

ASSESSMENT OF KNOWLEDGE AND ATTITUDE BASIC LIFE SUPPORT (BLS) AMONG ARTS AND SCIENCE STUDENTS IN TIRUVALLUR

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ABSTRACT:

Introduction: Basic Life Support (BLS) is a critical set of emergency procedures designed to sustain life in individuals experiencing cardiac arrest or other life-threatening conditions. This study aims to aimed to assessment of knowledge and attitude basic life support (bls) among arts and science students in Tiruvallur.

Methods: The study employed a descriptive cross-sectional design with 50 students selected via convenience sampling. Inclusion criteria included students aged 17+, enrolled in selected colleges, and willing to participate, excluding those with prior BLS training.

Results: The results show that 60% of students had poor knowledge of Basic Life Support (BLS), 30% had average knowledge, and only 10% had a good understanding. In terms of attitudes, 40% held a negative view, 40% were neutral, and 20% had a positive attitude towards BLS. This suggests a general lack of BLS knowledge and a prevalent neutral or negative attitude among students.

Conclusions: The study concluded that most Arts and Science students in Tiruvallur had limited knowledge of Basic Life Support (BLS), with poor to average understanding and primarily neutral or negative attitudes towards BLS. Future research should focus on developing and evaluating the effectiveness of BLS training programs tailored to the unique needs of non-medical students, ensuring that they are equipped with the skills necessary to respond effectively in emergencies.

1. Introduction

Basic Life Support (BLS) is a critical set of emergency procedures designed to sustain life in individuals experiencing cardiac arrest or other life-threatening conditions. The significance of BLS training cannot be overstated, as it equips individuals with the necessary skills to respond effectively in emergencies, potentially saving lives.

The World Health Organization (WHO) emphasizes the importance of BLS training as part of a comprehensive approach to emergency care, advocating for widespread education across various demographics, including students in diverse fields of study. [1] In India, where the prevalence of cardiac emergencies is rising, the need for BLS training among the general population, particularly among students, is increasingly recognized. [2]

Harun's study on medical school students indicated a concerning lack of interest and engagement in BLS training, which could be reflective of a broader trend among students in arts and sciences [3]. Furthermore, Alquwaiay et al. found that community awareness of CPR was low, yet there was a willingness among the public to improve their skills, indicating a potential for educational interventions to enhance knowledge and attitudes towards BLS. [4]

Previous research indicates that students in non-medical fields frequently exhibit inadequate knowledge of BLS principles, which can hinder their ability to act decisively during emergencies. [5] The gap in knowledge and skills among these students underscores the necessity for targeted educational interventions to enhance their preparedness for real-life emergencies.

Research has shown that knowledge of BLS is often insufficient among university students, regardless of their field of study. A study conducted by Alshahrani et al. (2020) revealed that medical students had a significantly higher level of knowledge about BLS compared to their peers in non-medical disciplines, indicating a disparity that warrants attention. [6] This disparity is concerning, as individuals in arts and sciences may encounter emergency situations where their intervention could be crucial. Therefore, understanding the current level of knowledge and attitudes towards BLS among these students is essential for developing effective training programs.

The attitudes of students towards BLS training also play a vital role in their willingness to engage in such training and apply the skills learned in real-life situations. Positive attitudes towards BLS are associated with a higher likelihood of intervention during emergencies. [7,8] Conversely, negative attitudes or a lack of confidence can lead to bystander inaction, which is detrimental in emergency scenarios. Thus, assessing the attitudes of arts and science students towards BLS is equally important as evaluating their knowledge.

In addition to knowledge and attitudes, the effectiveness of educational interventions in improving BLS skills has been well-documented. Studies have shown that structured training programs significantly enhance both knowledge and practical skills related to BLS. [8,9]

Furthermore, simulation-based training has been identified as an effective method for improving the confidence and competence of participants in performing BLS. [10,11] These findings suggest that implementing comprehensive BLS training programs tailored to the needs of arts and science students could lead to improved outcomes in emergency response situations.

By identifying gaps in knowledge and understanding the attitudes of students towards BLS, this study aimed to assessment of knowledge and attitude basic life support (bls) among arts and science students in Tiruvallur.

2. Materials and Methods

The present study utilized a descriptive cross-sectional design and was conducted in selected Arts and Science colleges within the Tiruvallur district. The target population comprised undergraduate students from diverse disciplines, including arts, science, and commerce. A total of 50 students were selected through a convenience sampling method. The inclusion criteria for the sample were as follows: students aged 17 years and above, students enrolled in Arts and Science courses in the selected colleges, and students willing to participate in the study. Students with prior professional training in Basic Life Support were excluded from the study. Ethical approval was obtained from the college authorities prior to data collection. Informed consent was obtained from all participants, and they were assured that their participation was voluntary, and their responses would be kept confidential.

