

From Awareness to Action: Enhancing Basic Life Support Knowledge Through Video-Assisted Teaching Among College Students

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Abstract—Background: Basic Life Support (BLS) is a vital emergency care procedure that helps maintain airway patency, breathing, and circulation in individuals experiencing life-threatening emergencies such as cardiac arrest. Adequate knowledge of BLS among young adults can contribute significantly to improving survival outcomes in emergency situations.

Objectives: The study aimed to assess the baseline knowledge of Basic Life Support among undergraduate students, evaluate the effectiveness of a video-assisted teaching programme on BLS knowledge, and determine the association between pre-test knowledge scores and selected demographic variables. **Methods:** A quantitative pre-experimental one-group pre-test-post-test design was adopted. The study was conducted among 30 undergraduate students of St. Xavier's College, Thumba, selected through purposive sampling. Data were collected using a structured demographic questionnaire and a self-developed knowledge assessment tool on Basic Life Support. Following the pre-test, participants received a video-assisted teaching programme on BLS. Post-test assessment was conducted using the same questionnaire. Data were analysed using descriptive and inferential statistics. **Results:** In the pre-test, 20% of participants demonstrated poor knowledge, while 80% had good knowledge and none achieved an excellent score. Following the intervention, no participant remained in the poor knowledge category; 20% demonstrated good knowledge and 80% achieved excellent knowledge scores. The mean post-test knowledge score was substantially higher than the mean pre-test score. A paired t-test revealed a statistically significant improvement in knowledge following the intervention ($t = 10.231$), indicating the effectiveness of the video-assisted teaching programme. No significant association was observed between pre-test knowledge

scores and selected demographic variables. **Conclusion:** The findings indicate that video-assisted teaching is an effective educational strategy for enhancing knowledge regarding Basic Life Support among undergraduate students. Incorporating structured BLS education programmes into higher education settings may strengthen emergency preparedness and promote community health awareness.

Index Terms—Basic Life Support, Cardiopulmonary Resuscitation, Undergraduate Students, Video-Assisted Teaching, Knowledge, Health Education.

I. INTRODUCTION

Basic Life Support (BLS) comprises a set of essential emergency interventions performed to maintain airway patency, support breathing, and preserve circulation in individuals experiencing life-threatening conditions such as cardiac arrest, respiratory failure, or airway obstruction. Prompt initiation of BLS can significantly improve survival rates and reduce the risk of permanent neurological damage. As cardiac arrest often occurs unexpectedly, immediate assistance provided by trained bystanders before the arrival of emergency medical services plays a critical role in patient outcomes.

Cardiac arrest remains a major public health concern worldwide. The sudden cessation of effective cardiac activity results in the interruption of blood flow to vital organs, particularly the brain. Irreversible brain injury may occur within a few minutes if circulation is not restored promptly. Cardiopulmonary Resuscitation (CPR), a key component of BLS, helps maintain blood

circulation and oxygen delivery to vital organs until advanced medical care becomes available. Early recognition of an emergency, activation of emergency response systems, prompt initiation of CPR, and timely defibrillation collectively form the foundation of effective resuscitation.

In recent years, there has been growing recognition of the importance of equipping non-healthcare individuals with basic lifesaving skills. College students represent a significant segment of the population who may encounter medical emergencies in educational institutions, public settings, homes, or workplaces. Adequate knowledge of BLS enables them to respond confidently and appropriately during such situations, thereby increasing the likelihood of survival for victims of sudden cardiac arrest and other emergencies.

Despite the proven benefits of BLS training, several studies have reported insufficient awareness and knowledge among undergraduate students, particularly those from non-medical disciplines. Traditional teaching methods may not always provide the level of engagement required for effective learning of emergency procedures. Video-assisted teaching has emerged as an innovative educational strategy that combines visual and auditory learning experiences, facilitating better understanding and retention of knowledge. Through demonstrations, animations, and step-by-step explanations, video-based instruction can simplify complex procedures and enhance learner participation.

