Effectiveness of Video-Assisted Teaching on Knowledge and Attitude Regarding Reproductive Health Among Women Residing at Sri Lankan Tamil Rehabilitation Camp, Annichakuppam, Tamil Nadu

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Abstract— **Background & Objectives: Reproductive health encompasses the physical, mental and social well-being of individuals across all stages of life. Women in resettlement communities often have limited access to reproductive health information, increasing vulnerability to adverse outcomes. This study aimed to assess the pre- and post-test levels of knowledge and attitude regarding reproductive health among women residing at Sri Lankan Tamil Rehabilitation Camp, Annichakuppam, Tamil Nadu, and to evaluate the effectiveness of video-assisted teaching (VAT) as an educational intervention.**

Methods: A quasi-experimental one-group pre- and post-test design was employed. Thirty-eight women aged 21–45 years were selected by simple random sampling (lottery method). Data were collected using a structured interview schedule (30-item multiple-choice questionnaire) for knowledge and a modified 4-point Likert scale (15 items) for attitude. Video-assisted teaching of 25–30 minutes duration was administered, and post-test was conducted seven days later.

Results: At pre-test, 52.6% of participants had inadequate knowledge and 44.7% had moderately adequate knowledge. Following the intervention, 84.2% demonstrated moderately adequate knowledge and 2.6% demonstrated adequate knowledge. Regarding attitude, 81.6% had moderately favourable attitude at pre-test compared to 100% favourable attitude at post-test. The Wilcoxon signed-rank test revealed a statistically significant improvement in both knowledge and attitude ($P < 0.001$). No significant association was found between knowledge/attitude scores and selected sociodemographic variables.

Interpretation & Conclusions: Video-assisted teaching was effective in significantly improving reproductive health knowledge and attitude among women in rehabilitation camps. Structured visual educational interventions should be integrated into community-level reproductive health programmes targeting marginalised populations.

Index Terms— **attitude; knowledge; quasi-experimental study; rehabilitation camp; reproductive health; video-assisted teaching; women.**

I. INTRODUCTION

Reproductive health refers to a state of complete physical, mental, and social well-being not merely the absence of disease, in all matters relating to the reproductive system and its functions. The male and female reproductive systems comprise organs and hormone-producing glands, including the pituitary gland, ovaries, and testes, which regulate systemic homeostasis and are implicated in a spectrum of health conditions across the life course.

Common female reproductive disorders include early or delayed puberty, endometriosis, inadequate breastmilk supply, infertility, menstrual irregularities, polycystic ovarian syndrome, and uterine fibroids. Each of these conditions carries significant morbidity if left unaddressed, and their impact is amplified among women with limited health literacy or restricted access to healthcare services.

Globally, an estimated 12 million new sexually transmitted infections occur annually, with adolescents and young women accounting for

approximately 25% of cases[1]. In several Asian countries, including Bangladesh and Indonesia, maternal causes account for 26–37% of deaths among female adolescents, underscoring the need for early reproductive health education[2]. Unintended pregnancy, another critical reproductive health indicator, continues to impose a substantial burden in low- and middle-income settings, with a pooled global prevalence documented across multiple national surveys[3–5].

Women residing in resettlement or rehabilitation camps represent a particularly vulnerable subpopulation. Displacement disrupts access to primary healthcare and community support networks, while cultural and linguistic barriers may compound existing knowledge deficits. Clinical observation in maternity outpatient settings revealed that many women presented with conditions attributable to poor reproductive health practices, including untreated reproductive tract infections, unintended pregnancies, and subfertility, and expressed low baseline awareness of preventive strategies.

Video-assisted teaching (VAT) has emerged as a low-cost, culturally adaptable, and highly accessible educational modality. Audiovisual content enhances retention of health information, particularly among populations with variable literacy levels, by combining narrative explanation with visual demonstration. Despite its documented utility in maternal and child health education, evidence on its effectiveness specifically in rehabilitation or resettlement contexts remains limited.

This study, therefore, aimed to assess pre-intervention levels of reproductive health knowledge and attitude among women in Sri Lankan Tamil Rehabilitation Camp, Annichakuppam, Tamil Nadu, to evaluate the effectiveness of a structured VAT programme, and to examine associations between sociodemographic characteristics and outcome scores.