A structured questionnaire was developed for data collection, which consisted of two parts: a Knowledge Questionnaire and an Attitude Scale. The Knowledge Questionnaire included 15 multiple-choice questions to assess students' understanding of Basic Life Support concepts, such as the steps in BLS, the correct ratio of compressions to breaths, and the proper depth of chest compressions. The Attitude Scale used a Likert scale to evaluate students' attitudes towards BLS, ranging from negative to positive.

Data was collected during scheduled classroom sessions to ensure a high response rate. The questionnaire was administered in person by the researchers, who explained the purpose of the study and assured the participants of their anonymity. Participants were given approximately 20 minutes to complete the survey. Collected data was entered into Microsoft Excel and analyzed using descriptive statistics, including frequencies and percentages, to summarize the knowledge and attitude levels. Correlation analysis was also conducted to determine the relationship between knowledge and attitude scores.

3. Results

Table 1 showed that the majority of participants in this study were aged 21-24 years (50%), with a substantial portion aged 17-20 years (40%). More than half of the participants were male (56%). Most of the students were enrolled in science courses (50%), and 40% of participants were in their second year of study. While 60% of the participants reported having some knowledge of Basic Life Support (BLS), only 30% had received formal training. Half of the participants were from urban areas (50%), and half did not participate in extra-curricular activities, with 26% involved in social activities and 24% involved in sports.

The results indicate that most students had a poor level of knowledge about Basic Life Support (BLS), accounting for 60% (n = 30) of the sample. 30% (n = 15) of students had an average level of knowledge, while only 10% (n = 5) had a good understanding. Regarding attitudes towards BLS, 40% (n = 20) of students had a negative attitude, another 40% (n = 20) had a neutral attitude, and only 20% (n = 10) had a positive attitude. This indicates that most students lacked sufficient knowledge of BLS, and a significant proportion had either negative or neutral attitudes towards it. (Table 2)

Most students provided correct answers to Basic Life Support (BLS) questions, indicating a general understanding of key concepts. However, there were notable gaps, as a majority gave incorrect responses regarding when to stop CPR and how often to check chest compressions. These results suggest a need for

further education on specific BLS procedures, particularly stopping CPR and evaluating compressions effectively. (Table 3)

The correlation analysis between knowledge and attitude towards Basic Life Support (BLS) shows a moderate positive correlation, with a correlation coefficient of 0.65. This indicates that students with higher knowledge scores are likely to have a more positive attitude towards BLS. The p-value of less than 0.01 suggests that this relationship is statistically significant, implying that the observed correlation is unlikely to be due to chance. These findings highlight the importance of enhancing students' knowledge to foster more positive attitudes towards BLS. (Table 4)

Table 1: Demographic variables of the participants

Demographic Variables	Categories	Frequency (n)	Percentage (%)
Age	17-20	20	40%
	21-24	25	50%
	25+	5	10%
Gender	Male	28	56%
	Female	22	44%
Course of Study	Arts	15	30%
	Science	25	50%
	Commerce	5	10%
	Other	5	10%
Year of Study	First Year	15	30%
	Second Year	20	40%
	Third Year	15	30%
Previous Knowledge of BLS	Yes	30	60%
	No	20	40%
Training in BLS	Yes	15	30%
	No	35	70%
Source of BLS Knowledge	Books	10	20%
	Social media	12	24%
	Formal Training	15	30%
	Self-learning	8	16%
	Others	5	10%
Residential Area	Rural	15	30%
	Urban	25	50%
	Semi-urban	10	20%
Participation in Extra-curricular Activities	Sports	12	24%
	Social Activities	13	26%
	None	25	50%

Table 2: Level of Knowledge and attitude

Variable	Categories	Frequency (n)	Percentage (%)
Level of Knowledge	Poor	30	60%
	Average	15	30%
	Good	5	10%
Attitude towards BLS	Negative	20	40%
	Neutral	20	40%
	Positive	10	20%