Considering the importance of BLS knowledge among young adults and the potential advantages of multimedia-based education, the present study was undertaken to evaluate the effectiveness of a video-assisted teaching programme on knowledge regarding Basic Life Support among undergraduate students of St. Xavier's College, Thumba. The findings of the study may contribute to the development of effective educational interventions aimed at improving emergency preparedness among college students and promoting community health and safety.

II. METHODOLOGY

The present study adopted a quantitative research approach to assess the effectiveness of a video-assisted teaching programme on knowledge regarding Basic Life Support (BLS) among undergraduate students. A

pre-experimental one-group pre-test–post-test design was employed to evaluate the change in knowledge following the educational intervention. A total of 30 students who fulfilled the eligibility criteria were selected using a purposive sampling technique. Students who were willing to participate, available during the period of data collection, and able to understand and respond to the questionnaire were included in the study. Those who had previously undergone formal Basic Life Support training or were unavailable during the data collection period were excluded.

Data were collected using a structured questionnaire developed by the investigators. The instrument consisted of two sections. The first section included a socio-demographic proforma designed to obtain information regarding age, gender, religion, year of study, area of residence, awareness about cardiopulmonary resuscitation (CPR), source of information regarding CPR, and parental occupation. The second section comprised 24 multiple-choice questions assessing knowledge related to Basic Life Support, including its meaning, purpose, indications, emergency response measures, cardiopulmonary resuscitation, and airway management. The content validity of the instrument was established through expert review by nursing professionals and subject experts, and necessary modifications were incorporated based on their recommendations. The reliability of the questionnaire was ensured prior to the conduct of the main study.

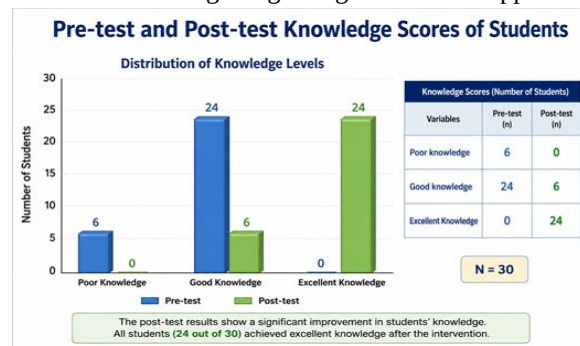
Data collection was carried out after obtaining the necessary administrative and ethical clearances. Initially, the participants completed the pre-test using the structured knowledge questionnaire to assess their baseline knowledge regarding Basic Life Support. Following the pre-test, a video-assisted teaching programme was administered. The educational intervention covered the definition, importance, indications, contraindications, current guidelines, and procedures of Basic Life Support and cardiopulmonary resuscitation. The video-based instructional method was chosen to facilitate effective learning through visual demonstration and systematic presentation of the content. After the intervention, a post-test was conducted using the same questionnaire to evaluate the effectiveness of the teaching programme.

The data were analysed using both descriptive and inferential statistical methods. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize the socio-demographic characteristics and knowledge scores of the participants. The effectiveness of the video-assisted teaching programme was determined using the paired t-test, while the chi-square test was employed to examine the association between pre-test knowledge scores and selected socio-demographic variables. A p-value of less than 0.05 was considered statistically significant.

III. RESULTS

A total of 30 undergraduate students participated in the study. The socio-demographic characteristics revealed that 33.3% (n = 10) of the participants were aged 20 years, 30% (n = 9) were aged 19 years, 20% (n = 6) were aged 18 years, and 16.7% (n = 5) were aged 21 years. The majority of participants were female (63.3%, n = 19), while 36.7% (n = 11) were male. With regard to religion, 50% (n = 15) were Hindus, 30% (n = 9) were Christians, and 20% (n = 6) were Muslims. More than half of the students (53.3%, n = 16) were studying in the second year, while 46.7% (n = 14) were in the third year. Regarding awareness of cardiopulmonary resuscitation (CPR), 76.7% (n = 23) reported having prior awareness, whereas 23.3% (n = 7) had no previous awareness. Schools and colleges were identified as the major source of information by 46.7% (n = 14) of the participants, followed by the internet (36.7%, n = 11), television/newspapers (10%, n = 3), while 6.6% (n = 2) reported no prior source of information. Furthermore, 93.3% (n = 28) of the participants believed that CPR training is important for college students.

