IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

EFFECTIVENESS OF A VIDEO-ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BASIC LIFE SUPPORT (BLS) AMONG FOURTH-CLASS WORKERS IN A SELECTED HOSPITAL OF RAJASTHAN: A QUASI-EXPERIMENTAL STUDY

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Abstract

Background

Basic Life Support (BLS) is an essential emergency care procedure that improves survival during cardiac arrest and other life-threatening emergencies. Fourth-class workers frequently encounter patients in hospitals but often have limited knowledge regarding Basic Life Support.

Objectives

1. To assess the pre-test knowledge regarding Basic Life Support (BLS) among fourth-class workers.
2. To evaluate the effectiveness of a Video-Assisted Teaching Programme (VATP) on BLS.
3. To determine the association between pre-test knowledge scores and selected demographic variables.

Materials and Methods

A quantitative quasi-experimental one-group pre-test and post-test research design was adopted among **100 fourth-class workers** selected using purposive sampling from a selected hospital in Rajasthan. A structured knowledge questionnaire consisting of 30 multiple-choice questions was used. Following the pre-test, participants received a **30-minute Video-Assisted Teaching Programme** on Basic Life Support based on current international BLS guidelines. A post-test was conducted seven days later using the same questionnaire. Descriptive and inferential statistics (paired *t*-test and Chi-square test) were used for data analysis.

Results

The **mean pre-test knowledge score was 12.96 ± 3.41**, whereas the **mean post-test knowledge score increased to 25.76 ± 2.36**. The calculated paired **t-value was 30.42 ($p < 0.001$)**, indicating a statistically significant improvement in knowledge following the Video-Assisted Teaching Programme.

Conclusion

The Video-Assisted Teaching Programme was highly effective in improving knowledge regarding Basic Life Support among fourth-class workers. Regular BLS training should be incorporated into hospital orientation and continuing education programmes for all support staff.

Keywords: Basic Life Support, Video-Assisted Teaching Programme, Fourth-Class Workers, Knowledge, Hospital Support Staff, Rajasthan

Introduction

Basic Life Support (BLS) is an essential emergency care procedure that helps maintain airway, breathing, and circulation in individuals experiencing cardiac arrest or other life-threatening emergencies until advanced medical care is available. Early recognition of cardiac arrest and prompt initiation of BLS can significantly improve survival and reduce complications. Every minute of delay in providing BLS decreases the chances of survival, making timely intervention crucial.

In hospitals, fourth-class workers such as ward attendants, housekeeping staff, sanitation workers, and patient transport personnel frequently remain in close contact with patients and may be the first to witness medical emergencies. However, many of these workers have limited knowledge and receive little formal training in Basic Life Support. This lack of knowledge may delay emergency response and affect patient outcomes.

Video-Assisted Teaching Programmes (VATPs) are an effective educational method that combines visual and audio learning to improve understanding and retention of knowledge. Video-based training provides a standardized and easy-to-understand approach for teaching emergency procedures such as Basic Life Support.

Therefore, the present study was undertaken to assess the effectiveness of a **Video-Assisted Teaching Programme on knowledge regarding Basic Life Support (BLS) among fourth-class workers in a selected hospital of Rajasthan**. The findings of the study are expected to support the implementation of regular BLS training programmes to improve emergency preparedness and patient safety in hospital settings.

Need of the Study

Basic Life Support (BLS) is a critical life-saving intervention that can significantly increase the survival of individuals experiencing cardiac arrest or other medical emergencies. Immediate initiation of BLS before the arrival of advanced medical care helps maintain circulation and oxygenation, thereby reducing mortality and long-term complications. Despite its importance, many hospital support staff, particularly fourth-class workers, have limited knowledge of Basic Life Support techniques.

Fourth-class workers such as ward attendants, housekeeping staff, sanitation workers, and patient transport personnel are often the first to witness emergencies within hospital settings. Their prompt recognition of cardiac arrest and immediate response can play a vital role in saving patients' lives. However, due to inadequate training and lack of continuing education, many of these workers are not confident in providing Basic Life Support during emergencies.