II. MATERIAL & METHODS

Study design and setting

A quasi-experimental one-group pre- and post-test design was adopted. The study was conducted at the Sri Lankan Tamil Rehabilitation Camp, Annichakuppam, Tamil Nadu, India, a resettlement community housing displaced Sri Lankan Tamil refugees.

Participants

The target population comprised women aged 21–45 years residing in the camp. Acutely unwell women, confined to their residences, or unable to participate due to cognitive or psychiatric conditions were excluded. A sample of 38 women fulfilling the inclusion criteria was selected by simple random sampling using the lottery method.

Ethical considerations

Approval was obtained from the Institutional Scientific Committee and Ethics Committee of Pondicherry Institute of Medical Sciences before data collection. Written and verbal informed consent was obtained from all participants. Confidentiality of data was assured, and participants were free to withdraw at any stage without consequence. CTRI/2023/10/059035.

Instruments

Data were collected using a three-part structured instrument. Part I comprised a sociodemographic questionnaire covering age, religion, educational status, occupation, monthly family income, type of family, and prior reproductive health exposure. Part II was a 30-item structured multiple-choice knowledge questionnaire encompassing the reproductive system, fertilisation, puberty and pubertal changes, menstrual cycle and hygiene, reproductive health problems, dysmenorrhoea management and contraception; each correct response was scored 1, yielding a maximum score of 30. Part III comprised a modified 4-point Likert scale of 15 items (10 positive, 5 negative) assessing attitude toward reproductive health (maximum score 60). Scoring thresholds are presented in Table 1.

Intervention

A 25–30-minute video-assisted teaching session was administered individually in a well-ventilated room. The video addressed key domains of reproductive health with culturally appropriate content in the participants' language. Queries were clarified immediately after the session.

Data collection

Pre-test data were collected through face-to-face structured interviews of 15–20 minutes. The VAT intervention was administered on the same day. Post-test was conducted seven days later using the identical

instrument and procedure. All data were collected within a four-week period.

Statistical analysis

Data were analysed using descriptive and inferential statistics. Frequency and percentage distributions described sociodemographic variables. Mean and standard deviation characterised knowledge and attitude scores. The Wilcoxon signed-rank test compared pre- and post-test scores. Karl Pearson's correlation coefficient examined the relationship between knowledge and attitude. One-way ANOVA and unpaired t-test assessed associations between outcome variables and categorical sociodemographic predictors. A P value < 0.05 was considered statistically significant.

III. RESULTS

Sociodemographic profile

The sociodemographic characteristics of the 38 study participants are summarised in Table 2. The majority of the participants were aged > 45 years (n = 23, 60.5%), and (n = 15, 39.5%) were in the 35–45-year age group. All participants identified as Christian. Educational attainment was predominantly at the secondary level (n = 15, 39.5%), followed by primary level (n = 12, 31.6%) and illiteracy (n = 10, 26.3%). Most women were housewives (n = 29, 76.3%), and 68.4% reported a monthly family income of ≤ Rs. 25,000. Joint-family living arrangements were reported by 73.7% (n = 28). Prior knowledge of reproductive health was limited: 81.6% (n = 31) reported no previous exposure, while 7.9% had obtained information through family members and 7.9% through the media.

Pre- and post-test knowledge levels (Objective 1)

Table 3 presents the distribution of knowledge levels before and after the intervention. At pre-test, 52.6% (n = 20) of participants demonstrated inadequate knowledge, 44.7% (n = 17) moderately adequate knowledge, and only 2.6% (n = 1) adequate knowledge. Following VAT, inadequate knowledge declined to 15.8% (n = 6), while moderately adequate knowledge increased substantially to 84.2% (n = 32). The proportion with adequate knowledge remained unchanged at 2.6% (n = 1), representing a ceiling effect in this category.

Pre- and post-test attitude levels (Objective 1)

Table 4 presents attitude score distributions. At pre-test, 2.6% (n = 1) of women exhibited an unfavourable attitude, 81.6% (n = 31) a moderately favourable attitude, and 15.8% (n = 6) a favourable attitude. At post-test, all 38 participants (100%) demonstrated a favourable attitude toward reproductive health, indicating a marked positive shift following the educational intervention.

