

Article Review

***BLS Training on The Application of BLS and The Standard Operational Procedures First AID on Emergeny Tourism at Tanjung Karang Beach Donggala District***

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**ABSTRACT**

*Indonesia is an archipelago consisting of around 17,508 islands, 70% of which are oceans. Indonesia's seas are rich in natural resources, including coral reefs and marine animals. However, this natural wealth can cause problems and is fatal to humans due to stings from animals in the sea. In other emergency conditions, people can drown, causing suffocation and heart attacks. First aid in emergencies is basic life support (BLS), which can be done by people who have received training. Tanjung Karang Beach is a domestic and international tourist destination; however, health services and experts in providing BLS are not yet available. The data from 2015 to 2022 reported the occurrences of tourist vehicle accidents, tourists were stung by Marlyn fish stabs, and the incident of people drowning resulted in death without emergency action. This study aimed to determine the effect of BLS training on applying BLS and standard operational procedures in emergency first aid. The research method was a quasi-experimental pretest and posttest group design. The population was lifeguards and tourist vehicle drivers, with samples taken purposively. The measurement of the application of BLS was carried out twice: before and after training. Data analysis used univariate and bivariate analyses. The results showed a mean value before training was 1.37, with a standard deviation was 0.684. The mean value after training was 14.63, and the standard deviation was 1.383. The dependent T-test results were 13.263, and the standard deviation was 1.327, with a p-value of 0.000 ( $p < 0,005$ ). The conclusion is that BLS training affects the application and operational standards of BLS training. Training members are recommended to apply for BLS in caring for the victims, and the Donggala Regency Government is to organize a tourist clinic in Tanjung Karang Beach and empower training personnel as rescuers.*

**Keywords:** *BLS Training, Emergency, Beach Tourism, Tanjung Karang*

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## INTRODUCION

Indonesia is an archipelagic country consisting of 17,508 islands and is famous for its vast and beautiful seas. The ratio of area between sea and land is 3:1, meaning that Indonesia's most significant area is the sea at 70% of its area. Within the vast ocean waters, there is impressive biodiversity, including spectacular coral reefs. This coral reef is home to notable marine species, such as colorful fish, rare marine life, and other aquatic animals. Indonesia's underwater world natural beauty makes it one of the best destinations for divers and nature lovers<sup>1</sup>.

Beaches are one of the most popular tourist destinations for people worldwide. The natural beauty, white sand, calm waves, and various recreational activities make the beach a popular holiday destination. However, behind its charm, beach tourism also has potential risks that cannot be ignored. One of them is an emergency that can occur whenever and to whoever is on holiday at the beach<sup>2</sup>.

Emergencies at the beach include various situations such as drowning, injuries due to water sports, the loss of children, as well as other urgent medical conditions such as a sudden heart attack in a person<sup>3</sup>. An emergency condition at the beach is a situation that requires a quick and appropriate response to overcome various risks and dangers that can occur around the beach. Some emergency conditions that often occur at the beach include someone drowning. This condition is one of the most severe emergencies on the coast. Drowning can occur for various reasons, including solid ocean currents, high waves, or a person's inability to swim. A quick response and knowledge of rescue first aid is very important<sup>4</sup>.

Another condition that may occur is injury due to water sports. Activities like surfing, windsurfing, or even swimming can pose a risk of injury. Common injuries include fractured bones, severe cuts, or even head injuries from falling off water sports equipment. An emergency healthcare provider should be called immediately in cases like this<sup>5</sup>. Another emergency that can occur at beach tourist destination is the disappearance of children. Beaches are usually crowded, and children can easily get lost or disappear without the supervision of their parents or caregivers. It is a highly urgent situation, and a search should be carried out immediately by beach safety officers or local authorities. Urgent medical conditions such as heart attacks, strokes, or severe allergic reactions can occur at any time, including at the beach. Immediately calling the emergency number and providing first aid if necessary is very important<sup>6</sup>.

