led Intervention was effective method on reducing the level of stress and physiological parameters among antenatal mother with PIH.

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INTRODUCTION

Health is considered to be a fundamental right of the human beings. According to the WHO, in the current scenario the main concept of health is not merely the absence of any disease condition but the complete spiritual mental and social wellbeing of the individual which will enable her to lead a productive life<sup>1</sup>. Pregnancy is one of the wonderful and noble services by nature. It is a normal physiological process and not a disease, but it is associated with certain risks to the mother and for the infant she bears. These risks are common in every society and in every setting<sup>2</sup>.

Stress is a universal experience, rights from the time of birth till last breathe drawn and an individual is invariably exposed to various stressful situations. Stress is one of the variables that have positive correlation in the development of hypertension. Stress increases peripheral vascular resistance

and cardiac output and stimulates sympathetic nervous system activity<sup>3</sup>. People exposed to high levels of repeated psychological stress develop hypertension largely. During pregnancy there is an increased production of several stress hormones like adrenaline, cortisol which enables the mother to cope with stress caused by the physiological changes which occur as a normal part of pregnancy. When it is more than the normal limits can cause complications. Minimizing the stress can reduce blood pressure. In order to cope with stress the person needs to learn and adapt with it<sup>4</sup>.

In India, the incidence of pregnancy induced hypertension ranges from 5-15%. In primi, it is 16% whereas in multiparas it is 7%, maternal mortality is 10 to 15%. Prenatal mortality and morbidity is 15 to 25%. In public hospitals, number of antenatal mothers with pregnancy induced hypertension is about 40 % that is 8 patients out of 20 patients. In 2016 more than 1,46,320 cases of pregnancy induced hypertension were newly diagnosed. Pregnancy induced hypertension possess great threat to the fetus by the way of intra uterine growth retardation (IUGR) and fetal death. Even though more pharmacological measures are available to treat with

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pregnancy Induced hypertension, they will cause some side effects.<sup>5</sup>

The non – pharmacological therapies which are commonly using during antenatal period are head massage, muscle relaxation therapy, breathing technique, music therapy, aroma therapy, herbal therapy, guided imagery, yoga, meditation and psychotherapy<sup>6</sup>. Among these relaxations therapy yoga can help to prevent complications and have proved to be better key in reducing the risks during pregnancy and selected pranayama is an effective minddiverse measures and reducing complications with pregnancy induced hypertension.

Nurse Led Intervention is a defined protocol to be delivered by the nurse to improve high quality patient care. In this study, structured teaching programme is based on causes, risk factors, prevention and management of PIH and selected pranayama for reducing stress. Thus the intervention helps the women in adapting with pregnancy induced hypertension. The present study was aimed to evaluate the effectiveness of Nurse Led Intervention on stress and physiological parameters among antenatal mother with pregnancy induced hypertension

**Statement of the Problem**

Effectiveness of Nurse led Intervention on level of stress and physiological parameter of antenatal mothers with pregnancy induced hypertension admitted in MGMCR Iat Puducherry.

**Objectives of the Study**

- To assess the level of stress and physiological parameter of antenatal mother with pregnancy induced hypertension.
- To evaluate the effectiveness of Nurse Led Intervention on level of stress and physiological parameter among antenatal mothers with pregnancy induced hypertension.
- To find out the association between the level of stress and physiological parameters among antenatal mothers with pregnancy induced hypertension.
- To correlate the level of stress and physiological parameter among antenatal mother with pregnancy induced hypertension.

**Hypotheses**

- H<sub>1</sub> – The level of stress and physiological parameters of antenatal mothers differs before and after administering of Nurse Led Intervention.
- H<sub>2</sub> – There is an association between the level of stress and physiological parameters with the selected demographic variable of antenatal mothers with pregnancy induced hypertension.

