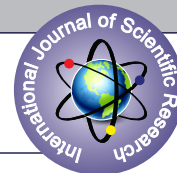


INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A STUDY TO ASSESS THE EFFECTIVENESS OF COMPUTER ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION OF SPECIFIC POSTNATAL COMPLICATIONS AMONG ANTENATAL MOTHERS IN SELECTED HOSPITAL, BANGALORE.



Nursing

Mrs. Susmita
Bhowmik*Tutor Agartala Government Nursing College, Agartala, Tripura west *Corresponding
Author

Mrs. Vani H.M

Associate Professor RR College of Nursing Bangalore, Karnataka

ABSTRACT

Introduction: Postnatal complications are a significant cause of maternal morbidity and mortality worldwide. Antenatal education plays a crucial role in empowering expectant mothers with knowledge and skills to prevent and manage these complications. However, traditional teaching methods may not be optimally effective in delivering comprehensive information. Computer assisted teaching (CAT) programmes offer an innovative approach to enhance knowledge acquisition and retention. **Objective:** This study aimed to assess the effectiveness of a CAT programme on improving knowledge regarding the prevention of specific postnatal complications among antenatal mothers. **Methodology:** The research approach for this study involves an evaluative approach utilizing a one-group pretest-posttest pre-experimental design. The target population consists of antenatal mothers in a selected hospital in Bangalore. A purposive sampling technique will be employed to select a sample size of 60 antenatal mothers from the hospital. Data collection will be conducted using a knowledge questionnaire administered as a pretest, followed by the implementation of a Computer Assisted Teaching (CAT) program intervention, and then a posttest assessment. Data analysis will involve utilizing descriptive statistics to summarize participant characteristics and inferential statistics to compare pretest and posttest knowledge scores between groups. Ethical considerations will be observed throughout the study, including obtaining informed consent from all participants. **Result:** The study's findings highlight key demographic characteristics of 60 antenatal mothers in Bangalore. Most were aged 18-24 (51.66%), Hindu (48.34%), and housewives (56.66%). Notably, 46.66% reported a family income of Rs. 6001 and above, and 65% belonged to nuclear families. Regarding gestational period, 46.66% were in their seventh month, and 45% had previously delivered normally with episiotomy. Pre-test knowledge scores on postnatal complication prevention averaged 13.9, increasing significantly to 27 post-intervention. Age, religion, education, and previous mode of delivery correlated significantly with knowledge levels ($p < 0.05$). These findings emphasize the efficacy of targeted education, such as computer-assisted programs, in improving maternal understanding of postnatal complications. **Conclusion:** Analysis indicates that the Computer Assisted Teaching Program effectively increased antenatal mothers' knowledge of preventing specific postnatal complications, supported by a significant paired 't' test ($p < 0.05$). Significant associations were found with age, religion, education, and previous mode of delivery. Thus, CAT programs are recommended for improving maternal knowledge on postnatal complications.

KEYWORDS

Antenatal care, Postnatal complications, Computer-assisted teaching, Maternal health, Knowledge

INTRODUCTION

Postnatal complications can pose significant risks to both mothers and newborns, often requiring prompt intervention and preventive measures during the antenatal period. The use of computer-assisted teaching programs has emerged as a promising tool to enhance maternal education and awareness regarding preventive measures for postnatal complications.

In the context of this study, the focus is on assessing the effectiveness of a computer-assisted teaching program in improving knowledge among antenatal mothers regarding the prevention of specific postnatal complications. This study is particularly relevant in the healthcare setting of Bangalore, where maternal and neonatal health outcomes can be influenced by access to education and information.

In India, the maternal mortality ratio (MMR) stands at 113 maternal deaths per 100,000 live births as of 2017-2019, highlighting persistent challenges in maternal healthcare. Postnatal complications, including postpartum hemorrhage, infections, and hypertensive disorders, contribute significantly to maternal morbidity and mortality rates.

The purpose of this research is to evaluate the impact of such a teaching program on the knowledge levels of antenatal mothers and to identify its potential benefits in reducing the incidence of postnatal complications. By enhancing knowledge and awareness, it is anticipated that mothers will be better equipped to recognize symptoms, adhere to preventive measures, and seek timely medical assistance when necessary.

