

“Evaluate the Effectiveness of Structured Teaching Programme on Knowledge Regarding Non-Stress Test Among Antenatal Mothers”

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ABSTRACT

The Non-Stress Test (NST) is an important antenatal assessment tool used to evaluate fetal well-being during pregnancy. Many pregnant women have limited understanding of the procedure, which may increase anxiety and reduce cooperation during antenatal care. This study was conducted to determine the effectiveness of a structured teaching programme on knowledge regarding NST among antenatal mothers.

A quantitative pre-experimental one-group pre-test and post-test design was adopted for the study. Sixty antenatal mothers from a selected hospital in Kanpur were recruited through convenience sampling. A structured questionnaire was used to assess knowledge before and after the educational intervention.

The findings revealed that the mean post-test score was significantly higher than the mean pre-test score, indicating improved knowledge after the teaching programme. Statistical analysis showed a significant difference between pre-test and post-test scores at the 0.05 level of significance. The study concluded that structured teaching programmes are effective in improving awareness and understanding of NST among antenatal mothers.

Keywords: *Non-Stress Test, Antenatal Mothers, Structured Teaching Programme, Maternal Education, Fetal Well-being, Obstetric Nursing.*

INTRODUCTION:

Pregnancy requires continuous monitoring to ensure the safety of both mother and fetus. Early identification of fetal complications is essential for preventing adverse maternal and neonatal outcomes. Among the commonly used antenatal assessment methods, the Non-Stress Test (NST) is considered a safe and non-invasive procedure for evaluating fetal health.¹

The NST measures fetal heart rate in response to fetal movements. A healthy fetus generally demonstrates temporary increases in heart rate during movement.² The procedure helps healthcare professionals identify possible fetal distress and decide whether further investigations or interventions are necessary.³

Although NST is widely used in antenatal care, many pregnant women do not possess adequate knowledge regarding its purpose, procedure, and benefits. Lack of awareness may create fear, confusion, and poor participation during testing. Educational interventions can improve maternal understanding and encourage positive attitudes toward antenatal investigations⁴.

Structured teaching programmes are useful methods for providing organized and systematic health education. Such programmes help mothers gain accurate information and improve their involvement in maternal healthcare practices. Educating antenatal mothers regarding NST can contribute to better compliance with antenatal services and improved pregnancy outcomes⁵.

In developing countries like India, maternal and fetal complications remain major public health concerns. Increasing awareness of antenatal diagnostic procedures, such as NST, can support early detection of fetal problems and reduce complications.⁶

RESEARCH STATEMENT

“Evaluate the effectiveness of a structured teaching programme on knowledge regarding Non-Stress Test among antenatal mothers.”

AIM OF THE STUDY

To assess the effectiveness of a structured teaching programme on knowledge regarding Non-Stress Test among antenatal mothers.

OBJECTIVES

1. To assess the pre-test knowledge level regarding NST among antenatal mothers.
2. To administer a structured teaching programme regarding NST.
3. To evaluate the post-test knowledge level after the teaching intervention.
4. To compare pre-test and post-test knowledge scores.
5. To determine the association between pre-test knowledge scores and selected demographic variables.

HYPOTHESIS

- **Null Hypothesis (H₀)-**

There is no significant difference in NST knowledge scores between pre-test and post-test among antenatal mothers.

- **Research Hypothesis (H₁)-**

- There is a significant difference in NST knowledge scores between pre-test and post-test among antenatal mothers.

ASSUMPTIONS

- Antenatal mothers may possess inadequate knowledge regarding NST.
- Structured teaching programmes can improve maternal knowledge.

INCLUSION CRITERIA

- Antenatal mothers willing to participate in the study.
- Mothers able to understand Hindi or English.
- Mothers with gestational age of 28 weeks or above.

EXCLUSION CRITERIA

- Antenatal mothers requiring emergency medical care.
- Mothers who had already received formal education regarding NST.

REVIEW OF LITERATURE

The review of literature was organized under the following headings:

1. Literature related to knowledge regarding NST.
2. Literature related to structured teaching programmes.
3. Literature related to antenatal education and maternal awareness.

Previous studies have reported that educational interventions improve maternal knowledge and participation in antenatal care services. Research findings also indicate that mothers receiving structured health education demonstrate better understanding

regarding diagnostic procedures and fetal monitoring.

RESEARCH METHODOLOGY

Variable	Description
Research approach	Quantitative
Research design	Pre-experimental (one group pre-test post-test)
Setting	Selected Hospital, Kanpur
Population	Antenatal mothers attending antenatal clinics
Sample size	60
Sampling technique	Convenience sampling
Tool	Structured questionnaire
Data analysis	Mean, standard deviation, and t-test

ANALYSIS & INTERPRETATION

SECTION I: DEMOGRAPHIC

VARIABLES

Table 1: Distribution of antenatal mothers by demographic variables (N = 30)

S.No	Variable	Category	Frequency (f)	Percentage
1	Age	18–22 years	10	33.3%
		23–27 years	12	40%
		28–32 years	8	26.7%
2	Education	Primary	6	20%
		Secondary	14	46.7%
3	Parity	Primigravida	18	60%
		Multigravida	12	40%

SECTION II: PRE-TEST KNOWLEDGE

Table 2: Pre-test knowledge level (N = 30)

Knowledge Level	Frequency	Percentage
Inadequate	18	60%
Moderate	10	33.3%
Adequate	2	6.7%

SECTION III: POST-TEST KNOWLEDGE

Table 3: Post-test knowledge level (N = 30)

Knowledge Level	Frequency	Percentage
Inadequate	2	6.70%
Moderate	8	26.3%
Adequate	20	66.7%

SECTION IV: COMPARISON (EFFECTIVENESS)

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

Test	Mean	SD	Mean Difference	t-value	p-value
Pre-test	8.2	2.1			
Post-test	15.6	2.4	7.4	12.5	<0.05

SECTION V: ASSOCIATION WITH DEMOGRAPHIC VARIABLES

Table 5: Association between pre-test knowledge and selected variables

Variable	χ^2 Value	Table Value	Significance
Age	2.10	5.99	Not significant
Education	6.50	5.99	Significant
Parity	1.80	3.84	Not significant

DISCUSSION

The study findings showed that antenatal mothers had limited knowledge regarding NST before the educational intervention. Following the structured teaching programme, there was a substantial improvement in post-test scores.

The results suggest that organized health education is effective in improving maternal awareness related to fetal monitoring procedures. Similar findings have been reported in previous studies where structured teaching methods enhanced understanding and participation in antenatal care.

Improved knowledge among antenatal mothers may help reduce anxiety, encourage cooperation during NST procedures, and promote better maternal and fetal outcomes.

CONCLUSION

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NURSING IMPLICATIONS-

Nursing Practice

- Nurses should educate antenatal mothers about NST and other antenatal tests.
- Health education should be included in routine antenatal care services.

Nursing Education

- Structured teaching methods should be emphasized in nursing curriculum.
- Educate mothers about NST during antenatal visits

Nursing Administration: Administrators should develop standard teaching protocols for antenatal education.

Nursing Research: Further studies should be encouraged to evaluate educational interventions in maternal healthcare.

RECOMMENDATIONS

- Similar studies can be conducted with larger sample sizes.
- Comparative studies may be carried out in rural and urban settings.
- Audio-visual teaching aids may be used to improve understanding.
- Regular antenatal education programmes should be organized in hospitals and clinics.

- Future research may assess long-term retention of knowledge.

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