

ORIGINAL RESEARCH

The Effectiveness of Basic Life Support Training on the Level of Knowledge of Teachers in Islamic Boarding Schools

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ABSTRACT

Background: Teachers in Islamic boarding schools must be prepared for emergencies. Basic Life Support (BLS) training is essential for improving their knowledge. This study evaluated the effectiveness of BLS training in enhancing teachers' knowledge.

Methods: A pre-experimental study with a pretest-posttest design involving 15 teachers. Data were analyzed using Shapiro-Wilk and paired T-tests.

Result: The average score increased from 56.67 to 66.00 ($p = 0.048$), indicating a significant improvement.

Conclusion: BLS training is effective in increasing teachers' knowledge and is recommended for regular implementation

Keywords: Basic Life Support; boarding school; Teachers; Training.

INTRODUCTION

Islamic boarding schools as religious-based educational institutions play an important role in building superior quality of human resources.¹ In supporting the creation of a healthy and safe learning environment, basic skills in handling emergency situations, such as the provision of Basic Life Support (BLS), are crucial aspects that need to be mastered by educators. Basic Life Support is the first step that must be taken in an emergency condition before medical professionals arrive. Adequate knowledge of BLS can help increase the chances of victim safety, especially in often unexpected emergency situations.^{2,3}

In Islamic boarding school, Teachers, as parties often in the midst of activities, have a strategic role to provide first aid in emergency events.^{3,4} The BLS training is designed to improve the participants' knowledge and practical skills in emergency measures, such as cardiopulmonary resuscitation (CPR), airway management, and sudden cardiac arrest management.⁵ The previous study shows that structured training can improve participants' knowledge and skills in handling emergency situations.⁶⁻

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However, the effectiveness of this training on the level of understanding of participants, especially teachers in the environment, needs to be further researched. Therefore, this study was established to understand the differences in teachers' knowledge before and after receiving basic life support training in Islamic boarding schools.

METHOD

This study uses a *pre-experiment* design with a *pretest* and *post-test group design*. It was conducted in November 2024 at the AL-Ikhlas Islamic Boarding School, and the sample is 15 teachers of the school.

The sampling technique used is *consecutive sampling*. The inclusion criteria are teachers present at the time of the research and willing to participate in the research until completion by filling out informed consent.

Data were collected using primary data obtained through a structured electronic questionnaire administered before (pretest) and immediately after (posttest) the BLS training intervention. The questionnaire was designed to assess participants' knowledge of key BLS components, including recognition of cardiac arrest, cardiopulmonary

resuscitation (CPR) techniques, automated external defibrillator (AED) use, and basic airway management.

The instrument consisted of [insert number] multiple-choice questions, with each correct response assigned one point, yielding a total possible score ranging from [1 to 100]. The same questionnaire was used for both pretest and posttest assessments to ensure comparability.

Prior to implementation, the questionnaire was reviewed for content validity by [e.g., two experts in anesthesiology].

Data collection was conducted electronically via an e-form platform, and participants completed the questionnaire individually under supervised conditions to minimize discussion and response bias. The data obtained were analyzed using the SPSS normality test (Shapiro-Wilk) and the paired T-test. The data from this study's results are presented in a table.

RESULT

This study aims to evaluate the effectiveness of BLS training in increasing the knowledge of participants, especially teachers in Islamic boarding schools. The results of the study are presented in the form of a comparison of

pre-test and post-test scores of 15 teachers.

The summary of pre and post-test data is summarized in Table 1. The distribution of each pre and posttest score can be seen in table 2 and 3.

Table 1. Summary of Pretest and Posttest Data Analysis

Variable	Mean ± SD	Median [IQR]	Min–Max
Pretest Score	56.67 ± 13.20	60 [50–60]	30–80
Posttest Score	66.00 ± 11.50	70 [60–70]	40–80

Table 2. Pretest Frequency Distribution

Score	Frequency	Percentage (%)
30	1	6,7
40	2	13,3
50	2	13,3
60	7	46,7
70	2	13,3
80	1	6,7
Total	15	100,0

Table 3. Posttest Frequency Distribution

Score	Frequency	Percentage (%)
40	1	6,7
50	1	6,7
60	4	26,7
70	6	40,0
80	3	20,0
Total	15	100,0

Table 4. Change in average score before and after education

	Befo re	After	Mean Diffe rence	95% CI	p- value
Score	56.67	66.00	9.33	-18.568 to -0.098	0.048

Cohen's $d = 0.75$

From pretest to posttest, there was an increase in the average score from 56.67 to 66.00, as well as a change in the distribution of scores (Table 4).

