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A Study To Assess The Effectiveness Of Simulation Program On Antenatal Abdominal Palpation Among Nursing Students Of Selected Colleges In Indore

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Abstract : Abdominal palpation is one of the important mechanisms of the antenatal examination and incorporated in the nursing student's syllabus and considered an essential procedure/skill to be learned. The assessment of foetal presentation by abdominal palpation is a fundamental antenatal care skill. The midwife gently uses their hands to feel the baby's position through the mother's abdomen to assess how the baby lies in the uterus. The clinical purpose of this activity is to enable appropriate interventions to be offered and care to be planned.

INDEX TERMS : Skills, antenatal abdominal examination, inspection, palpation, auscultation, nursing students.

INTRODUCTION Abdominal palpation is one of the important mechanisms of the antenatal examination and incorporated in the nursing students' syllabus and considered an essential procedure/skill to be learned. The assessment of foetal presentation by abdominal palpation is a fundamental antenatal care skill. The midwife gently uses their hands to feel the baby's position through the mother's abdomen to assess how the baby lies in the uterus. The clinical purpose of this activity is to enable appropriate interventions to be offered and care to be planned

BACKGROUND OF THE STUDY

India's maternal mortality rate contributes to 19% of the global burden of maternal deaths. Most of the maternal deaths are preventable by access to quality antenatal health care, skilled assistance at delivery and postnatal care. Infant mortality rate is also high. The Infant mortality rate in India is 40 per 1000 live births as per 2013 statistics, which means that an estimated 1.068 million children of age one year and below die in the country annually. Good care during pregnancy is important for the health of the mother and the development of the unborn baby. Pregnancy is a crucial time to promote healthy behaviour and parenting skills. Good antenatal care links the woman and her family with the formal healthcare system, increases the chance of using a skilled attendant at birth and contributes to good health through the life cycle. Inadequate care during this time breaks a critical link in the continuum of care, and affects both women and babies

NEED OF THE STUDY

Making motherhood safer is critical to saving newborns. Research shows that a significant number of stillbirths and neonatal deaths could be prevented if all women were adequately nourished and if they received good quality care during pregnancy, delivery, and the postpartum period. Since nurses are the backbone of healthcare delivery system, training of nursing students is important in order to acquire the necessary practical knowledge and attitude to provide quality obstetric care which will consequently contribute in reduction of maternal deaths. Thus, future nurses' practical knowledge and attitudes towards antenatal examination is important to research and understand, especially in a country with a high prevalence of maternal deaths.

OBJECTIVES

The objectives of the study are —

1. To assess the baseline skills in antenatal abdominal palpation among nursing students.
2. To determine the effectiveness of simulation in improving practical skills.
3. To compare pre-test and post-test scores between experimental and control groups.

HYPOTHESIS

NULL HYPOTHESIS (H0)- There is no significant difference between the experimental and control groups after the intervention

ALTERNATIVE HYPOTHESIS (H1)- Students exposed to the simulation programme will show a significant improvement in post-test skill scores.

METHODOLOGY

Research Design

A **true experimental pre-test/post-test control group design**.

Research Setting

Renaissance School of Nursing.

Population and Sampling

- **Population:** B.sc 7th semester and GNM 3rd year students.
- **Sampling Method:** Simple random sampling.
- **Sample Size:** 52
- 52 students (Control group = 26; Experimental group = 26).

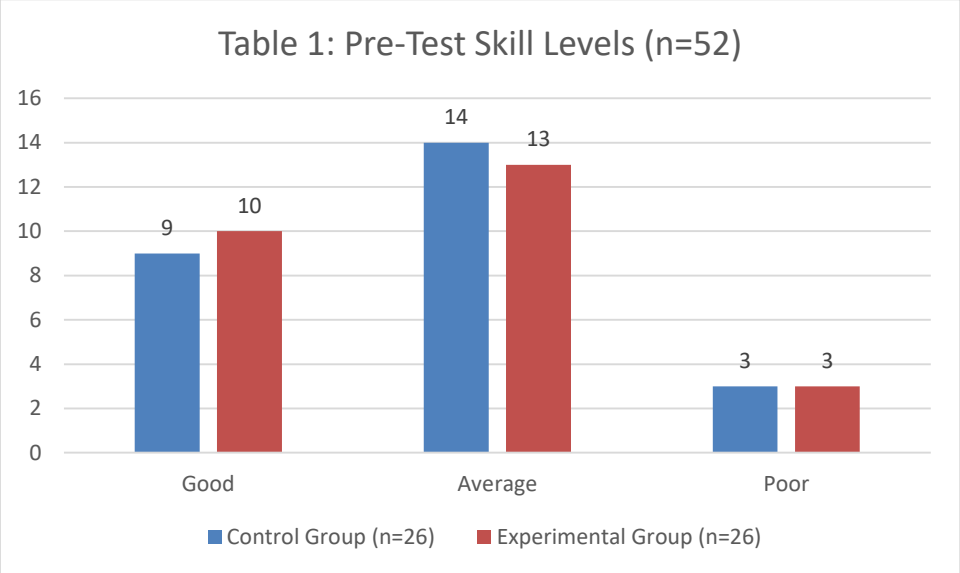
INCLUSION

1.The students of B.Sc. Nursing 7th semester and GNM 3rd year.
2.Those who are willing to participate in the study.
3.Students who have not received formal training on antenatal abdominal palpation.
4.Students available for both pre-test and post-test assessment.