In situations like these, time is a crucial factor in determining the safety and well-being of visitors. Therefore, managing emergencies in beach tourism must be a significant concern for the government, local authorities, and related parties<sup>7</sup>.

During the holiday season, beach tourist destinations are always attractive to visit by local and foreign tourists, as is the case with the Tanjung Karang beach tourist destination. The Tanjung Karang beach tourist village in Labuan Bajo village, Donggala Regency, Central Sulawesi, is very busy with tourists, and a rapid increase occurs during national holidays<sup>8</sup>.

Beach tourist destinations that are busy being visited have the potential for accidents due to marine animal stings or existing tourist facilities. This condition may result in an emergency,

while at this tourist attraction, no service post can serve visitors who need service<sup>9</sup>.

Based on preliminary studies that have been carried out at the Tanjung Karang tourist beach, data has been obtained that there were no health service posts and officers who are trained and are routinely at the location, especially on holidays, to provide first aid if a disaster occurs at this place. If an emergency occurs, the victim is immediately referred to the nearest health service, namely the Donggala Community Health Center and the Kabelota Regional Hospital, which is 30 minutes from the location. This condition could cause death because the victim is too late to get help. Data was obtained in January 2016 at the Tanjung Karang tourist destination; there was a banana boat accident that caused four people to die at the scene. This incident has occurred frequently since 2015, not only in accidents with banana boats but also due to being stung by fish in the sea. Seeing the existing problems, it is necessary to provide basic life support (BLS) training to ordinary people, especially beach managers and beach tourist motorbike drivers, so that they can provide first aid to victims if an accident occurs.

This research aimed to provide skilled personnel who can provide first aid when an emergency occurs to visitors the Tanjung Karang Donggala tourist beach, as well as standard operational procedures for first aid in beach tourism emergencies.

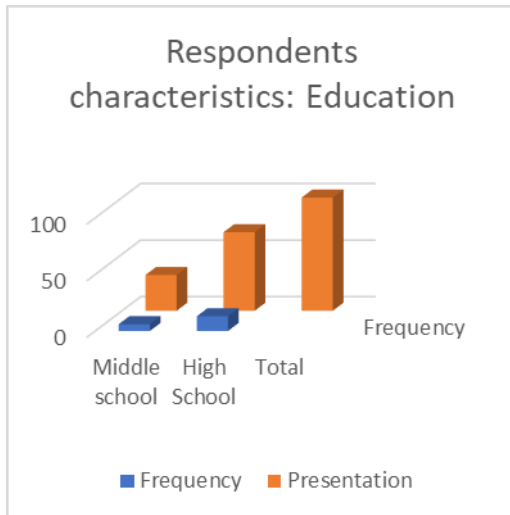
## **METHOD**

The research method used is a quasi-experiment using a pre-test and post-test group design where basic life support (BLS) implementation variables are measured (O1), then BLS training was carried out for two days (X). In addition, a first aid SOP was created for beach tourism emergencies.

The research was carried out at Tanjung Karang beach tourist destination, which is located in Labuan Bajo village, Donggala Regency, Central Sulawesi Province. The implementation time was May to October 2016, with a sample size of 19 people consisting of beach officers and tourist motorbike drivers. The sampling method used was Non-Random Sampling using a Side Purposive method, where samples were taken according to the researcher's considerations<sup>10</sup>. Inclusion criteria: Donggala Regency government tourist beach managers were three people, and officers who brought tourist motorbikes (tourist boats, banana boats, speed boats) were 16 people. The variable in this research is the treatment variable, which consists of BLS training and making SOPs. The data collection was carried out by observation using a checklist. The BLS variable used a checklist as a Guttman scale of 17 statement items. Then, the data analysis presented univariate and bivariate views in diagram form and diagram explanations.

