# EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING MOTHER CHILD TRACKING SYSTEM (MCTS) AMONG NURSING STUDENTS AT SELECTED NURSING COLLEGES. A QUASI– EXPERIMENTAL STUDY

**Nursing**

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## ABSTRACT

The Mother and Child Tracking System (MCTS) is a web-based name-based tracking system developed by the Government of India to improve continuity of maternal and child health services, including antenatal, intranatal, postnatal and immunization care. Despite the widespread implementation of digital platforms in healthcare, nursing students often demonstrate limited awareness and inadequate understanding of MCTS. This study aimed to assess the effectiveness of a structured teaching programme (STP) on knowledge regarding MCTS among nursing students in selected nursing colleges. **Methodology:** A quasi-experimental one-group pre-test post-test design was adopted with 100 nursing students selected through non-probability convenient sampling. A structured knowledge questionnaire served as the tool for data collection. The STP was administered following the pre-test, and the post-test was conducted after seven days. Data were analysed using descriptive and inferential statistics. **Result:** Findings revealed that pre-test knowledge levels were predominantly inadequate, whereas post-test scores demonstrated substantial improvement. The mean knowledge score increased from 11.35±2.61 (45.40%) to 22.95±0.97 (91.80%). Paired t-test analysis showed a statistically significant difference between pre-test and post-test scores, indicating the effectiveness of the structured teaching programme. No significant association was found between post-test knowledge scores and demographic variables. **Conclusion:** The study concludes that structured teaching programmes are effective in enhancing nursing students' knowledge regarding MCTS and can be incorporated into nursing curricula to strengthen digital health competencies.

## KEYWORDS

## INTRODUCTION

Maternal and child health continues to be a major public health priority in India, where the provision of timely antenatal, intranatal and postnatal services is crucial for reducing maternal and child morbidity and mortality. The Government of India introduced the mother and Child Tracking System (MCTS), a web-based, name-based platform designed to monitor pregnant women and children throughout the continuum of care. It facilitates registration, scheduling, monitoring and follow-up, enabling better service delivery and real-time reporting for timely interventions.[1]

Despite the significance of this system, several studies indicate that nursing students demonstrate limited knowledge and minimal exposure to MCTS. Only a small percentage are aware of its purpose, functionalities or the importance of digital tracking platforms in maternal-child healthcare. Contributing factors include lack of hands-on training, inadequate digital literacy and insufficient curricular integration. These gaps hinder their preparedness as future healthcare professionals.[2]

Structured educational interventions have proven effective in improving students' understanding of digital health tools. Therefore, empowering nursing students through a focused teaching programme on MCTS is essential for strengthening digital health capacity and improving maternal and child health outcomes across community settings.[3]

### REVIEW OF LITERATURE

A cross-sectional study conducted in Pune district, Maharashtra, assessed the prevalence and utilization of text message services under the mother and Child Tracking System (MCTS). The study involved 205 pregnant women and 236 parents of children attending antenatal or immunization services across ten randomly selected Primary Health Centres. Data were collected using a semi-structured questionnaire and analyzed using SPSS version 19.1. Although 66% of respondents owned a mobile phone and 91% resided in areas with sufficient network coverage, only 17% had heard of the MCTS text message service and 14% reported receiving SMS reminders. At one PHC, where the Auxiliary Nurse Midwife sent reminders in the local language, awareness increased to 43% and 24% reported receiving messages. Significant associations were found between message receipt and education level (p<0.00) as well as mobile phone possession (p<0.004). The study concluded that overall awareness and utilization of the MCTS SMS service remain low, emphasizing the importance of increased awareness strategies and the advantage of local-language messages in community settings.[4]

## METHODOLOGY

### Research Approach

A quantitative research approach was adopted to evaluate the effectiveness of the structured teaching programme.

### Research Design

A quasi-experimental one-group pre-test post-test design was used to assess knowledge improvement among nursing students following the intervention.

### Setting Of The Study

The study was conducted in selected nursing colleges.

### Population

The target population comprised nursing students enrolled in the selected nursing colleges.

### Accessible Population

Nursing students who were available during the data collection period and fulfilled the eligibility criteria.

### Sample Size And Sampling Technique

A sample of 100 nursing students was selected using non-probability convenience sampling.

### Inclusion Criteria

1. Students willing to participate
2. Students present during data collection
3. Students studying in the selected nursing colleges

### Exclusion Criteria

1. Students who had prior extensive training on MCTS
2. Students absent on test days

### Tool For Data Collection

A structured knowledge questionnaire consisting of multiple-choice questions related to:
* MCTS objectives
* ANC, PNC and immunization tracking
* Digital health processes
* Functionality of the MCTS portal
* Scoring ranged from poor to excellent based on total marks.

### Development & Validation of Tool

The tool was developed after extensive literature review.
Content validity was established by 11 experts (Nursing faculty, Public Health specialists, English experts and a Statistician).