Comparison of pre- and post-test scores (Objective 2)

Table 5 presents the results of inferential comparisons. The Wilcoxon signed-rank test showed a statistically significant improvement in both knowledge scores (positive mean rank = 19.50; total mean rank = 741.00; $P < 0.001$) and attitude scores ($P < 0.001$) following VAT. These findings support hypotheses H_1 and H_2.

Association with sociodemographic variables (Objective 3)

Table 6 summarises associations between knowledge and attitude scores and selected sociodemographic variables. No statistically significant association was found between post-test knowledge or attitude and age ($P = 0.246$ and $P = 0.481$, respectively), educational status ($P = 0.262$ and $P = 0.128$), occupation ($P = 0.774$ and $P = 1.000$), monthly income ($P = 0.823$ and $P = 0.098$), type of family ($P = 0.166$ and $P = 0.198$) or prior knowledge ($P = 0.098$ and $P = 1.000$), indicating that the benefits of VAT were uniformly distributed across participant subgroups.

IV. DISCUSSION

This study investigated the effectiveness of a structured video-assisted teaching programme on reproductive health knowledge and attitude among women in a rehabilitation camp setting. The findings demonstrate a statistically significant improvement in both domains following a single, time-limited educational intervention, consistent with the growing literature on audiovisual health education in community settings.

The baseline finding that over half (52.6%) of participants had inadequate reproductive health knowledge corroborates reports from comparable low-resource settings, where women's health literacy often reflects limited formal education and restricted access to health services. The prevalence of moderately

favourable attitude at baseline (81.6%) suggests that attitudinal foundations were not absent but required reinforcement a pattern amenable to focused educational strategies.

The shift to 100% favourable attitude post-intervention is particularly notable. Attitude change is generally considered more resistant to brief educational exposure than knowledge acquisition; however, culturally contextualised audiovisual material has been shown to engage affective dimensions of learning more effectively than text-based or lecture-only formats. The integrated narrative-visual format of VAT may have enabled participants to contextualise reproductive health information within lived experience, facilitating attitudinal transformation.

The absence of significant associations between outcome scores and sociodemographic variables, including educational attainment and prior knowledge, suggests that VAT may function as an equitable educational modality, yielding comparable gains across heterogeneous participant profiles. This finding has practical relevance for programme planners seeking scalable interventions for displaced or marginalised populations with diverse literacy backgrounds.

Several limitations of the present study should be acknowledged. The single-group design, without a control group, precludes a definitive causal attribution of the observed changes to VAT alone; the sample size of 38 limits statistical power and generalisability. The seven-day post-test interval does not allow assessment of knowledge and attitude retention over longer periods. Future research should employ randomised controlled designs with extended follow-up and larger, geographically diverse samples.

In conclusion, a single structured session of video-assisted teaching significantly improved reproductive health knowledge and attitude among women in a resettlement community. These findings support the integration of VAT into community-level reproductive health promotion programmes, with particular relevance for marginalised or displaced populations with limited access to conventional healthcare education.

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CONFLICTS OF INTEREST

None declared.

FUNDING

The study received no external funding.

TABLES

Table 1. Scoring criteria for the knowledge and attitude of the participant

Instrument	Category	Score Range	Percentage
Knowledge (max 30)	Inadequate	0 – 10	< 33%
	Moderately adequate	11 – 20	34 – 66%
	Adequate	21 – 30	67 – 100%
Attitude (max 60)	Unfavourable	< 30	< 50%
	Moderately favourable	30 – 45	50 – 75%
	Favourable	> 45	> 75%

Table 2. Sociodemographic characteristics of study participants (n = 38)

Variable	n	Percentage (%)
Age (years): 35–45	15	39.5
> 45	23	60.5
Education: Illiterate	10	26.3
Primary	12	31.6
Secondary	15	39.5
Graduate	1	2.6
Occupation: Housewife	29	76.3
Employee	9	23.7
Income: ≤ Rs. 25,000	13	34.2
> Rs. 25,000	25	65.8
Family type: Joint	28	73.7
Nuclear	10	26.3
Prior knowledge: Yes	7	18.4
No	31	81.6