Level of Knowledge Regarding Basic Life Support



The pre-test assessment revealed that 20% (n = 6) of the participants had poor knowledge regarding Basic Life Support, while 80% (n = 24) demonstrated good knowledge. None of the participants achieved an excellent level of knowledge in the pre-test. Following the administration of the video-assisted teaching programme, a marked improvement was observed in the post-test scores. None of the participants remained in the poor knowledge category, 20% (n = 6) demonstrated good knowledge, and 80% (n = 24) achieved excellent knowledge scores.

Effectiveness of the Video-Assisted Teaching Programme

Variable	Test	Mean	Paired t-value
Knowledge	Pre test	10.46	10.231
	Post test	18.3	10.231

N=30

The effectiveness of the video-assisted teaching programme was evaluated using a paired t-test. The mean pre-test knowledge score was 10.46 (SD = 3.5), whereas the mean post-test knowledge score increased to 18.30 (SD = 3.1). The mean difference between the pre-test and post-test scores was 7.84. The calculated paired t-value was 10.231, which was statistically significant at the 0.05 level of significance. These findings indicate that the video-assisted teaching programme was effective in improving knowledge regarding Basic Life Support among undergraduate students.

Association Between Pre-Test Knowledge and Selected Demographic Variables

The association between pre-test knowledge scores and selected demographic variables such as age, gender, year of study, source of information, and area of residence was analyzed using the chi-square test. The analysis revealed no statistically significant association between pre-test knowledge scores and any of the selected demographic variables at the 0.05 level of significance. Therefore, the baseline knowledge regarding Basic Life Support was found to be independent of the selected socio-demographic characteristics of the participants.

IV. DISCUSSION

The present study was conducted to evaluate the effectiveness of a video-assisted teaching programme

on knowledge regarding Basic Life Support (BLS) among undergraduate students of St. Xavier's College, Thumba. The findings demonstrated that the educational intervention significantly improved the participants' knowledge regarding BLS.

The pre-test findings revealed that although most students possessed some awareness of Basic Life Support and cardiopulmonary resuscitation, their overall knowledge was inadequate for responding effectively to emergency situations. This finding is consistent with previous studies conducted among non-medical undergraduate students, which have reported insufficient knowledge and limited preparedness regarding life-saving procedures. The lack of formal training opportunities and limited exposure to emergency care education may contribute to this knowledge deficit among college students.

Following the implementation of the video-assisted teaching programme, a substantial improvement in knowledge scores was observed. The proportion of students achieving excellent knowledge increased considerably in the post-test assessment, while no participant remained in the poor knowledge category. The statistically significant increase in mean knowledge scores, as evidenced by the paired t-test value ($t = 10.231$), indicates that the intervention was effective in enhancing students' understanding of Basic Life Support.

The effectiveness of the video-assisted teaching programme may be attributed to its ability to combine visual and auditory learning experiences. Video-based instruction provides a clear demonstration of concepts and procedures, enabling learners to understand and retain information more effectively than conventional lecture-based approaches. The presentation of real-life scenarios, procedural demonstrations, and step-by-step explanations may have contributed to improved comprehension and knowledge retention among the participants.

The study also explored the association between pre-test knowledge scores and selected socio-demographic variables. No statistically significant association was found between baseline knowledge and variables such as age, gender, year of study, area of residence, or source of information. This finding suggests that inadequate knowledge regarding Basic Life Support may be common across different demographic groups of undergraduate students and highlights the universal need for structured BLS education.

The findings of the present study have important implications for health promotion and community preparedness. Undergraduate students represent a large and active segment of the population who may encounter emergencies in educational institutions, public places, homes, or workplaces. Equipping them with adequate knowledge of Basic Life Support can contribute to early recognition of emergencies, prompt initiation of lifesaving measures, and improved survival outcomes. Educational interventions such as video-assisted teaching programmes offer a cost-effective and accessible approach for disseminating essential emergency care knowledge among non-healthcare students.

