

## ABSTRACT

# A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Non Invasive Diagnostic Procedures used to Assess the Fetal Well Being among Staff Nurses in Selected Hospital Coimbatore

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## ABSTRACT

**Statement of the problem:** A study to assess the effectiveness of a structured teaching program on knowledge regarding non-invasive diagnostic procedures used to assess fetal well-being among staff nurses at a selected hospital, Coimbatore.

**Objectives:** A) To assess the level of knowledge regarding non-invasive diagnostic procedures used to assess the fetal well-being among staff nurses. B) To evaluate the effectiveness of a structured teaching program on knowledge regarding non-invasive diagnostic procedures used to assess the fetal well-being among staff nurses. C) To find out the association between the level of knowledge with selected demographic variables.

**Materials and methods:** A quantitative approach one group pre-test post-test design was used for the study. A total of 60 samples were selected by using a convenient sampling technique. The pre-test level of knowledge among staff nurses was assessed using a structured questionnaire. The structured teaching program was administered after which post-test was conducted on the 7th day using the same questionnaire to evaluate the effectiveness of the structured teaching program. The obtained data was analyzed using descriptive inferential statistics.

**Results:** The mean pre-test knowledge score was 17.28 whereas the mean post-test knowledge score was 26.73. The obtained "t-value" (25.97) for knowledge was higher than the table value [significant at (0.05) level]. The result reveals significant improvement in the level of knowledge after the teaching program.

**Conclusion:** This study shows the structured teaching program was effective in improving the nurse's knowledge on non-invasive diagnostic procedures.

**Keywords:** Diagnostic procedures, Fetal well-being, Non-invasive, Structured teaching program.

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## INTRODUCTION

Pregnancies can be described as high risk for any of several undesirable outcomes. The primary goal of antenatal evaluation is to identify fetuses at risk for intrauterine injury and death so that intervention and timely delivery can prevent progression to stillbirth. Ideally, antenatal tests would decrease fetal death without putting large numbers of healthy fetuses at risk for premature delivery and the associated morbidity and mortality. Despite the widespread use of many tests, limited evidence exists to demonstrate effectiveness at improving perinatal outcomes with an application of these tests.<sup>1</sup> During the last couple of decades, the fetus in utero has been considered as the 2nd patient, the mother being the first. The fetus usually faces much greater risks of serious morbidity and mortality – than does the mother. The leading causes of death in the neonatal period are congenital anomalies, disorders relating to short gestation, low birth weight, respiratory distress syndrome, and the effect of maternal complications. Certain events occurring during the prenatal period can have an adverse effect on the infant in later life.<sup>2,3</sup>

Increased rates of survival during the neonatal period have resulted largely from the improvement in perinatal services including the technology of neonatal intensive care units, high quality prenatal care, and the use of obstetric technology. The primary purpose of the various antepartum surveillance techniques is to detect fetal distress so as to prevent fetal death.<sup>4</sup> There have

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been several advances in the aspect of perinatal care in the last 25 years which have resulted in a dramatic decline in perinatal mortality. These advances have led to, in the vast realm of revolutionary modern-day medicine, the forecast of fetal health.

## NEED FOR THE STUDY

Nurses employed in prenatal care settings need to have accurate information they can provide to women so, they understand

the benefits and limitations of screening. Timely presentation of information and identification of available resources will help nurses minimize confusion and provide support for women as they proceed with pregnancy screening. Technology makes accurate information necessary for nurses in many practice settings.<sup>5</sup>

Nurses who understand the screening process can help women make informed decisions about participating in screening. They can provide appropriate information and support throughout the testing process and help to interpret results. She may educate the client and family members to undergo regular and specialized antepartum assessment of fetal well-being. Hence the researcher feels that there is a need to assess the knowledge of staff nurses on the assessment of fetal well-being.

## OBJECTIVES

- To assess the level of knowledge regarding non-invasive diagnostic procedures used to assess the fetal well-being among staff nurses.
- To evaluate the effectiveness of a structure teaching program on Knowledge recording non-invasive diagnostic procedures used to assess fetal well-being among staff nurses.
- To find the association between the level of knowledge with selected demographic variables.