OBJECTIVES

1. To assess the knowledge regarding prevention of specific postnatal complications among antenatal mothers.
2. To evaluate the effectiveness of Computer Assisted Teaching Programme regarding prevention of specific postnatal complications among antenatal mothers.
3. To determine the association between knowledge score with their selected demographic variable among antenatal mothers.

HYPOTHESIS:

H₁: There will be significant difference between pre test and post test knowledge scores regarding prevention of specific postnatal complications among antenatal mothers.

H₂: There will be significant association between mean knowledge scores with their selected demographic variable among antenatal mothers.

Research Methodology:

Research Design:

The research design adopted for this study was a one-group pretest-posttest pre-experimental design aimed at evaluating the effectiveness of a computer-assisted teaching program on knowledge regarding the prevention of specific postnatal complications among antenatal mothers. This design facilitated the systematic assessment of knowledge levels before and after the intervention, providing a structured approach to measure the impact of the teaching program.

Variables Under Study:

- **Independent Variable:** The independent variable in this study was the Computer Assisted Teaching Program.
- **Dependent Variable:** The dependent variable was the knowledge level of antenatal mothers on prevention of specific postnatal complications.
- **Extraneous Variables:** Various extraneous variables were considered, including age, religion, education, income, type of family, previous history of postnatal complications, gestation period, and sources of previous information.

Setting Of The Study:

The study was conducted at Yeshwanthpur Maternity Home, Bangalore, chosen based on feasibility in terms of research subject availability and accessibility.

Population and Sample:

The population for this study comprised antenatal mothers from Yeshwanthpur Maternity Home, and a sample of 60 antenatal mothers was selected using purposive sampling techniques.

Criteria for Selecting the Sample:

Inclusive criteria:

for sample selection included antenatal mothers attending clinics regularly, able to read and write English or Kannada, and in their third trimester.

Exclusive criteria:

included unwillingness to participate or unavailability during data collection.

Development of the Tool:

A structured knowledge questionnaire was developed based on literature review and expert consultations, consisting of two sections: demographic information and a self-administered knowledge questionnaire.

Data Collection Procedure:

Data collection involved administering the pretest questionnaire, followed by the computer-assisted teaching program intervention and posttest assessment.

Data Analysis Plan:

Data analysis included descriptive statistics (mean, standard deviation) and inferential statistics (paired t-test, chi-square test) to analyze demographic characteristics and assess the effectiveness of the teaching program on knowledge improvement. Results were presented using tables and graphs to facilitate interpretation.

Ethical Considerations:

Ethical considerations included obtaining permissions, obtaining oral and written consent from participants, ensuring confidentiality, and voluntary participation.

RESULT:

Key demographic findings: Majority (51.66%) of antenatal mothers were aged 18-24 years, 48.34% were Hindu, and 30% were Christian. Educational status varied with 30% having completed PUC, and 56.66% were housewives. Family income was predominantly Rs. 6001 and above (46.66%). Most (65%) belonged to nuclear families.

Table: 1 Level of knowledge in Pretest and posttest regarding prevention of specific postnatal complications among Antenatal mothers.

Level of Knowledge	Pretest		Posttest	
	F	%	F	%
Inadequate knowledge	44	73.3%	8	13.3%
Moderately Adequately knowledge	14	23.3%	13	21.7%
Adequate knowledge	2	3.3%	39	65%

Table: 2 Comparison of Knowledge on Postnatal Complications among Antenatal Mothers before And after CAT.

Pre-test Values		Post-test Values		Difference	
Mean	SD	Mean	SD	t-Test value	Mean difference
13.9	4.76	27	7.20	11.75	13.1

The pre-test values indicate a mean knowledge score of 13.9 with a standard deviation (SD) of 4.76. After the CAT program, the post-test values show a significant improvement with a mean knowledge score of 27 and a SD of 7.20. The t-test value of 11.75 indicates a statistically significant difference in knowledge levels before and after the intervention. The mean difference between pre-test and post-test scores is 13.1, highlighting the effectiveness of the CAT program in enhancing knowledge regarding postnatal complications among antenatal mothers.

