

# A Study to Assess the Effectiveness of Safe Delivery Application for Nursing Students in a Selected College of Nursing in Indore

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## Abstract

The Safe Delivery App (SDA) offers a mobile learning platform that delivers evidence-based knowledge and skills in Basic Emergency Obstetric and Neonatal Care (BEmONC) efficiently. The main aim of the research to give knowledge regarding new technology way to study the research is based on the quantitative descriptive research among the 100 students. Using the SDA, 40% of nursing students demonstrated good knowledge, while 60% had average knowledge. The calculated 'z' value exceeded the critical value, confirming the effectiveness of the application in enhancing knowledge among the students.

**Keywords:** SDA, application, knowledge, mobile learning, effectiveness, MNH.

## INTRODUCTION/BACKGROUND OF THE STUDY

The Safe Delivery App (SDA) revolutionizes healthcare training by offering a mobile learning platform tailored for proficient healthcare providers. It delivers essential, evidence-based knowledge and skills in Basic Emergency Obstetric and Neonatal Care (BEmONC) swiftly and conveniently, directly on their smartphones. Maternal and neonatal health (MNH) is a critical aspect of healthcare, especially in developing countries like India. Despite advancements in medical technology and healthcare practices, maternal and neonatal mortality rates remain a significant concern.

## Objective

1. To assess the effectiveness of safe delivery application.
2. To assess the knowledge gained on MNH (MATERNAL AND NEONATAL HEALTH) among nursing students through the use of the safe delivery application.

## Hypothesis

- RH1 - There is significant difference between pretest and post test score on effectiveness of safe delivery application for nursing students in a selected college of nursing in Indore.

- RH2 - There is significant association between pretest and post test score on effectiveness of safe delivery application for nursing students in a selected college of nursing in Indore.

**NEED OF THE STUDY**

The study on assessing the effectiveness of a safe delivery application for nursing students in Indore addresses critical educational and healthcare needs by exploring innovative approaches to enhance clinical competence, improve patient safety, and optimize nursing education methodologies.

**REVIEW OF LITERATURE**

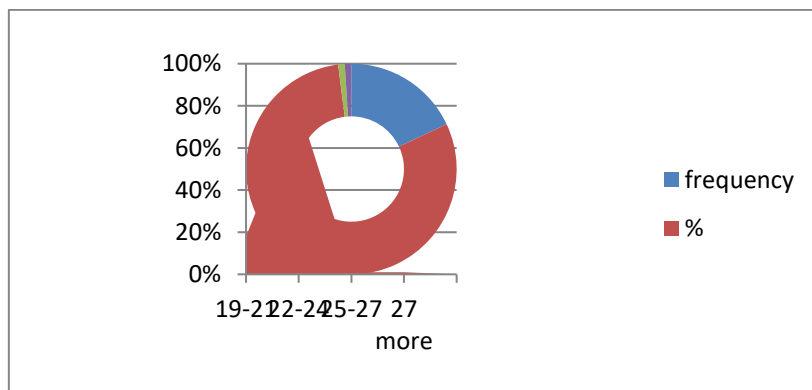
[Christiansen, Bjarke Lund Sørensen](#) 2023 highlighted the potential of mHealth interventions in improving health service delivery in low-income settings. Their study in Ethiopia demonstrated significant improvements in knowledge and skills among midwives using the SDA. Similarly, a 2022 study in India found that the SDA increased knowledge and confidence among healthcare workers, with participants showing high satisfaction with the app.

**METHODOLOGY**

This quantitative descriptive research adopted a one-group pre-test post-test design. The study included 100 nursing students from the Renaissance University College of Nursing in Indore, using purposive sampling. Participants were required to be enrolled in the 4th year of B.Sc. Nursing or the 3rd year of General Nursing and Midwifery (GNM), BPT programs and own a smartphone. The independent variable was the Safe Delivery Application, and the dependent variable was the knowledge of nursing students regarding Active Management of Third Stage of Labour (AMTSL), Post-Partum Haemorrhage (PPH), and Neonatal Resuscitation. Data collection tools included a structured knowledge questionnaire and an opinion survey, with reliability for the knowledge questionnaire and coefficient alpha (0.75) for the opinion survey.

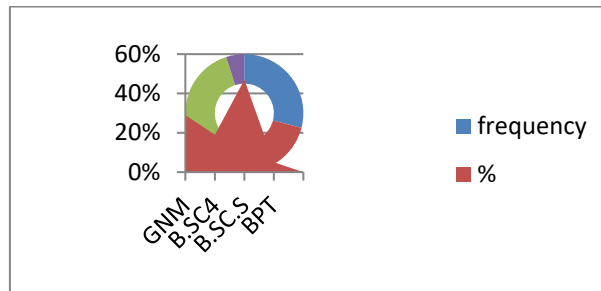
**Table 1. Frequency and percentage distribution of nursing students by their Age in year**  
(n=100)