Overall, the study findings support the integration of Basic Life Support education into college-based health promotion programmes. Regular training sessions, awareness campaigns, and skill-based workshops may further strengthen students' preparedness to respond effectively during medical emergencies and contribute to the development of a more health-conscious and responsive community.

V. CONCLUSION

Basic Life Support (BLS) is a fundamental lifesaving intervention that can significantly improve the survival of individuals experiencing cardiac arrest and other medical emergencies. Adequate knowledge of BLS among the general population, particularly young adults and college students, is essential for ensuring timely and effective emergency response. The results highlight the value of innovative teaching strategies such as video-assisted learning in promoting awareness and understanding of lifesaving procedures. Incorporating structured BLS education programmes into college curricula and student development activities can improve emergency preparedness and foster a culture of health responsibility within the community. Therefore, regular training and educational initiatives on Basic Life Support should be encouraged to equip students with the knowledge necessary to respond confidently and effectively during emergencies.

REFERENCES

- [1] D. M. Shek Abdullah, A. Priyadarsini *et al.*, "Undergraduate Students' Knowledge and

- Proficiency in CPR,” *Journal of Pharmacy and Bioallied Sciences*, vol. 110, no. 6, pp. 246–247, Jul. 2024.
- [2] G. Malathi, “Knowledge Regarding CPR Among Arts College Students,” *European Journal of Nurses*, vol. 65, no. 3, pp. 45–44, Sep. 2024.
- [3] S. Samuel, A. Suchithrarani, N. Needa et al., “To Evaluate the Effectiveness of Video Assisted Teaching Versus Traditional Demonstration in Enhancing CPR Knowledge Among Undergraduate Students,” *International Journal of Advanced Research and Review*, vol. 230, no. 2, pp. 186–188, Jan. 2024.
- [4] A. B. Patel et al., “Knowledge and Practice Regarding Adult CPR Among School Teachers,” *Nurses and Healthcare International Journal*, vol. 8, no. 6, pp. 346–346, Aug. 2024.
- [5] S. Rupini, P. J. Filza, and C. D. Sagan, “Knowledge and Willingness to Perform Hands Only CPR Among College Students,” *Medicine*, vol. 34, no. 4, pp. 324–345, Jun. 2019.
- [6] S. Kumavat, “Effectiveness of Video Assisted Teaching Program on Knowledge Regarding CPR Among Undergraduate College Students,” *International Journal of Nursing*, vol. 5, no. 7, pp. 34–36, May 2019.
- [7] P. Agarkar and A. Mathew, “Knowledge Regarding CPR Among Students in Selected Physical Education Colleges,” *International Journal of Pharma Innovation*, vol. 43, no. 5, pp. 351–355, May 2019.
- [8] A. O. Alsharari, A. Naif, and I. Abdulrahman, “Knowledge and Attitude Towards CPR Among University Students,” *PubMed Central*, vol. 64, no. 2, pp. 432–433, Oct. 2018.
- [9] S. Chingangbam and N. Sonia, “Effectiveness of Skill Training Program on CPR Among Adolescents,” *Manipal Journal of Nursing and Health Science*, vol. 3, no. 2, pp. 56–56, Apr. 2017.
- [10] M. S. Y. Hung, T. T. W. Chu, and P. P. Wong, “To Evaluate the Knowledge and Attitude Towards Bystander CPR,” *Cogent Medicine*, vol. 4, no. 1, pp. 461–465, Jun. 2017.
- [11] J. Mahato, “Knowledge and Level of Preparedness and to Assess the Perception Towards Cardiopulmonary Resuscitation Among Physicians,” *International Journal of Medical Science and Research Studies*, vol. 63, no. 7, pp. 422–423, Mar. 2023.
- [12] R. Kumari et al., “Knowledge Regarding BLS Among Nursing Students,” *Nursing Journal of Media*, vol. 5, no. 3, pp. 433–438, Nov. 2021.