**MATERIALS AND METODS**

Quantitative research approach and quasi experimental one group pretest and posttest research design was selected for this study. A total number of 50 Antenatal mothers with pregnancy induced hypertension who fulfilled the inclusion criteria were selected in antenatal ward of tertiary care hospital by using simple random sampling technique. The samples were selected based on the inclusion criteria. The sample size was calculated based on power analysis at the power of 95%. The institutional Human ethical clearance was obtained. The informed consent from sample was obtained. The study was conducted for a period of 1week. The tool consists of three sections. Section

A - Demographic variables, Section B- Obstetrical variables, Section C- Stress level and Physiological parameters. The stress was assessed by COHEN perceived stress scale and the score is 0-16no stress, 17 -24 mild stress, 25-32 moderate stress and 33-40 severe stress. A structured questionnaire was used to collect the demographic and obstetric variables, physiological parameter (blood pressure) was assessed by sphygmomanometer and stress level was assessed by using COHEN perceived stress scale. Nurse Led intervention is given in the form of structured teaching programme on the basis of causes, risk factors, prevention and management of PIH for 15 minutes and selected pranayama (Chandranadi pranayama and pranava pranayama) for 15 minutes daily for 7 days. The Post test was done by using COHEN perceived stress scale and blood pressure by sphygmomanometer. The SPSS 16 Epidata version 2.2.2.186 data was analyzed by Descriptive statistics (Mean, Standard deviation) and Inferential statistics (paired t test, independent t test, chi-square).

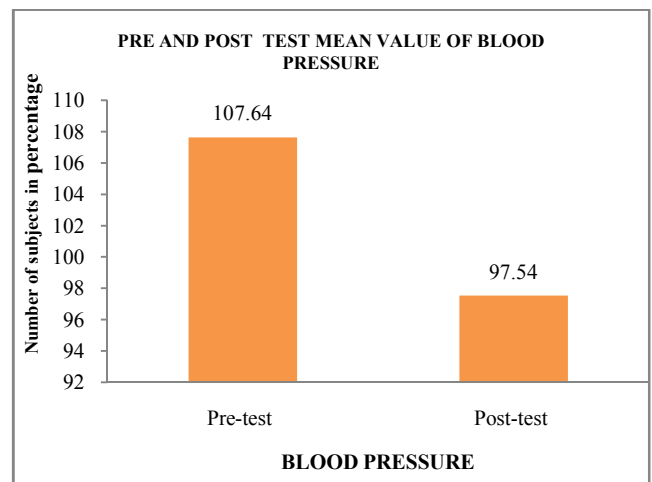
**RESULTS**

**Table 1** Pre and posttest value of stress among antenatal mother with pregnancy induced hypertension

Test	Mean	S.D	Paired t test	p value
Pre-test	23.94	4.291	13.547	<0.001
Post-test	13.54	3.459		

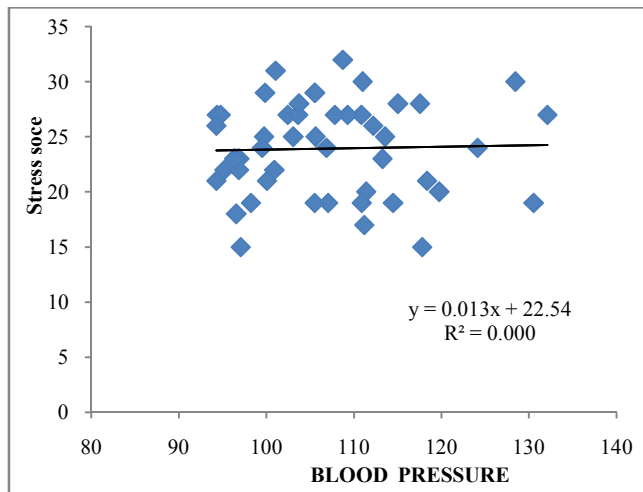
\*\*\*Highly statistically significant at p<0.001 level

Table .1 The Pre-test and post-test mean value of stress was 23.94 and 13.54 respectively. The obtained paired t test value was 13.547. It was highly statistically significant at p <0.001 level. There was significant difference between pre-test and post-test value of stress level among antenatal mother with pregnancy induced hypertension .



**Figure 1** Shows pre and posttest value of blood pressure among antenatal mother with pregnancy induced hypertension

**Figure.1** Represents the Pre-test and post-test mean value of Blood pressure was 107.64 and 97.54 respectively. The obtained paired t test value was 7.189. It was highly statistically significant at p <0.001 level. There is significant difference between pre-test and post-test value of blood pressure level among antenatal mother with pregnancy induced hypertension.