## RESULT

**Diagram 1. Distribution of respondents based on educational level characteristics.**



According to Diagram 1, the majority of the 19 respondents (68.4%) had a high school education, while six respondents (31.6%) had a junior high school education.

**Diagram 2. Distribution of respondents based on job characteristics**

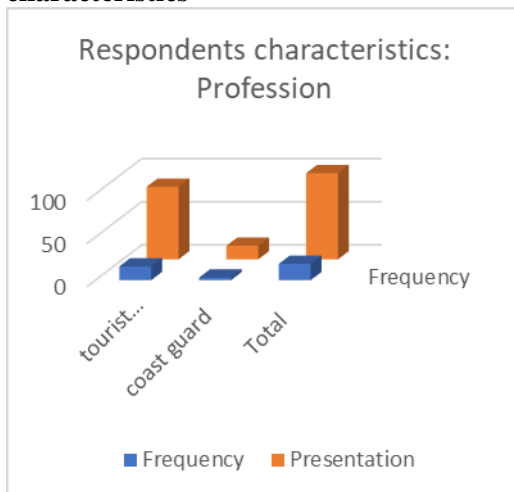


Diagram 2 shows that more than 16 of the 19 respondents (84.2%) were tourist motorbike riders. Tourist motorbike riders will encounter more beach emergency cases, whereas three people (15.8%) are Donggala Regency Regional Government cottage guards.

**Diagram 3. Distribution of respondents based on length of work characteristics**

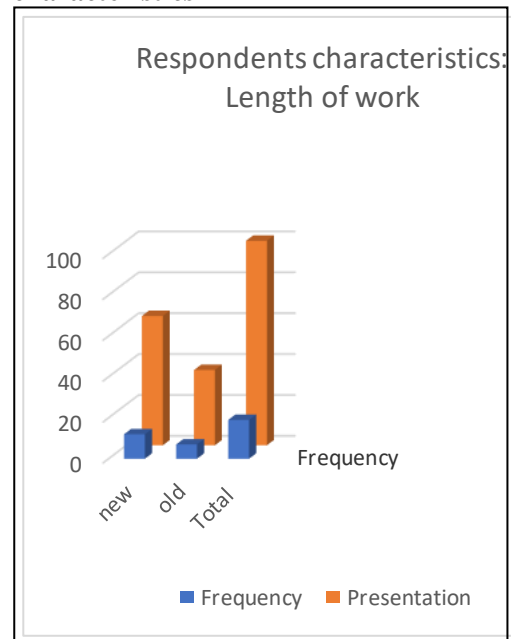
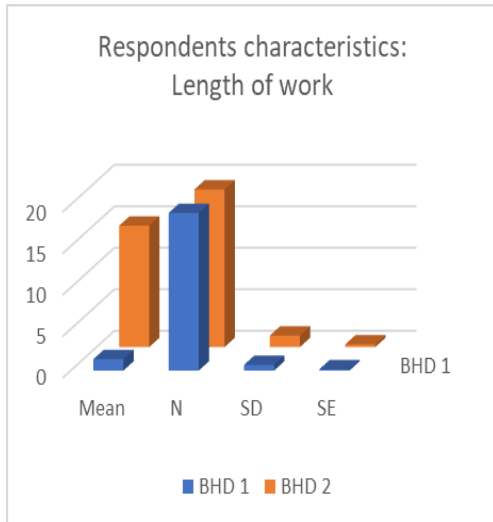


Diagram 3 illustrates that 12 persons (63.2%) among the 19 respondents have not worked for a long time at the Tanjung Karang tourist beach destination, whereas seven people (36.8%) have worked for a long time.

**Table 1. The Average distribution of BLS abilities based on the first and second measurements of respondents**

| Variable | Mean  | N  | SD    | SE    |
|----------|-------|----|-------|-------|
| BLS 1    | 1,37  | 19 | 0,683 | 0,157 |
| BLS 2    | 14,63 | 19 | 1,383 | 0,317 |



Based on diagram 4, it can be seen that the mean BLS ability in the first measurement (before BLS training) was 1.37, the standard deviation (SD) was 0.683, and the standard error mean (SE) was 0.157. In the second measurement (after BLS training), the mean BLS ability was 14.63, the standard deviation (SD) was 1.383, and the mean standard error (SE) was 0.317.

