



“TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING MATERNAL FETAL TRIAGE INDEX (MFTI) AMONG FEMALE HEALTH WORKERS IN SELECTED AREAS.”

Prachi Ramesh Deharkar¹, Dr. Anita Krishnadeo Soni², Ruchika Suresh Rewatkar³

¹M.Sc. Nursing Student, ²Associate Professor and HOD, ³M.Sc. Nursing Student

¹Department of Obstetrics and Gynaecological Nursing, ² Department of Obstetrics and Gynaecological Nursing, ³Department of Obstetrics and Gynaecological Nursing

¹College of Nursing, Government Medical College, Nagpur, India; ²College of Nursing, Government Medical College, Nagpur, India, ³College of Nursing, Government Medical College, Nagpur, India

Corresponding Author : Prachi Ramesh Deharkar

Email Id: prachid3120@gmail.com

ABSTRACT

Introduction: The Maternal Fetal Triage Index (MFTI) is a standardized five-level obstetric acuity tool used for timely identification and prioritization of maternal and fetal emergencies. This study was undertaken to assess the effectiveness of a Video Assisted Teaching Programme on knowledge regarding Maternal Fetal Triage Index (MFTI) among Female Health Workers in selected areas. **Objectives:**

1) To assess pre-existing knowledge regarding MFTI among Female Health Workers. 2) To assess the effectiveness of a Video Assisted Teaching Programme on knowledge regarding MFTI. 3) To determine the association between knowledge scores and selected demographic variables. **Methodology:** A pre-experimental one-group pre-test post-test research design was adopted. A total of 70 Female Health Workers were selected using non-probability convenience sampling technique. A self structured knowledge questionnaire was used to assess the knowledge regarding MFTI. The pre-test was followed by a Video Assisted Teaching Programme, and the post-test was conducted on the 7th, 10th and 13th days. **Result:** The findings revealed that in the pre-test, 98.57% of Female Health Workers had inadequate knowledge and 1.42% had moderate knowledge. In the post-test, 88.6% attained adequate knowledge and 11.4% had moderate knowledge, with none having inadequate knowledge. The mean post-test knowledge score was 20.51 ± 1.65 , with a mean percentage score of 82.05%. The calculated paired *t* value was 33.16, which was statistically significant at the 5% level.

Conclusion: The Video Assisted Teaching Programme was effective in improving knowledge regarding MFTI among Female Health Workers. Hence, the research hypothesis (H_1) was accepted. **Recommendations:** It is recommended that similar studies be conducted among nursing students and staff nurses to assess and strengthen their knowledge regarding the Maternal Fetal Triage Index. Comparative studies may also be undertaken to evaluate the effectiveness of video-assisted teaching with other teaching methods among different groups of healthcare professionals.

Index Terms: Maternal Fetal Triage Index, Video Assisted Teaching Programme, Knowledge, Female Health Workers, Maternal and Fetal Emergencies.

I. INTRODUCTION

Maternal and fetal emergencies require early recognition, systematic assessment, appropriate prioritization, and timely management to prevent adverse outcomes. The **Maternal Fetal Triage Index (MFTI)**, developed by the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), is a standardized five-level acuity tool that helps prioritize pregnant women according to clinical urgency and facilitates timely obstetric care.

Female Health Workers play an important role in maternal healthcare through early identification of danger signs, health education, timely referral, and continuity of care. Evidence supports the value of standardized obstetric triage. **Quaile (2018)** reported that implementation of the MFTI, accompanied by educational sessions, improved nurses' knowledge and reduced the time to care. Similarly, **Mayberger et al. (2022)** found that MFTI implementation significantly improved the timeliness of nurse contact and screening across acuity levels.

Despite its importance, knowledge regarding standardized obstetric triage may be inadequate among healthcare providers involved in maternal care. Therefore, the present study was undertaken to assess the **effectiveness of a Video Assisted Teaching Programme on knowledge regarding MFTI among Female Health Workers in selected areas.**

OBJECTIVES:

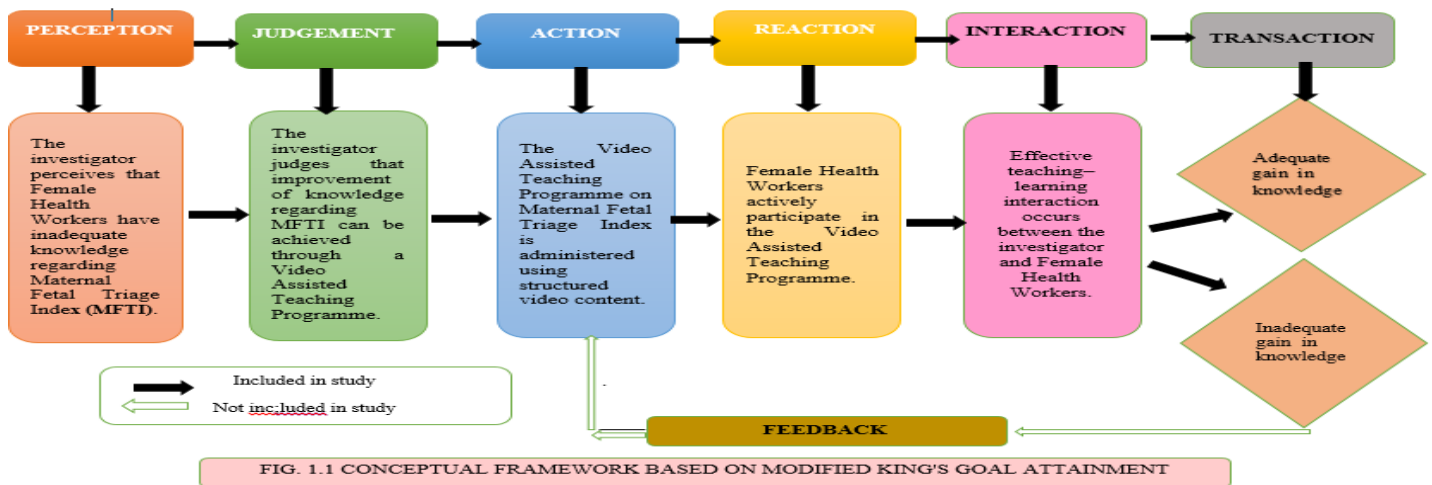
1. To assess the pre-existing knowledge regarding Maternal Fetal Triage Index (MFTI) among Female Health Workers in selected areas.
2. To assess the effectiveness of video assisted teaching programme on knowledge regarding Maternal Fetal Triage Index (MFTI) among Female Health Workers in selected areas.
3. To find the association between knowledge scores with selected demographic variables.

HYPOTHESIS:

4. **Null Hypothesis (H_0):** There is no significant difference between pretest and post- test knowledge scores regarding Maternal Fetal Triage Index (MFTI) among Female Health Workers in selected areas after giving Video Assisted Teaching Programme.
5. **Alternative Hypothesis (H_1):** There is significant difference between pre test and post test knowledge scores regarding Maternal Fetal Triage Index (MFTI) among Female Health Workers in selected areas after giving Video Assisted Teaching Programme.

II. CONCEPTUAL FRAMEWORK

The conceptual framework of the present study was based on the Modified Imogene King's Goal Attainment Theory. The framework explains the process through perception, judgment, action, reaction, interaction, transaction, and feedback. In the present study, Female Health Workers' existing knowledge regarding Maternal Fetal Triage Index was assessed through a pre-test. The Video Assisted Teaching Programme was provided as the intervention, followed by a post-test after 7 days to assess improvement in knowledge. The framework demonstrates the interaction and transaction between the researcher and Female Health Workers, leading to achievement of the desired outcome of improved knowledge regarding MFTI.



III. METHODOLOGY:

Research Approach:

A quantitative research approach was adopted to assess the effectiveness of the Video Assisted Teaching Programme on knowledge regarding MFTI among Female Health Workers.

Research Design:

A pre-experimental one-group pre-test and post-test design was used, with a pre-test, intervention through video-assisted teaching, and post-test after 7 days.

Setting of the Study:

The study was conducted in selected areas of the city, chosen based on geographical proximity, availability of subjects, time, cost, and cooperation of authorities.

Population:

The study population consisted of Female Health Workers. The target population included all FHWs in selected areas, while the accessible population included those available and fulfilling the inclusion criteria.

Sampling:

A non-probability convenience sampling technique was used to select Female Health Workers who were accessible and willing to participate.

Sample Size:

The sample consisted of 70 Female Health Workers, including 10% dropout, and participants were selected according to the sampling criteria.

Cochran formula for sample size estimation:

$$Z = 1.96$$

$$P = \text{Percentage of maternity nurses had competent practices regarding obstetric triage} = 5.7\% = 0.057$$

$E = \text{Desired error of margin} = 6\% = 0.06$

$n = 1.962 \cdot 0.057 / (1 - 0.057) \cdot 0.06^2$

$= 57.35$

$= 60$ participants needed in this study.