**Figure 2** Correlation between level of stress and physiological parameter after administering of nurse led intervention among antenatal mother with pregnancy induced hypertension

**Figure. 2** Shows that correlation between level of stress and physiological parameter after administering of nurse led intervention among antenatal mother with pregnancy induced hypertension. Correlation between blood pressure verses stress was 0.0305 and p-value was 0.8334. There is no significant correlation difference between level of stress and physiological parameters among mother with pregnancy induced hypertension

## DISCUSSION

The present study result reveals to evaluate the effectiveness of Nurse Led Intervention on level of stress and physiological parameter among antenatal mother with pregnancy induced hypertension.

The first objective of the present study was to assess the level of stress and physiological parameter among antenatal mother with pregnancy induced pregnancy.

The pre-test level of stress shows 24(48%) had moderate stress, 24 (48%) had severe stress, 2 (4%) had mild stress and none of them had no stress and the post-test stress level shows 40 (80%) had no stress 10 (20%) had mild stress, and none of them had moderate stress and severe stress.

The pre-test level of blood pressure shows 27 (54%) belongs to pre hypertensive, 19 (38%) belongs to hypertensive stage I and 4 (8%) belongs to hypertensive stage II. Test and the Post-test level of blood pressure shows 27 (54%) had normal blood pressure, 21(42%) pre -hypertensive, two (4%) had hypertensive Stage I and none of them had hypertensive StageI.

### **The Second Objective of the study was to Evaluate the Effectiveness of Nurse Led Intervention on stress.**

The Pre-test and post-test mean value of stress was 23.94 and 13.54 respectively. The obtained paired t test value was 13.547 and the Pre-test and post-test mean value of blood pressure was 107.64 and 97.54respectively. The obtained paired t test value was 7.189. It was highly statistically significant at  $p < 0.001$  level. It was highly statistically significant at  $p < 0.001$  level. The above findings supported by Debajani Nayak(2015) conducted a study to assess the blood pressure among antenatal mother with pregnancy induced hypertension. The

study results revealed that the pre-test mean score of stress and blood pressure was (27.25%)and(109.9)after administering of intervention the post-test mean score of stress and blood pressure was(13.25)and(93.23)and the obtained 't' value was of 2.035, at  $p < 0.05$  level of significance.<sup>7</sup>

The main strength of this study to identify the stress and physiological parameter among antenatal mother with pregnancy induced hypertension and to manage the physiological changes during pregnancy and its progression of disease. The limitation of the study is that, the subjects were from different socio economic status; hence, it is an awareness programed to the subjects, these findings may not be generalized to border.

The third objective of the study was to associate between the pre and post level of stress and physiological parameter with selected variables

The association between the pre-test level of stress and physiological parameters with selected demographic variables and obstetric variables of antenatal mother with pregnancy induced hypertension. By using chi-square it was evidenced that there was no significant association between age, education, religion, occupation, family income, residential areas, type of family, dietary pattern, previous knowledge regarding pregnancy induced hypertension among antenatal mother at P value  $< 0.000$ \*\*\* level. There is no significant difference between the association of pre-test level of stress and physiological parameters with selected demographic variables.

The fourth objective of the study was to find out the correlation between the level of stress and physiological parameters among antenatal mother with pregnancy induced hypertension

The correlation between level of stress and physiological parameter after administering of nurse led intervention among antenatal mother with pregnancy induced hypertension. Correlation between blood pressure verses stress was 0.0305 and p-value was 0.8334. There is no significant correlation between level of stress and physiological parameters among mother with pregnancy induced hypertension.

## CONCLUSION

The findings of the study, clearly pointed out that the efficacy of Nurse Led Intervention among antenatal mothers with PIH is significantly reducing blood pressure and stress during pregnancy. Further studies may be useful in the prevention of PIH with other relaxation therapies during pregnancy. Thus, the study concludes that Nurse Led Intervention are very effective in prevention of Blood pressure and stress during Pregnancy.

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