Video-Assisted Teaching Programmes offer a simple, standardized, and effective method of educating hospital support staff. Visual demonstrations enhance understanding, improve knowledge retention, and provide uniform training irrespective of educational background.

Therefore, this study is needed to evaluate the effectiveness of a **Video-Assisted Teaching Programme** in improving the knowledge of **Basic Life Support among fourth-class workers** in a selected hospital of Rajasthan. The findings of the study may help hospital administrators and nursing educators develop regular BLS training programmes, strengthen emergency preparedness, and ultimately improve patient safety and quality of healthcare services.

Objectives of the Study

1. **To assess the pre-test knowledge** regarding Basic Life Support (BLS) among fourth-class workers in a selected hospital of Rajasthan.
2. **To evaluate the effectiveness of a Video-Assisted Teaching Programme** on knowledge regarding Basic Life Support among fourth-class workers.
3. **To assess the post-test knowledge** regarding Basic Life Support after the administration of the Video-Assisted Teaching Programme.
4. **To compare the pre-test and post-test knowledge scores** regarding Basic Life Support among fourth-class workers.
5. **To determine the association between pre-test knowledge scores and selected demographic variables** such as age, gender, educational qualification, work experience, and previous exposure to BLS training.

Research Hypotheses

H_1: There will be a statistically significant difference between the pre-test and post-test knowledge scores regarding Basic Life Support (BLS) among fourth-class workers after the administration of the Video-Assisted Teaching Programme.

H_2: There will be a statistically significant association between the pre-test knowledge scores regarding Basic Life Support and selected demographic variables such as age, gender, educational qualification, work experience, and previous BLS training.

Materials and Methods

Research Design

The study employed a **quasi-experimental one-group pre-test and post-test research design** to evaluate the effectiveness of a **Video-Assisted Teaching Programme (VATP)** on the knowledge regarding Basic Life Support (BLS) among fourth-class workers. This design enabled the comparison of participants' knowledge before and after the educational intervention.

Research Approach

A **quantitative evaluative research approach** was adopted to objectively assess the effectiveness of the Video-Assisted Teaching Programme in improving knowledge regarding Basic Life Support.

Study Setting

The study was conducted in a **selected hospital in Rajasthan**, where fourth-class workers were employed in various departments such as wards, housekeeping, sanitation, patient transportation, and hospital support services.

Study Population

The target population comprised **fourth-class workers employed in the selected hospital of Rajasthan**.

Sample Size

A total of **100 fourth-class workers** participated in the study.

Sampling Technique

Participants were selected using a **non-probability purposive sampling technique** based on the eligibility criteria and willingness to participate.

Inclusion Criteria

Participants who fulfilled the following criteria were included in the study:

- Fourth-class workers employed in the selected hospital.
- Aged between **18 and 60 years**.
- Able to understand and communicate in Hindi or English.
- Willing to provide written informed consent.
- Available during the period of data collection.

Exclusion Criteria

Participants with the following conditions were excluded:

- Workers who had undergone formal Basic Life Support (BLS) training within the previous six months.
- Workers absent during the intervention or post-test period.
- Workers unwilling to participate in the study.

Research Instrument

Section A: Demographic Profile

A structured questionnaire was used to collect demographic information, including:

- Age
- Gender
- Educational qualification
- Marital status
- Work experience
- Department of work
- Previous exposure to BLS training
- Previous experience of witnessing medical emergencies

Section B: Structured Knowledge Questionnaire

Knowledge regarding **Basic Life Support (BLS)** was assessed using a **30-item structured multiple-choice questionnaire** covering the following areas:

- Introduction to Basic Life Support
- Chain of Survival
- Recognition of cardiac arrest
- Emergency response system
- Chest compression technique
- Rescue breathing
- Compression-to-ventilation ratio
- Automated External Defibrillator (AED)

- Recovery position
- Safety precautions during BLS

Each correct response was awarded **one mark**, while each incorrect response received **zero marks**. The maximum obtainable score was **30**.