## Reliability
Reliability was assessed using appropriate tests from pilot data, and the tool was found reliable.

## Pilot Study
A pilot study was conducted to assess feasibility. No major modifications were required.

## Data Collection Procedure
- Pre-test administered using the structured questionnaire.
- Structured Teaching Programme on MCTS delivered using lecture cum discussion, AV aids and demonstration.
- Post-test conducted after seven days using the same tool.
- Data were analyzed using SPSS.

## Ethical Considerations
- Approval was obtained from the Institutional Ethical Committee.
- Confidentiality, anonymity and voluntary participation were ensured.

## RESULT
The demographic characteristics of the participants showed that the majority of nursing students belonged to the predominant age group presented in the study, and although both male and female students participated, female students represented a higher proportion. Only a small percentage of students reported having prior knowledge about the mother and Child Tracking System (MCTS), and among those who had awareness, the primary sources of information were academic teaching sessions and clinical postings. The assessment of pre-test knowledge revealed that most students demonstrated inadequate understanding of MCTS, with a mean score of $11.35 \pm 2.61$ and a mean percentage score of 45.40%. The majority of students fell into the average and good knowledge categories, and only a very small number demonstrated excellent knowledge in the pre-test. Following the delivery of the Structured Teaching Programme (STP), post-test findings showed a substantial improvement in knowledge levels, with a significantly increased mean score of $22.95 \pm 0.97$ and a mean percentage score of 91.80%. Notably, all students (100%) achieved excellent knowledge scores in the post-test. Statistical comparison using the paired t-test demonstrated a highly significant difference between the pre-test and post-test scores, confirming the effectiveness of the structured teaching programme. Further analysis examining the association between post-test knowledge scores and selected demographic variables such as age, gender and prior knowledge revealed no statistically significant relationships, indicating that the teaching programme was effective across all demographic groups equally.

**Table 1: General Assessment Of Knowledge Regarding MCTS Among Nursing Students (Pre-Test vs Post-Test) (n = 100)**

| Groups | Marks | Pre-Test Frequency | Pre-Test % | Post-Test Frequency | Post-Test % |
|---|---|---|---|---|---|
| Poor | 0–5 | 3 | 3.00% | 0 | 0.00% |
| Average | 6–10 | 23 | 23.00% | 0 | 0.00% |
| Good | 11–15 | 70 | 70.00% | 0 | 0.00% |
| Very Good | 16–20 | 4 | 4.00% | 0 | 0.00% |
| Excellent | 21–25 | 0 | 0.00% | 100 | 100.00% |
| Minimum Score | 01 | | | 03 | |
| Maximum Score | 21 | | | 23 | |
| Mean Knowledge Score | $11.35 \pm 2.61$ | | | $22.95 \pm 0.97$ | |
| Mean % Knowledge Score | $45.40 \pm 10.44$ | | | $91.80 \pm 3.88$ | |



## DISCUSSION
The study demonstrated a significant improvement in the knowledge of nursing students regarding MCTS following the structured teaching programme. Pre-test results indicated inadequate understanding of MCTS functionalities, aligning with previous studies where nursing students showed limited awareness of digital maternal-child tracking systems.

Post-test results showed a dramatic rise in knowledge scores, consistent with previous research demonstrating the effectiveness of structured educational interventions. Studies (Patel et al., Bharati et al., Yadav et al., Gupta et al.) have shown similar outcomes were structured teaching significantly improved knowledge about maternal and child health digital systems.

The findings highlight the critical role of targeted training in preparing nursing students for digital health implementation. The absence of significant associations between demographic variables and knowledge scores suggests that structured teaching programmes benefit learners irrespective of age, gender or prior exposure.

Overall, the study reinforces the need to integrate MCTS-related modules into mainstream nursing curricula to enhance digital competency.

## CONCLUSION
The structured teaching programme was highly effective in improving the knowledge of nursing students regarding the mother and Child Tracking System. The findings showed a significant increase in post-test knowledge scores compared to pre-test scores. This indicates that educational interventions play a vital role in strengthening digital health literacy among future healthcare professionals.

Integrating such training programmes within nursing education can enhance preparedness for implementing national health initiatives and improve overall maternal and child health outcomes.

## REFERENCES:
1. Ministry of Health and Family Welfare. Mother and Child Tracking System: Operational Guidelines. Government of India; 2011.
2. Garg R, Grover M, Singh MM. Awareness and perception of nursing students regarding Mother and Child Tracking System in Northern India. Indian J Public Health. 2017;61(1):50–53.
3. Patel M, et al. Effectiveness of structured teaching programmes on digital health tools among nursing students. Nurs J India. 2019;110(3):150–154.
4. Choudhary A, Bawa R. Prevalence in the utilization of text message services under the mother and Child Tracking System in Pune district, Maharashtra: A cross-sectional study. Indian J Community Med. 2016;41(1):35–40.