$= 70$ participants needed including 10 % dropout.

Sampling Technique:

Non-probability convenience sampling was used, selecting Female Health Workers who were readily available, accessible, and willing to participate during data collection.

Sampling Criteria:

The inclusion criterion was Female Health Workers working in selected areas, while those who had previously undergone structured MFTI training or workshops were excluded.

Variables:

The independent variable was the Video Assisted Teaching Programme on MFTI, and the dependent variable was knowledge regarding MFTI. Demographic variables included age, marital status, income, family type, working area, residence, and experience.

Development of Instrument:

The researcher developed a self-prepared Video Assisted Teaching Programme based on textbooks, evidence-based guidelines, literature, expert guidance, and review of MFTI-related content.

Specification of Instrument:

The self-structured questionnaire consisted of Section A: demographic profile and Section B: 25 knowledge questions regarding MFTI.

Grading of Knowledge Score:

RATING	PERCENTAGE	SCORE (MARKS)
Inadequate Knowledge	0 – 50 %	0-12
Moderate Knowledge	51 – 75 %	13-18
Inadequate Knowledge	76 – 100 %	19-25

Specification of Intervention:

The intervention included information on MFTI procedure, indications, flowchart, colour codes, acuity assessment, nursing responsibilities, and prevention of complications, followed by a post-test after 7 days.

Validity:

The research tool was reviewed by experts, and the S-CVI/Ave was 0.955, indicating excellent content validity.

Reliability:

Reliability of the questionnaire was assessed using 10 samples, and the reported reliability coefficient by the parallel-form method was 0.949, indicating that the tool was reliable and valid.

Pilot Study:

The pilot study was conducted from 4 September to 11 September 2023 among 10 Female Health Workers, with a post-test conducted after 7 days.

Main Study:

The main study was conducted from 31 October 2023 to 7 November 2023 among the selected Female Health Workers.

Data Collection:

Data were collected using a self-administered questionnaire, with 1 mark for each correct answer and 0 for an incorrect answer, followed by the intervention and post-test.

Data Analysis:

Data were coded and analyzed using SPSS. Descriptive statistics, paired t-test, and Chi-square test were planned according to the study objectives.

Statistical Plan for Data Analysis:

Frequency, percentage, mean, and standard deviation were used for descriptive analysis; paired t-test assessed the pre-test/post-test difference, and Chi-square test assessed association with socio-demographic variables.

IV. RESULTS AND DISCUSSION

The present study included **70 Female Health Workers**. The demographic characteristics assessed were age, marital status, monthly income, type of family, area of working, area of residence, and years of experience.

SECTION A**Distribution of Female Health Workers according to demographic characteristics**

Table 4.1: Percentage-wise distribution of Female Health Workers according to demographic characteristics (n=70)

Demographic variable	Category	No. of Female Health Workers	Percentage (%)
Age (years)	21–25	8	11.4
Age (years)	26–30	26	37.1
Age (years)	31–35	30	42.9
Age (years)	>35	6	8.6
Marital status	Married	45	64.3
Marital status	Unmarried	20	28.6
Marital status	Widow	4	5.7
Marital status	Divorced	1	1.4
Family income (Rs)	≤5,000	0	0.0
Family income (Rs)	5,001–10,000	9	12.9
Family income (Rs)	10,001–15,000	55	78.6
Family income (Rs)	≥15,001	6	8.6
Type of family	Joint	21	30.0
Type of family	Nuclear	49	70.0
Area of working	Private Hospital	70	100.0
Area of working	Govt Hospital	0	0.0

Area of working	Corporate Hospital	0	0.0
Area of working	UPHC	0	0.0
Residence	Urban	51	72.9
Residence	Rural	19	27.1
Years of experience	0–1	8	11.4
Years of experience	1–5	31	44.3
Years of experience	5–10	25	35.7
Years of experience	>10	6	8.6

The sample comprised 70 Female Health Workers. The largest proportion was aged 31–35 years (42.9%), followed by 26–30 years (37.1%). Most participants were married (64.3%). Regarding monthly family income, 78.6% belonged to the Rs. 10,001–15,000 category. Seventy percent were from nuclear families. All participants (100%) were working in private hospitals. Most participants resided in urban areas (72.9%), and 44.3% had 1–5 years of professional experience.

SECTION B

Assessment of pre-test and post-test knowledge regarding Maternal Fetal Triage Index (MFTI) among Female Health Workers.