## MATERIALS AND METHODS

The study was conducted in Ashwin Hospital Coimbatore. The research design used for this study was pre-experimental research design (one group pre-test post-test design 60 samples were selected through a convenient sampling technique). The samples were assessed for knowledge regarding non-invasive diagnostic procedures used to assess the fetal well-being was assessed with the structured questionnaire.<sup>6</sup> After the pre-test, the structured teaching program was administered. Post-test was conducted after 7 days of the teaching program. The collected data were analyzed using descriptive inferential statistics like frequency, percentage, mean, median, paired *t*-test and Chi-square test to assess the association between the levels of knowledge with their selected demographic variables.

## RESULTS AND DISCUSSION

### Socio Demographic Variables

Among the study participants, 4 (6.67%) of the staff were in the age-group between <20 years and 21–25 years 15 (25.00%) of them were in the age group between 26 and 30 years 18 (30.00%) of them were in the age-group 31–35 years 14 (23.33%), >35 years (15.00%). In relation to educational qualification, the majority 31.67% of the subjects were from BSc Nursing, 23.33% post BSc Nursing 20.00% diploma in nursing, 25.00% ANM. While considering clinical experience 33.33% had <5 years of experience, while 23.33% of them had 5–10 years of experience 33.33% had 11–15 years of experience and 110.00% had above 15 years of experience. In relation to in service program 26 (43.33%) had attended the program, and 34 (56.67%) had not attended the programme.<sup>7</sup>

The Table 1 shows that in the pre-test 20 (33.33%) staff nurses had inadequate knowledge, 36 (60.00%) of the staff nurses had moderate knowledge, and 4 (6.67%) had adequate knowledge

**Table 1:** Distribution of pretest and post-test knowledge scores among staff nurses on non-invasive diagnostic procedures used to assess the fetal well-being

S. No.	Level of knowledge	Pre-test		Post-test	
		N	%	N	%
1	Inadequate knowledge <16	20	33.33	0	0.00
2	Moderate knowledge 17–25	36	60.00	14	23.33
3	Adequate knowledge >75	04	06.67	46	76.67

**Table 2:** Effectiveness of structured teaching programme on knowledge regarding non-invasive diagnostic procedures used to assess the fetal well-being

S. No.	Knowledge level	Mean	SD	t-value
1	Pre-test	17.28	2.79	25.97
2	Post-test	26.73		

regarding non-invasive diagnostic procedures to assess fetal well-being. In post-test 0 (0.00%) staff nurses had inadequate knowledge, 14 (23.33%) of the staff nurses had moderate knowledge, and 46 (76.67%) had adequate knowledge regarding non-invasive diagnostic procedures to assess fetal well-being.

The Table 2 shows that the mean pre-test knowledge score was 17.28, and mean post-test knowledge score was 26.73, SD = 2.79) at 0.05 level of significance the calculated *t*-value was (25.97). Hence the calculated *t*-value is more than the table value (1.960). It reveals that there was a significance difference in the pre-test and post-test level of knowledge regarding non-invasive diagnostic procedures to assess fetal well bring. Therefore the structured teaching program was effective in improving knowledge regarding non-invasive diagnostic procedure used to assess the fetal well-being.<sup>8</sup>

## CONCLUSION

There was a significant improvement in nurse knowledge of the non-invasive diagnostic procedures after the planned teaching program. The findings of the study reveal that the structured teaching program was effective in improving the staff nurse knowledge.

There was a significant association between the knowledge of nurses with demographic variables such as age, educational qualification, years of experience, and in-service program. Nurses can help the women to make informed decisions about participating in screening. They can provide appropriate information and support throughout the testing process and help to interpret results.

## RECOMMENDATIONS

- Similar study can be conducted to assess the attitude and coping strategy of staff nurses towards non-invasive diagnostic procedures used to assess fetal well-being.
- Can have a protocol for nurses on non-invasive diagnostic procedures to assess the fetal well-being.
- Periodic conference and workshops can be conducted for staff nurses non-invasive diagnostic procedures used to assess fetal well-being to update the nurse's knowledge.
- Nursing curriculum can be offered with short-term training courses on the of non-invasive diagnostic procedures used to assess fetal well-being.

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