EXCLUSION

1.B.Sc. Nursing students except 7th semester and GNM 3rd year.
2.Students who have prior training in antenatal abdominal palpation.
3.Students who are unavailable or unwilling to participate in the complete study.

RESULT AND INTERPRETATION:

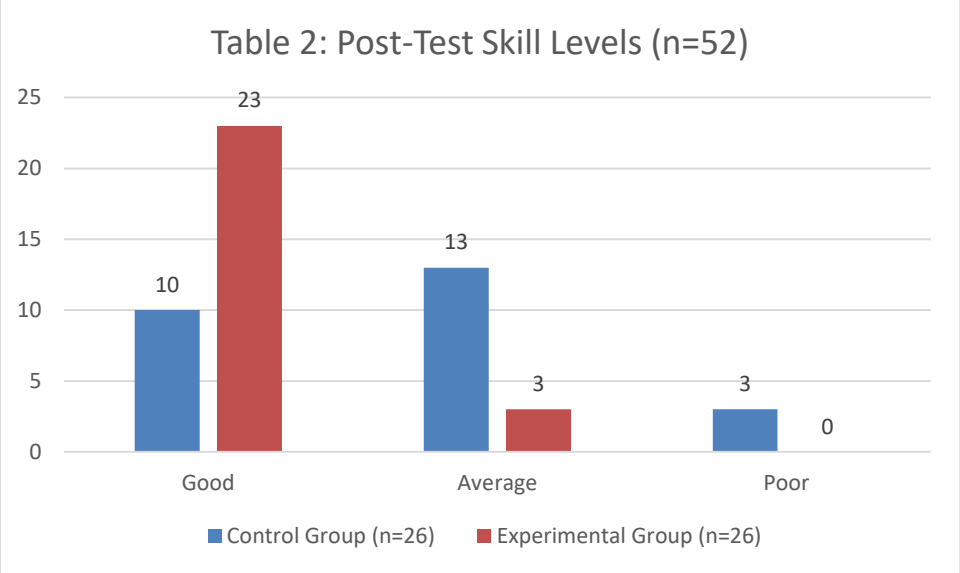


INTERPRETATION

In the control group, 9 students (34.6%) demonstrated good skills, 14 students (53.8%) had average skills, and 3 students (11.5%) fell into the poor skill category.

In the experimental group, 10 students (38.5%) demonstrated good skills, 13 students (50%) had average skills, and 3 students (11.5%) also had poor skills.

This indicates that both groups had comparable baseline skill levels, with a similar distribution across "Good," "Average," and "Poor" categories. The presence of a few students with poor pre-test skills in both groups highlights a need for skill enhancement training, particularly through practical and hands-on methods like the simulation program used in this study.



INTERPRETATION

The post-test results reveal a marked difference in skill improvement between the control and experimental groups following the intervention:

In the control group, the skill levels remained mostly unchanged:

10 students (38.5%) achieved good skill levels,13 (50%) remained average, and 3 students (11.5%) continued to perform poorly.

This minimal change suggests limited effectiveness of conventional teaching methods.

In contrast, the experimental group showed substantial improvement after the simulation program:

23 students (88.5%) achieved good skill levels,3 students (11.5%) reached average levels, and none remained in the poor category.
This indicates that the intervention was highly effective across all baseline skill levels.

Table 3: Comparison of Mean Skill Scores

Group	Pre-test Mean ± SD	Post-test Mean ± SD	Mean Difference	t-value	p-value
Experimental	74.6 ± 9.5	89.9 ± 6.0	15.3	9.72	<0.001*
Control	73.8 ± 9.8	76.1 ± 9.2	2.3	1.34	>0.05

*$p < 0.001$ – Highly significant

INTERPRETATION

The post-test analysis confirms that the simulation program was effective across all skill levels. Notably, all 3 participants with "Poor" pre-test scores in the experimental group improved to either "Average" or "Good" post-test performance, with 23 out of 26 achieving "Good" status. This sharp improvement is reflected in the mean score jump (from 74.6 to 89.9), which is statistically significant ($p < 0.001$).
In contrast, the control group saw minimal improvement. Three students remained in the "Poor" category post-test, and the overall mean skill score increased by only 2.3 points, which is not statistically significant.

CONCLUSION

The study concluded that the simulation program significantly improved nursing students' practical skills in antenatal abdominal palpation. The experimental group showed a notable increase in post-test scores compared to the control group, confirming the effectiveness of hands-on skill training. Incorporating such simulation into nursing education is recommended to enhance clinical competence.

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