**Table 2. Average distribution of BLS abilities after BLS training on Tanjung Karang beach**

| Variable | Mean   | SD    | SE    | p-value | N  |
|----------|--------|-------|-------|---------|----|
| BLS1-    | -      | 1,327 | 0,304 | 0,000   | 19 |
| BLS2     | 13,263 |       |       |         |    |

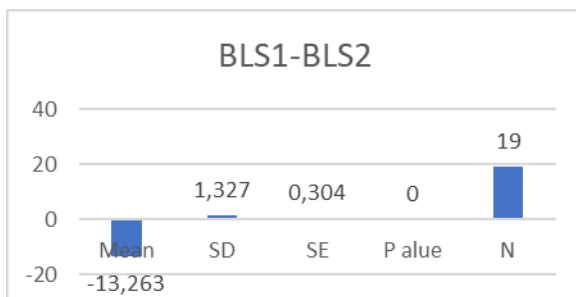


Diagram 5 shows the mean difference between the first (pre-test) and second (post-test) measurements was -13.263, with a standard deviation of

1.327 and a standard error of 0.304. The statistical test results obtained P value = 0.000 ( $p < 0.05$ ) OR=.304 (13,263 - 13,903). It means that statistically, there is a significant effect of BLS training on BLS abilities where there is a significant increase in people who are given BLS training with a chance of 13,263 up to 13,903 times increased knowledge about BLS training compared to people who were not given training.

## DISCUSSIONS

The success of training implementation was greatly influenced by the skills of the personnel providing the training, the training methods, and the tools used. In implementing the BLS training, the researcher was aided by a master trainer (MT) who had a trainer certificate in emergency disasters. The training material is delivered using lecture, simulation, and demonstration methods. The lecture method uses LCD to deliver the material about first aid in emergencies and uses a basic life support (BLS) mannequin (Phantom) for simulation and demonstration.

At the demonstration stage, participants were given the opportunity to see the procedures for implementing BLS actions. Then, the training participants could practice BLS actions while being supervised by the trainers and researchers. It aligns with the theory that changing attitudes into practice requires learning facilities. Participants are given the opportunity to see and hear from other people; they are given the opportunity to master skill components; they perform new skills themselves; and trainers evaluate the results of new skills and provide feedback<sup>11</sup>. It aligns with the research<sup>12</sup> that education is needed to obtain information that can improve

health and quality of life. Respondents' good knowledge was influenced by the training methods provided through demonstrations. The results of this research<sup>13</sup> are in line with research showing that there is an influence of health education regarding handling seawater drowning victims on increasing the knowledge of the fishing community in Bolangitan II village, North Bolaang Mongondow Regency, where the Wilcoxon test results obtained a mean rank value of 24,  $p$ -value = 0.000 ( $p < 0.05$ ). This is also in line with the research results of Turambi D et al., that there is an influence of BLS training on increasing the knowledge of class XI ( $p < 0.005$ ). Likewise, the research results<sup>14</sup> show that there is an influence of BLS Theory research on the knowledge of cardiopulmonary resuscitation of female students at SMA Negeri I Toili, where the Wilcoxon test results obtained a value of  $p = 0.000$  ( $p < 0.05$ ). In research<sup>15</sup> on the effect of BLS training on the knowledge of tourist drivers, the pre-test results showed that 12 respondents had good knowledge. In the post-test, 30 respondents had good knowledge.