Knowledge Score Interpretation

- **Poor Knowledge:** 0–10
- **Average Knowledge:** 11–20
- **Good Knowledge:** 21–30

Validity and Reliability

The research instrument was validated by experts in **Medical-Surgical Nursing, Critical Care Nursing, Emergency Medicine, Nursing Education, and Biostatistics** to ensure content validity. The reliability of the structured knowledge questionnaire was established using **Cronbach's alpha**, yielding a coefficient of **0.86**, indicating good internal consistency.

Data Collection Procedure

Formal administrative permission was obtained from the concerned hospital authorities before initiating the study. Eligible participants were informed about the objectives and purpose of the research, and written informed consent was obtained.

A **pre-test** was conducted using the structured knowledge questionnaire to assess the baseline knowledge regarding Basic Life Support.

Immediately after completion of the pre-test, participants received the **Video-Assisted Teaching Programme (VATP)**.

Intervention

The **Video-Assisted Teaching Programme** lasted approximately **30–40 minutes** and included an educational video developed according to the latest **American Heart Association (AHA) Basic Life Support Guidelines**.

The educational content included:

- Introduction to Basic Life Support (BLS)
- Importance of early recognition of cardiac arrest
- Chain of Survival
- Scene safety
- Checking responsiveness
- Activating emergency medical services
- High-quality chest compressions

- Rescue breathing techniques
- Compression-to-ventilation ratio
- Use of an Automated External Defibrillator (AED)
- Recovery position
- Infection prevention and safety precautions
- Role of fourth-class workers during medical emergencies

The video was supplemented with brief explanations and an interactive discussion session. Participants were encouraged to ask questions and clarify doubts after the presentation.

Post-test Evaluation

A **post-test** was conducted **seven days** after the Video-Assisted Teaching Programme using the same structured knowledge questionnaire. The post-test scores were compared with the pre-test scores to determine the effectiveness of the educational intervention.

Results

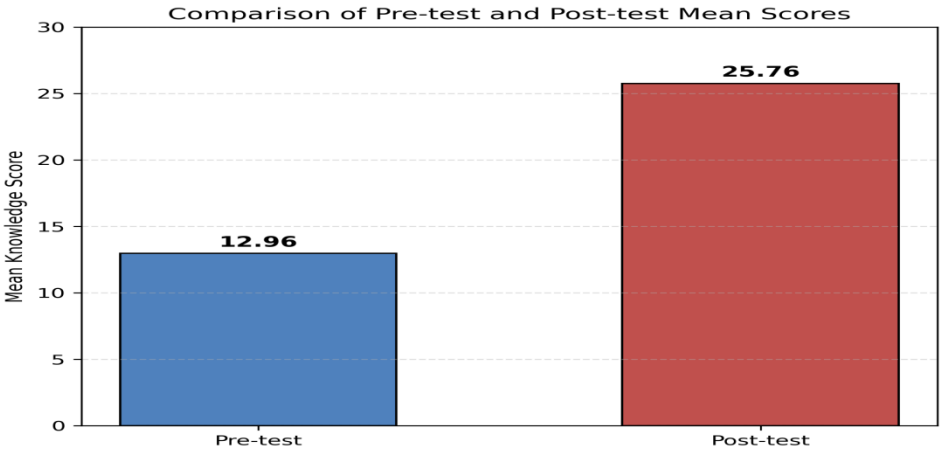
Table 1. Distribution of Participants According to Demographic Variables (N = 100)

Demographic Variable	Category	Frequency (f)	Percentage (%)
Age (Years)	18–30	26	26.0
	31–40	38	38.0
	41–50	24	24.0
	>50	12	12.0
Gender	Male	64	64.0
	Female	36	36.0
Educational Qualification	Primary	24	24.0
	Secondary	46	46.0
	Higher Secondary	22	22.0
	Graduate	8	8.0
Work Experience	<5 years	32	32.0
	5–10 years	40	40.0
	>10 years	28	28.0
Previous BLS Training	Yes	20	20.0
	No	80	80.0

Interpretation: Most participants (38%) were aged 31–40 years, 64% were male, 46% had secondary education, 40% had 5–10 years of work experience, and 80% had never received previous Basic Life Support (BLS) training.