Table 4.2: Assessment of level of pre-test knowledge (n=70)

Level of knowledge	Score range	No. of Female Health Workers	Percentage (%)
Inadequate Knowledge	0–50%	69	98.57
Moderate Knowledge	51–75%	1	1.43
Adequate Knowledge	76–100%	0	0.00
Minimum score	—	4	—
Maximum score	—	13	—
Mean knowledge score	—	8.75 ± 1.99	—
Mean % knowledge score	—	35.02 ± 7.98	—

Table 4.3: Assessment of level of post-test knowledge (n=70)

Level of knowledge	Score range	No. of Female Health Workers	Percentage (%)
Inadequate Knowledge	0–50%	0	0.00
Moderate Knowledge	51–75%	8	11.40
Adequate Knowledge	76–100%	62	88.60
Minimum score	—	16	—
Maximum score	—	23	—
Mean knowledge score	—	20.51 ± 1.65	—
Mean % knowledge score	—	82.05 ± 6.62	—

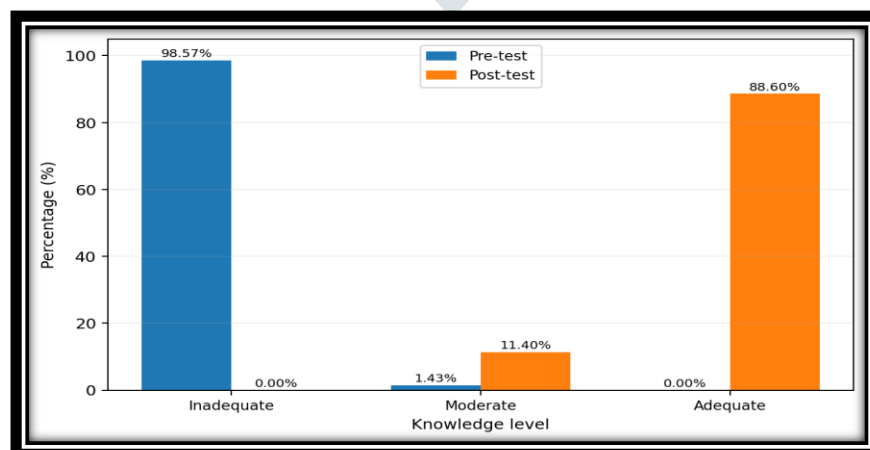


Figure 4.8: Comparison of pre-test and post-test knowledge levels regarding MFTI

SECTION C

Evaluation of the effectiveness of the Video Assisted Teaching Programme on knowledge regarding MFTI.

Table 4.4: Significance of difference between pre-test and post-test knowledge scores (n=70)

Test	Mean	SD	Mean Difference	Paired value	t-	p-value	Interpretation
Pre-test	8.75	1.99	11.75 ± 2.96	33.16		0.0001	S, p<0.05
Post-test	20.51	1.65	—	—		—	—

The mean knowledge score increased from 8.75 ± 1.99 in the pre-test to 20.51 ± 1.65 in the post-test, with a mean difference of 11.75 ± 2.96 . The calculated paired t-value was 33.16 with $p=0.0001$, which is statistically significant at the 5% level. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The findings indicate that the Video Assisted Teaching Programme was effective in improving knowledge regarding MFTI among the Female Health Workers.

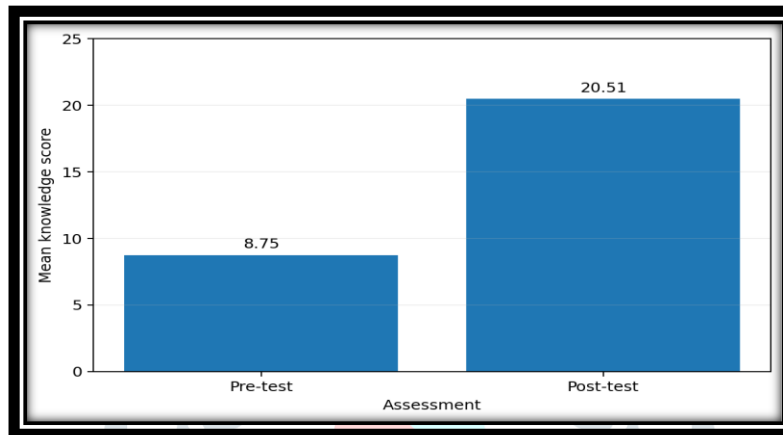


Figure 4.9: Comparison of mean pre-test and post-test knowledge scores

SECTION D

Association of pre-test knowledge score regarding MFTI among Female Health Workers with selected demographic variables.