Table 3. Pre- and post-test distribution of knowledge levels regarding reproductive health (n = 38)

Knowledge Level	Pre-test n	Pre-test %	Post-test n	Post-test %
Inadequate	20	52.6	6	15.8
Moderately adequate	17	44.7	32	84.2
Adequate	1	2.6	1	2.6
Total	38	100	38	100

Table 4. Pre- and post-test distribution of attitude levels regarding reproductive health (n = 38)

Attitude Level	Pre-test n	Pre-test %	Post-test n	Post-test %
Unfavourable	1	2.6	0	0.0
Moderately favourable	31	81.6	0	0.0
Favourable	6	15.8	38	100.0
Total	38	100	38	100

Table 5. Comparison of pre- and post-test knowledge and attitude scores (Wilcoxon signed-rank test; n = 38)

Variable	Positive Mean Rank	Total Mean Rank	P Value
Knowledge (pre vs. post)	19.50	741.00	< 0.001*
Attitude (pre vs. post)	—	—	< 0.001*

*Statistically significant at P < 0.001

Table 6. Association between sociodemographic variables and knowledge/attitude levels (n = 38)

Sociodemographic Variable	Knowledge P Value	Knowledge Significance	Attitude P Value	Attitude Significance
Age	0.246	NS	0.481	NS
Educational status	0.262	NS	0.128	NS
Occupation	0.774	NS	1.000	NS
Monthly income	0.823	NS	0.098	NS
Type of family	0.166	NS	0.198	NS
Prior knowledge	0.098	NS	1.000	NS

NS: Not significant (P > 0.05)

LEGENDS TO FIGURES

Fig. 1. Bar chart comparing pre- and post-test distribution of knowledge levels regarding reproductive health among women (n = 38). Inadequate knowledge declined from 52.6% to 15.8%; moderately adequate knowledge increased from 44.7% to 84.2%.

Fig. 2. Bar chart comparing pre- and post-test distribution of attitude levels regarding reproductive health among women (n = 38). Following video-assisted teaching, 100% of participants demonstrated a favourable attitude compared with 15.8% at pre-test.

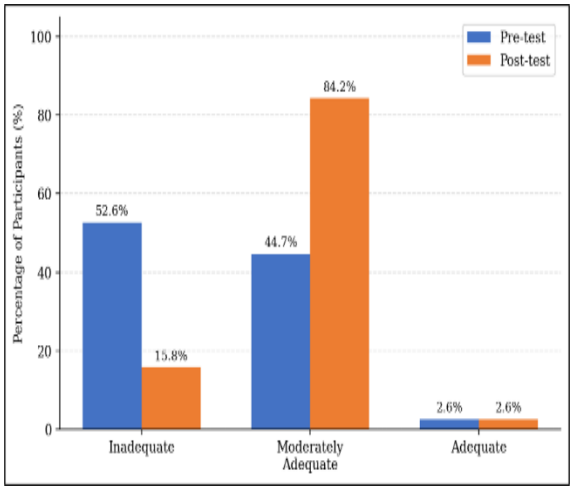

Fig. 1. Pre- and post-level of knowledge regarding reproductive health

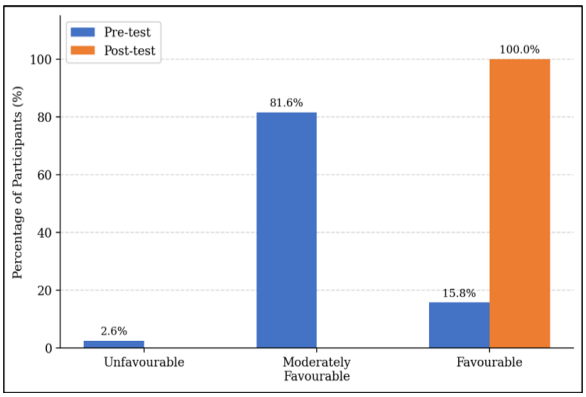

Fig. 2: Pre- and post-test level of Attitude regarding reproductive health

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