S.NO.	AGE IN YEAR	FREQUENCY	PERCENTAGE%
1.	19-21	18	18%
2.	22-24	80	80%
3.	25-27	1	1%
4.	27 OR MORE	1	1%



**Table 2. Frequency and percentage distribution of nursing students by their qualification (n=100)**

S.NO.	QUALIFICATION	FREQUENCY	PERCENTAGE%
1,	GNM III YEAR	29	29%
2.	B.SC. NURSING IV YEAR	19	19%
3.	B.SC. NURSING (SEMESTER)	47	47%
4.	BPT	5	5%

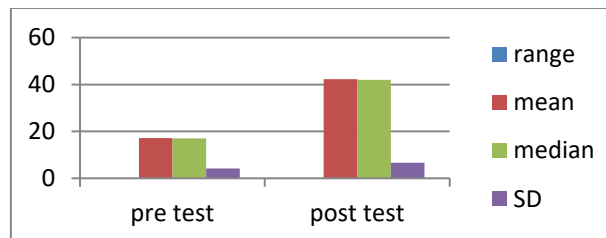


**TABLE 1.** A total of 100 nursing students, the majority, this was followed by 18 students (18%) in the age group of 22-24 years specifically 80 (80%), and 1 student (1%) each in the age groups of 25-27 years and over 27 years. **(TABLE 2)** Regarding their professional qualifications, 29 (29%) were in the 3rd year of GNM, followed by 47 (47%) in the 4th year of B.Sc. Nursing. Additionally, 19% were in the 1st year of B.Sc. Nursing (semester), and 5 (5%) were in the 1st year of BPT.

**Table 3. Range of score, mean, median and standard deviation of pre-test and post-test knowledge scores of nursing students regarding active management of third stage labour, neonatal resuscitation, postpartum haemorrhage (n=100)**

Knowledge Test	Range of obtained score	Mean	Median	Standard Deviation
Pre-test	0-20	17.12	17	4.18
Post-test	41-60	42.26	42	6.60

Maximum Scores=60 in post-test



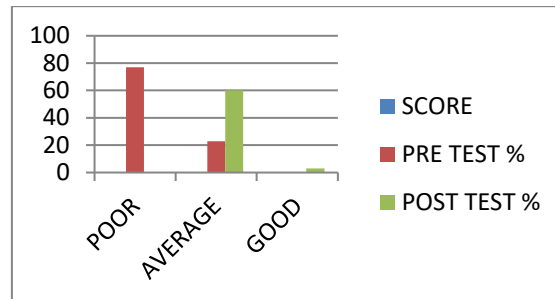
**Table 4 .Frequency and percentage distribution of nursing students by the level of knowledge based on their pre-test and post-test knowledge scores**

(n=100)

Maximum score=60.

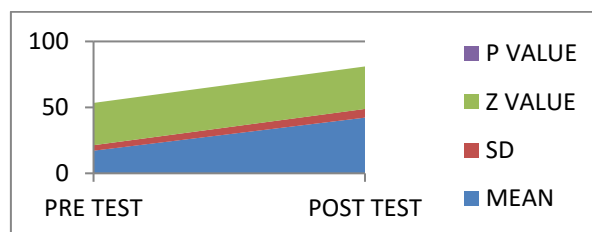
GRADE	SCORE	PRE TEST SCORE		POST TEST SCORE	
		FREQ.	%	FREQ.	%
Poor	0-20	77	77	0	0

Average	21-40	23	23	60	60
Good	41-60	0	0	40	40



**Tabl 5. Mean, standard deviation and ‘z’ value of pre and post-test knowledge scores of nursing students (n=100)**

Test	Mean	Standard deviation	‘z’ value	p-value
Pre-test knowledge score	17.12	4.18	32.16	0
Post-test knowledge score	42.26	6.60		



\*\*p<0.05 table value z=1.96 (p=0) at p<0.05 (98). The data in Table3 shows a mean post-test knowledge score of 42.26, indicating a significant increase in nursing students' knowledge. The pre-test and post-test standard deviations were 4.18 and 6.60, respectively, suggesting a slight increase in variability in the post-test scores. Table4. Reveals that following the use of the Safe Delivery application on active management of the third stage of labour, postpartum haemorrhage, and neonatal resuscitation, 40% of nursing student’s demonstrated good knowledge, while 60% had average knowledge. **Table 5** indicates that the calculated 'z' value for all areas exceeded the critical value of z(98)=1.96 at the 0.05 significance level, confirming the application's effectiveness in

**Pre-test and Post-test Knowledge Levels** Following the use of the SDA, 40% of nursing students demonstrated good knowledge, while 60% had average knowledge. The calculated 'z' value exceeded the critical value, confirming the application's effectiveness in enhancing knowledge.

Grade	Score	Pre-test Score	Post-test Score
Poor	0-20	77%	0%
Average	21-40	23%	60%
Good	41-60	0%	40%

## Conclusion

The study demonstrates that the Safe Delivery Application significantly enhances nursing students' knowledge and skills in managing maternal and neonatal emergencies. The substantial increase in post-test scores and the positive feedback from participants highlight the app's effectiveness as a learning tool.

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