These results showed a significant improvement in performance after the intervention or treatment given between pretest and posttest.

Based on the results of the Shapiro-Wilk normality test, both data (pretest and posttest) have significance values (Sig.) of 0.206 and 0.072, respectively, which are greater than 0.05. Therefore, it can be concluded that the pretest and posttest data are distributed normally.

The mean value of the difference between the pretest and the posttest was -9.333, with a 95% confidence interval for the difference between -18.568 to -0.098. The value of $p=0.048 (< 0.05)$ indicates that there is a statistically significant difference between the pretest and

posttest scores. The estimated effect size (Cohen's d) was approximately 0.75, indicating a moderate to large effect

The posttest results were significantly better than the pretest results, indicating the effect of a successful treatment or intervention.

DISCUSSION

The study's results showed an increase in the average value of participants' knowledge after participating in the BLS training. Overall, there was a significant improvement in posttest outcomes compared to the pretest, indicating the effect of a successful treatment or intervention. This indicates that the BLS training has succeeded in increasing participants' understanding of basic concepts and basic life support applications.

Basic Life Support training conducted on participants with various backgrounds, such as teachers, assistants, students, and students, showed varying results at the level of knowledge improvement. Based on the results obtained from the pre-test and post-test, an analysis can be carried out on the effectiveness of the training on improving the knowledge of participants, as well as the factors that affect the results.^{9,10}

Overall, there was a significant improvement in posttest outcomes compared to pretest, indicating the effect of successful treatment or intervention. This shows that BLS training positively impacts the overall knowledge of participants. This improvement indicates that the training materials delivered are relevant and appropriate to the needs of the participants, and the training can improve their understanding of basic concepts in emergency life, such as first aid and cardiac arrest management.^{10,11}

This improvement also shows that BLS training is not only beneficial for certain groups, but can provide benefits for different groups of participants with different backgrounds.^{11,12}

Some factors that can affect the improvement of participants' knowledge during training include Participant Engagement Rate: Active participation in the training is essential to improve participants' knowledge.¹³ Participants who are more involved in discussions and practical exercises tend to gain a better understanding and can remember the material taught more easily.^{2,14} Training Methods Used: Training that uses a variety of methods, such as presentations, simulations, and hands-on exercises, is

more effective in improving participants' knowledge. Using first aid simulations and hands-on exercises can provide a more immersive experience and increase participants' readiness to deal with emergencies.^{2,14}

The participants' educational background and basic knowledge also play an important role in the effectiveness of the training.¹⁵ For example, students with better academic abilities may have an easier time understanding the material presented compared to groups with different educational backgrounds, such as students. Adjusting the training material according to the participants' knowledge level will increase the training's effectiveness.^{2,14}

Basic Life Support Training proved to be effective in increasing participants' knowledge, with an average increase of 7.18 points overall. The teacher and student groups showed a significant increase, while the student group experienced a slight decrease. These results indicate that this training has great potential to increase participants' readiness to handle emergency situations but requires adjustments to training methods and

materials according to the characteristics of each group of participants.^{2,9,14}

Based on the research's results, we conduct regular BLS training to strengthen participants' knowledge and skills, expand the training program to staff and other Islamic boarding school communities, and develop advanced training with a longer duration for a deeper understanding.

CONCLUSION

Basic Life Support Training (BLS) effectively increases participants'

knowledge. There was a significant improvement in post-test results compared to the pretest, indicating the effect of successful treatment or intervention. Teachers, who were the target of the training, have experienced a significant increase. This program is relevant and should be implemented regularly to increase the preparedness of the community in dealing with medical emergency situations.

CONFLICTS OF INTEREST

The researcher stated that there was no conflict of interest in this study.

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