Table 2. Comparison of Pre-test and Post-test Knowledge Scores Regarding Basic Life Support (N = 100)

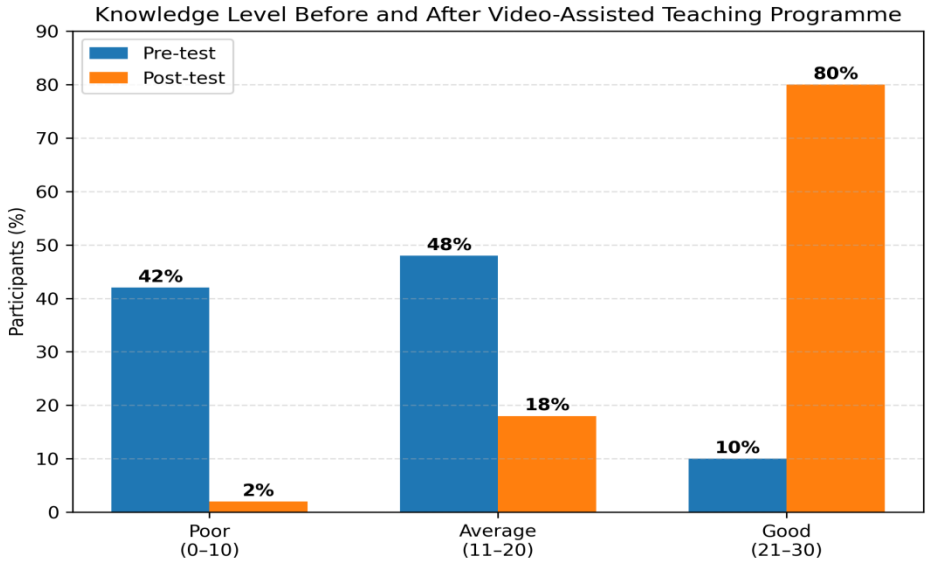
Test	Mean ± SD	Mean Difference	Paired *t*-value	p-value
Pre-test	12.96 ± 3.41			
Post-test	25.76 ± 2.36	12.80	30.42	<0.001*



Interpretation: The mean pre-test knowledge score was **12.96 ± 3.41**, whereas the mean post-test knowledge score increased to **25.76 ± 2.36**. The calculated paired *t*-value was **30.42 (p < 0.001)**, indicating a highly statistically significant improvement in knowledge after the Video-Assisted Teaching Programme.

Table 3. Distribution of Participants According to Level of Knowledge (N = 100)

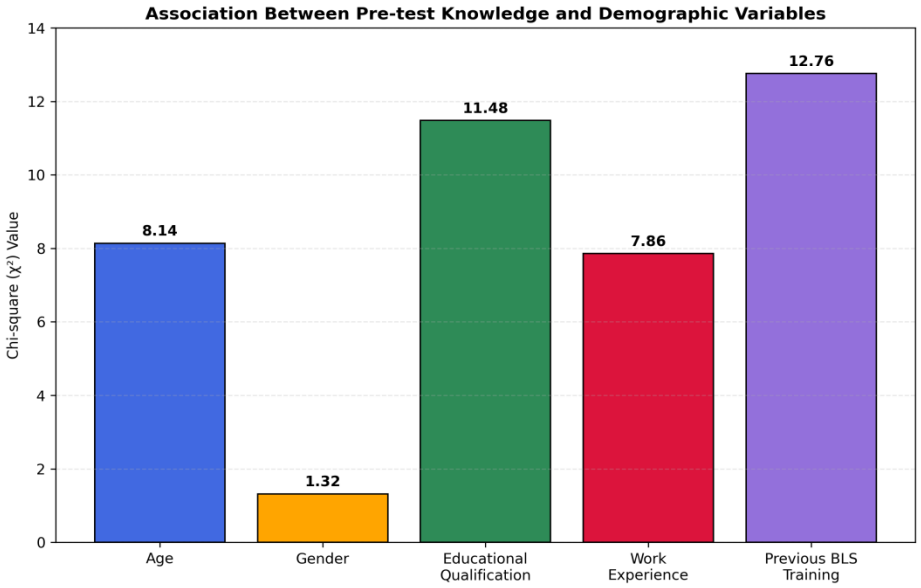
Knowledge Level	Pre-test n (%)	Post-test n (%)
Poor (0–10)	42 (42.0)	2 (2.0)
Average (11–20)	48 (48.0)	18 (18.0)
Good (21–30)	10 (10.0)	80 (80.0)