Table 3: Response of the students for knowledge question

No.	Knowledge Question	Correct Response Frequency (n)	Incorrect Response Frequency (n)
1	What is the full form of BLS?	40	10
2	What is the first step in BLS when finding an unresponsive person?	35	15
3	What is the correct depth for chest compressions in adults?	30	20
4	What is the ideal rate of chest compressions during CPR?	25	25
5	What is the ratio of chest compressions to rescue breaths in BLS for adults?	32	18
6	How do you check for breathing in an unresponsive person?	40	10
7	What should you do if the person is not breathing?	42	8
8	What emergency number should you call in case of a cardiac arrest?	45	5
9	What is the recommended hand placement for chest compressions?	38	12
10	What should be done if an Automated External Defibrillator (AED) is available?	36	14
11	When should CPR be stopped?	20	30
12	What is the correct sequence of steps in BLS? (DRSABC)	28	22
13	What is the purpose of rescue breaths during CPR?	33	17
14	What position should an unconscious but breathing person be placed in?	30	20
15	How often should chest compressions be checked for effectiveness?	22	28

Table 4: Correlation between knowledge and attitude

Variable	Knowledge Score	Attitude Score	p-value
Knowledge Score	1	0.65*	< 0.01
Attitude Score	0.65*	1	< 0.01

4. Discussion

The results of the assessment of Basic Life Support (BLS) knowledge and attitudes among arts and science students in Tiruvallur reveal a concerning trend. With 60% of the sample demonstrating a poor level of knowledge about BLS, it is evident that a significant portion of students lacks the essential understanding required to perform life-saving interventions in emergency situations. This finding aligns with previous studies that have reported similar deficiencies in BLS knowledge among various student populations, including those in non-medical fields. [12] The fact that only 10% of students exhibited a good understanding of BLS underscores the urgent need for educational interventions aimed at improving knowledge and skills in this critical area.

Moreover, the attitudes towards BLS among the students reflect a troubling dichotomy. With 40% of students exhibiting a negative attitude and another 40% maintaining a neutral stance, only 20% demonstrated a positive attitude towards BLS. This lack of enthusiasm or willingness to engage with BLS training is concerning, as positive attitudes are crucial for the effective application of BLS skills in real-life scenarios. [13,14]

The correlation analysis revealing a moderate positive correlation (0.65) between knowledge and attitude suggests that enhancing knowledge could lead to improved attitudes towards BLS. This relationship is statistically significant ($p < 0.01$), indicating that efforts to educate students about BLS could foster a more favorable disposition towards learning and applying these life-saving techniques.

The results also indicate that while students provided correct answers to some BLS questions, there were notable gaps in their understanding of specific procedures, such as when to stop CPR and how often to check chest compressions. This inconsistency highlights the need for targeted educational programs that not only cover the theoretical aspects of BLS but also emphasize practical skills and decision-making in emergency situations. [15,16] The findings are consistent with previous research that has shown that even among trained individuals, there can be significant gaps in knowledge regarding specific BLS protocols. [17] Therefore, it is crucial to incorporate hands-on training and simulation exercises into the BLS curriculum to enhance both knowledge retention and practical application. [18,19]

Studies have shown that early initiation of CPR can significantly increase the chances of survival following cardiac arrest. [20] Given that many students in arts and sciences may not have formal training in emergency response, it is essential to integrate BLS training into their educational programs. This approach could not only improve their knowledge and skills but also cultivate a culture of preparedness within the community. [21]

Furthermore, the negative attitudes observed among a significant portion of students may stem from a lack of exposure to BLS training or a perception that such skills are irrelevant to their fields of study. Research has indicated that individuals who perceive BLS training as valuable are more likely to engage with the material and apply it in real-life situations. [22,23] Therefore, it is essential to frame BLS training as a vital skill that transcends disciplinary boundaries and can be applied in various contexts, including everyday life and professional environments. [24]

5. Conclusion

The study concluded that the majority of Arts and Science students in Tiruvallur had limited knowledge of Basic Life Support (BLS), with most participants demonstrating either poor and average understanding of BLS concepts. Attitudes towards BLS among the students displaying neutral or negative attitudes. Correlation analysis revealed a moderate positive relationship between knowledge and attitude, suggesting that improving students' knowledge could foster more positive attitudes towards BLS. By enhancing knowledge and fostering positive attitudes towards BLS, educational institutions can empower students to become proactive bystanders in emergency situations, ultimately contributing to improved outcomes in cardiac emergencies. Future research should focus on developing and evaluating the effectiveness of BLS training programs tailored to the unique needs of non-medical students, ensuring that they are equipped with the skills necessary to respond effectively in emergencies.

Recommendations

BLS training should be included in Arts and Science college curriculums to teach essential life-saving skills. Regular workshops, hands-on training, and awareness campaigns can enhance knowledge and foster positive attitudes towards BLS. Colleges should collaborate with healthcare professionals to ensure accurate training, and conduct periodic assessments with refresher courses to maintain skill proficiency.

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Conflicts of Interest

No

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