Table 4.5: Association of pre-test knowledge score with selected demographic variables (n=70)

Demographic variable	χ^2 value	Df	p-value	Inference
Age (years)	1.43	3	0.698	Not significant
Marital status	0.56	3	0.905	Not significant
Family income (Rs)	0.30	2	0.860	Not significant
Type of family	2.37	1	0.124	Not significant
Area of residence	0.38	1	0.539	Not significant
Years of experience	1.72	3	0.633	Not significant

The association analysis showed that pre-test knowledge scores were not statistically associated with age, marital status, family income, type of family, area of residence, or years of experience, as all p-values were greater than 0.05.

Reliability Analysis

Table 4.6: Reliability analysis of the structured knowledge questionnaire

Method	Pearson's correlation coefficient	Reported reliability (%)
Parallel Form method	0.993	0.9964

By the Parallel Form method, the Pearson correlation coefficient was reported as 0.993 and the reported reliability value was 0.9964, indicating high reliability of the tool.

Summary of Major Findings

- At pre-test, 98.57% of Female Health Workers had inadequate knowledge, 1.43% had moderate knowledge, and none had adequate knowledge.
- At post-test, 88.6% had adequate knowledge, 11.4% had moderate knowledge, and none had inadequate knowledge.
- The mean knowledge score increased from 8.75 ± 1.99 at pre-test to 20.51 ± 1.65 at post-test.
- The paired t-test demonstrated a statistically significant improvement ($t=33.16$, $p=0.0001$).
- No statistically significant association was found between pre-test knowledge and the selected demographic variables included in the analysis.

IV. DISCUSSION

The present study assessed the effectiveness of a Video-Assisted Teaching Programme on knowledge regarding the Maternal Fetal Triage Index (MFTI) among 70 Female Health Workers. The findings revealed a substantial deficit in baseline knowledge, with 98.57% of participants demonstrating inadequate knowledge and only 1.42% demonstrating moderate knowledge. The mean pre-test knowledge score was 8.75 ± 1.99 . Following the intervention, knowledge improved markedly, with 88.6% of participants achieving adequate knowledge and 11.4% demonstrating moderate knowledge. The mean post-test score increased to 20.51 ± 1.65 , indicating a statistically significant improvement (paired $t = 33.16$, $p < 0.05$).

The findings are consistent with previous research demonstrating the value of structured educational interventions in improving obstetric triage knowledge. Long (2021) reported limited baseline knowledge among nurses before MFTI implementation, whereas Elmashad et al. (2020) demonstrated significant improvement in nurses' knowledge and practice following simulation-based obstetric triage training. Similarly, Mostafa (2023) and Ahmed et al. (2022) reported significant improvements in knowledge following triage education programmes. Mayberger (2022) further demonstrated that structured MFTI implementation improved triage efficiency and timeliness of assessment.

The marked improvement observed in the present study may be attributed to the standardized and visual nature of video-assisted teaching, which can facilitate understanding of MFTI principles, acuity categorization, prioritization, and clinical decision-making. Overall, the findings support video-assisted teaching as a feasible educational strategy for improving MFTI knowledge among Female Health Workers and highlight the need for regular, structured education on obstetric triage.

CONCLUSION

The study concluded that Female Health Workers had inadequate baseline knowledge regarding the Maternal Fetal Triage Index. The Video-Assisted Teaching Programme produced a significant improvement in knowledge, as demonstrated by the increase in mean knowledge score from 8.75 ± 1.99 in the pre-test to 20.51 ± 1.65 in the post-test ($t = 33.16$, $p < 0.05$). Thus, the intervention was effective in enhancing knowledge regarding MFTI among the study participants. These findings suggest that video-assisted teaching may serve as a practical and scalable approach for strengthening educational preparation related to maternal and fetal triage.

RECOMMENDATIONS

1. Larger, multi-centre studies should be conducted to improve the generalizability of the findings.
2. Future studies should assess whether improved knowledge is translated into actual triage practices, clinical decision-making, and maternal–fetal care outcomes.
3. Comparative studies may evaluate video-assisted teaching against simulation-based training, workshops, demonstrations, or blended learning approaches.
4. Longitudinal studies are recommended to assess long-term retention of MFTI knowledge.
5. Structured MFTI education may be incorporated into continuing nursing education and in-service training programmes for healthcare professionals involved in maternal care

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