Interpretation: Before the intervention, 42% of participants had poor knowledge, 48% had average knowledge, and only 10% had good knowledge regarding Basic Life Support. After the Video-Assisted Teaching Programme, 80% of participants achieved good knowledge, while only 2% remained in the poor knowledge category, demonstrating a marked improvement.

Table 4. Association Between Pre-test Knowledge Scores and Selected Demographic Variables (N = 100)

Demographic Variable	χ^2-value	p-value	Significance
Age	8.14	0.017*	Significant
Gender	1.32	0.251	Not Significant
Educational Qualification	11.48	0.009*	Significant
Work Experience	7.86	0.020*	Significant
Previous BLS Training	12.76	0.001*	Significant



Interpretation: A statistically significant association was observed between pre-test knowledge scores and **age, educational qualification, work experience, and previous BLS training** ($p < 0.05$). However, **gender** was not significantly associated with pre-test knowledge regarding Basic Life Support ($p > 0.05$).

Summary of Findings

The findings revealed that the **Video-Assisted Teaching Programme was highly effective** in improving the knowledge of fourth-class workers regarding Basic Life Support. The mean knowledge score increased significantly from **12.96 ± 3.41** in the pre-test to **25.76 ± 2.36** in the post-test (**paired t = 30.42, p < 0.001**). Furthermore, significant associations were found between pre-test knowledge and selected demographic variables, including age, educational qualification, work experience, and previous BLS training. These results support the effectiveness of video-assisted education as a strategy for enhancing emergency preparedness among hospital support staff.

Discussion

The present study evaluated the effectiveness of a **Video-Assisted Teaching Programme (VATP)** on knowledge regarding Basic Life Support (BLS) among fourth-class workers in a selected hospital of Rajasthan. The findings showed a substantial improvement in participants' knowledge after the intervention.

The mean pre-test knowledge score was **12.96 ± 3.41**, which increased to **25.76 ± 2.36** in the post-test. The paired t-value of **30.42 ($p < 0.001$)** indicated that the improvement was statistically highly significant. Furthermore, the proportion of participants with good knowledge increased from **10% in the pre-test to 80% in the post-test**, while poor knowledge decreased from **42% to 2%**.

Significant associations were also observed between pre-test knowledge and **age, educational qualification, work experience, and previous BLS training**, whereas gender showed no significant association. Overall, the findings indicate that **video-assisted teaching is an effective educational strategy for improving BLS knowledge among fourth-class hospital workers** and may contribute to better emergency preparedness and patient safety.

Conclusion

The study concluded that the **Video-Assisted Teaching Programme (VATP)** was highly effective in improving knowledge regarding **Basic Life Support (BLS)** among fourth-class workers in a selected hospital of Rajasthan. The significant increase in post-test knowledge scores (**$p < 0.001$**) demonstrated the effectiveness of the educational intervention. Video-assisted BLS education can therefore be incorporated into hospital orientation and periodic training programmes to enhance **emergency preparedness, early response, and patient safety** among hospital support staff.

Recommendations

1. **Regular BLS training programmes** should be organized for fourth-class workers to improve their knowledge and emergency preparedness.
2. **Video-assisted teaching** may be incorporated into hospital orientation and continuing education programmes for support staff.
3. Periodic **refresher training and hands-on BLS demonstrations** should be conducted to maintain knowledge and practical competency.
4. Similar studies may be conducted with a **larger sample size and in multiple hospitals** to increase the generalizability of the findings.
5. Future studies may assess both **knowledge and practical BLS skills** and compare video-assisted teaching with simulation-based or conventional teaching methods.

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