Based on the results in Diagram 4, the average ability to apply BLS before being given training was 1.37. Of the 17 question items on BLS implementation procedures, an average of 19 respondents were only able to carry out 1-2 procedures. If seen from the observation sheet (pre-test), the participant only asked for help, and the victim was left lying on his back; the victim was not given first aid measures. This condition can cause death. It is due to the participants' ignorance about what first aid can be provided. After being given training and carrying out a post-test, the average mean of BLS implementation was 14.63. From the 17

items stating BLS implementation procedures, an average of 19 participants could carry out 14–15 actions. It showed a change in the ability to implement BLS. After training, participants could perform BLS well and assess the condition of victims who need basic life support. Analysis of research results showed that BLS training positively influenced the ability and knowledge of officers or the public in implementing BLS in emergencies at beach tourism. It is in accordance with training theories, which emphasize the importance of training to improve individual competence. The results of this comparison can illustrate the extent of increased competency achieved through training.

This condition was very beneficial because the training participants were tourist motorbike riders and coast guards, and they would likely find victims while traveling on Tanjung Karang beach. According to the researchers' assumptions, changes in the ability to apply BLS before and after this training were also inseparable from the participants' educational factors. Of the 19 training participants, 13 respondents (68.4%) had a high school or equivalent education. This educational background played a crucial role in the implementation of training, where younger participants received the information provided during training. It is in line with<sup>16</sup> theories that one factor influencing health education to achieve its targets is the level of education. Education can influence a person's perspective on the information provided, so the higher the level of education, the easier it is for a person to accept the information obtained<sup>7</sup>. Apart from education, experience was also a factor that played a role in successfully implementing training<sup>17</sup>—experience

from a long time working as a tourist motorbike guide and lifeguard. The average length of work for participants was four years; from the results of their interviews, they said that if someone drowns, they usually see tourists providing mouth-to-mouth breathing assistance, so, during BLS training, mouth to mouth breathing assistance is carried out for participants who are easier to understand because they have already seen it. In implementing the training, material was also provided on first aid in coastal emergencies in the form of assistance to drowning victims, evacuation and transportation of victims, and assistance to victims bitten by sea animals. The material is given using the lecture method: question and answer. For evacuation and transportation actions, the practice was carried out, namely evacuation and transportation, without using tools. Furthermore, the training materials created standard operating procedures so participants could use them when providing first aid<sup>18</sup>.

In the Evaluation of First Aid Standard Operating Procedures (SOP), the effectiveness and relevance of first aid SOPs in beach tourism were in line with BLS standards taught in training. There was awareness and compliance with the SOPs that have been taught, and all participants could follow the SOP well. The benefits obtained from BLS training in the context of beach tourism included increasing visitor safety and reducing the risk of accidents. These benefits can be measured in terms of the number of lives avoided or injury rates reduced.

## CONCLUSIONS

This research showed that BLS training positively impacts implementing

BLS and Standard Operational Procedures for First Aid in emergencies at beach tourism destinations. It has the potential to improve visitor safety and well-being<sup>19</sup>. Therefore, beach tourism managers and related parties should consider implementing a structured and ongoing training program to increase preparedness in dealing with emergencies. Having clear Standard Operating Procedures (SOP) for handling emergencies at tourist beaches is also essential<sup>20</sup>. It is also essential to educate visitors about the actions to take in emergencies and place clear warning and information signs along the beach to increase safety awareness. By adhering to good SOPs and having well-trained staff, beach tourism could become safer for everyone who visits it.

Based on the research and discussion results, it can be concluded that the ability to apply BLS to drowning people before BLS training was carried out obtained a mean value of 1.37 with a standard deviation of 0.684. The ability to apply BLS to drowning people after BLS training was obtained with a mean value of 14.63 and a standard deviation of 1.383. There is an effect of BLS training on the application of BLS to drowning people, where the mean value was -13.263 and  $p=0.000$  ( $p<0.005$ ). There are standard operational procedures for first aid in coastal emergencies, namely SOP for evacuation and transportation, SOP for drowning people, and SOP for treating sea animal bite wounds.

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