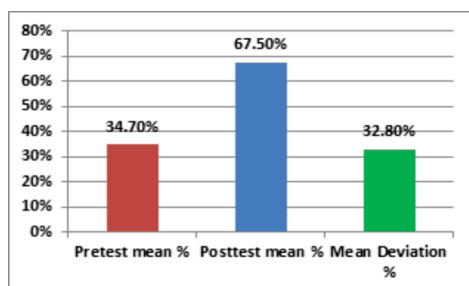


Figure-1 Comparison of Antenatal Mothers by their Pre and Post Test Knowledge Score Percentage

Regarding the association between knowledge scores and various demographic variables among 60 antenatal mothers. The table reveals significant associations (χ^2 test, $p < 0.05$) between knowledge scores and demographic factors such as age, religion, education level, and previous mode of delivery. Specifically, younger age groups (18-24 years) and certain religious affiliations (Hinduism) were associated with higher knowledge levels. Additionally, antenatal mothers with higher education levels (PUC and above) showed improved knowledge scores. Moreover, there was a significant relationship between previous mode of delivery (normal delivery with episiotomy) and increased knowledge levels. However, no significant associations were found with occupation, family income, type of family, gestation period, previous history of postnatal complications, and source of information. These findings support the study's hypotheses regarding the impact of demographic factors on antenatal mothers' knowledge of postnatal complications.

DISCUSSION

The discussion of the study findings highlights several important aspects. The significant associations observed between knowledge scores and demographic variables such as age, religion, education level, and previous mode of delivery underscore the importance of tailoring educational interventions to specific population groups. Younger mothers and those with higher education exhibited better understanding of postnatal complications, suggesting the need for targeted educational programs. The effectiveness of Computer Assisted Teaching (CAT) in improving knowledge levels among antenatal mothers is evident from the substantial increase in post-test scores. This supports the conclusion that CAT programs are valuable tools for enhancing maternal education on postnatal care. However, the non-significant associations with occupation, family income, and other factors highlight the need for broader outreach strategies to ensure equitable access to essential health information.

CONCLUSIONS

The study demonstrates the effectiveness of Computer Assisted Teaching in improving antenatal mothers' knowledge of postnatal complications. The significant associations between knowledge scores and demographic variables emphasize the importance of considering individual characteristics when designing educational interventions. Targeting younger mothers and those with lower education levels can lead to better outcomes in maternal health education. Future research should focus on expanding the reach of such interventions and exploring additional factors that may influence knowledge levels among antenatal populations. Ultimately, investing in innovative educational approaches like CAT can contribute to improved maternal and child health outcomes.

Thus it was concluded that the computer assisted teaching programme is an effective method to increase the knowledge of antenatal mothers on prevention of specific postnatal complications. This study gave the evident that through computer assisted teaching programme knowledge of antenatal mothers on prevention of specific postnatal complications regarding health related behaviour can be improved

REFERENCES:

- Chamberlain G. Turnbull's Obstetrics. 2nd ed. Edinburgh Churchill Livingstone; 1995.
- Dr. Y.K.De Silva, Dr. Gayan De Silva. Management of puerperal sepsis. www.pubmed.com.
- Park K. Park's Text Book of preventive and social medicine. 21st ed.1167. Prem Nagar, Jabalpur. 2011 (M.P), India. M/S- Banarasi Das Bhanol: P- 516.
- Dawn C.S. (2004). Text book of obstetric, neonatology and reproductive and child health education.
- Khanum PA Quaiyum MA Islam A. Knowledge & use of essential obstetrics care services, In rural NGO working area a baseline report. ICDDR Centre for health & population research (WP, 145): 2001: 9 (24): 1-3.
- Maternal Health Nursing. Indira Gandhi National Open University: New Delhi: 2006,88-89. www.who.int/mediacentre/factsheet/fs348/en/index.htm.
- Methar, Mavalankar DV, Ramai KV, Sharma S, Hussein J. Infection control in delivery care units, Gujarat state, India: A needs assessment. [online] Available URL: http://www.biomedcentral.com/1471-2393.
- Lowdermilk DL, Perry TE, Bobak TT, Maternity and women's healthcare. 6th ed. Newyork. Mony Publication, 1997, P- 316-318.
- Francine H. Nichols, Elazine Zwelling Maternal Newborn Nursing, Philadelphia Saunders Company, 1997. P- 1295-97.