

ORIGINAL ARTICLE

Ojek Driver's Knowledge of Basic Life Support in Daily After Training


Pengetahuan Pengemudi Ojek tentang Bantuan Hidup Dasar di Kehidupan Sehari-Hari Setelah diberikan Pelatihan

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ABSTRACT

Background

Basic Life Support (BLS) is the first aid required for patient cardiac arrest and respiratory arrest, especially those occurring outside the hospital. In Indonesia, approximately 300,000–350,000 people experience cardiac arrest each year, mainly on the roads due to trauma/accidents. This research aims to determine the influence of BLS training on the knowledge and skills of the general public, especially online motorcycle taxi drivers, in providing first aid for cardiac arrest.

Methods

This research employs a one-group pre-post test design to compare knowledge of basic life support before and after training. The sample consists of 193 individuals, with sample selection using consecutive non-random sampling, and data collection conducted through interviews using a questionnaire.

Results

The research findings using the Wilcoxon Signed Ranks Test yielded a P-value of 0.001, indicating the acceptance of the alternative hypothesis (H_a). This result indicates that there is a statistically significant effect of basic life support training on the knowledge of online motorcycle taxi drivers around Jakarta.

Conclusions

There is a significant effect of basic life support training on the knowledge of online motorcycle taxi drivers as well as increasing the ability to act on BHD in areas around Jakarta.

Keywords: Basic Life Support (BLS); Online Motorcycle Taxi; Training

ABSTRAK

Latar Belakang

Bantuan Hidup Dasar (BHD) adalah pertolongan pertama yang diperlukan oleh korban henti jantung henti nafas, terutama yang terjadi diluar rumah sakit. Di Indonesia, sekitar 300.000–350.000 orang mengalami henti jantung setiap tahunnya, terutama di jalan raya akibat trauma/kecelakaan. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh pelatihan BHD terhadap tingkat pengetahuan dan keterampilan masyarakat awan terutama pengemudi ojek online dalam memberikan pertolongan pertama henti jantung.

Metode

Penelitian ini menggunakan *one grup pre-post test design* untuk membandingkan pengetahuan tentang bantuan hidup dasar sebelum dan sesudah dilakukan pelatihan, sampel berjumlah 193 orang, teknik pemilihan sampel dengan *consecutive non random sampling* dan pengambilan data dengan wawancara menggunakan kuesioner.

Hasil

Hasil uji penelitian dengan *Wilcoxon Signed Ranks Test* didapatkan nilai $P = 0,001$, yang berarti H_0 diterima. Hasil ini menunjukkan bahwa secara statistik ada pengaruh yang signifikan dalam pemberian pelatihan bantuan hidup dasar terhadap pengetahuan pekerja ojek online di sekitar Jakarta.

Kesimpulan

Terdapat pengaruh yang signifikan pelatihan bantuan hidup dasar terhadap pengetahuan bagi pekerja ojek online serta menambah kemampuan tindakan terhadap BHD di daerah sekitar Jakarta.

Kata Kunci: Bantuan Hidup Dasar (BHD); Ojek Online; Pelatihan

INTRODUCTION

One of the emergency cases is cardiac arrest and respiratory arrest. Cardiac arrest and respiratory arrest can be caused by trauma/accident or due to other diseases. According to the Central Statistics Agency, there were 116,411 traffic accidents throughout 2020 with 23,529 deaths.¹

In Indonesia, around 300,000–350,000 people experience cardiac arrest every year.² Basic Life Support (BHD) is the first aid required by victims of cardiac arrest who stop breathing, especially those that occur outside the hospital. BHD given by lay people at Out Hospital Cardiac Arrest (OHCA) can increase the survival rate by 2 to 3 times.^{3,4}

Currently, many Indonesians still don't know what cardiac arrest and respiratory arrest are, how to recognize them, and how to carry out BHD.⁵ Especially working people with high risks, such as online motorbike taxi drivers. So far, online motorcycle taxi companies have not provided online motorcycle taxi drivers with first aid training in emergency cases.

As we know, we often encounter motorbike taxi drivers in public spaces, either while delivering passengers/goods or resting on the side of the road waiting for orders from customers. Where it can meet various emergency cases or emergencies in traffic accidents and unconscious people. In unconscious people, BLS action must be carried out immediately, because stopping the blood flow and respiratory system can cause brain damage from non-permanent to permanent and even death within 4-6 minutes. In other words, BLS action is a technique to save the life of someone unconscious or in an emergency.

In previous research by Ramadia, et al in 2021 regarding cardiopulmonary resuscitation training in the Youth Red Cross (PMR) group, with the result of increasing knowledge and skills. This research was carried out online to provide material and offline for training using teaching aids.⁶

Research conducted on online motorcycle taxi drivers was carried out by providing material using presentations, watching videos on how to do BHD, distributing slides about BHD to each participant, and then conducting BHD training using props or adult mannequins. In theory, it would be easier to accept the material if you watched a video, so the researcher decided to provide material other than presentations and distributing slides, giving a video on how to do BHD.

This research aims to determine the effect of BHD training on the level of knowledge of online motorcycle taxi drivers in providing first aid when facing a cardiac arrest. It is hoped that ordinary people represented by online motorcycle taxi drivers can take BHD actions to reduce the mortality or morbidity of victims of cardiac arrest and respiratory arrest, whether due to traffic accidents or the patient's illness. So, our research team decided to provide the material through presentations, watching videos, and conducting training using props, namely adult mannequins. Apart from that, participants were also given presentation slides, so they could study the material at home.

METHODS

This research uses a quasi-experimental design (figure 1) (quantitative type of research, using a research design, namely an experimental design) carried out with a single group pre-test-post-test (one group pre-test post-test).

This research was conducted from October 2022 to February 2023 at the Faculty of General Medicine, Trisakti University. Subject Li is an online motorcycle taxi driver who was obtained using the consistent non-random sampling method. The total sample was 193 respondents.

The sample met the inclusion criteria, namely adult age, namely ≥ 18 years and not illiterate and color illiterate. The exclusion criterion is that the respondent refuses to take part in the research.

Data normality analysis was carried out using Shapiro-Wilk, and then the collected data was analyzed using the nonparametric Kruskal-Wallis test with the Wilcoxon test.

RESULTS

The respondents in this research were online motorcycle taxi workers around the faculty of medicine campus, who met the criteria. By the research results, data on the characteristics of respondents were obtained as follows in Table 1.

Table 1. Distribution of Respondents Based on Characteristics

| Characteristics | n | % |
|-------------------|-----|------|
| Age (year) | | |
| 17-25 | 19 | 9.8 |
| 26-35 | 45 | 23.3 |
| 36-45 | 86 | 44.6 |
| 46-55 | 39 | 20.2 |
| 56-65 | 4 | 2.1 |
| Gender | | |
| Men | 145 | 75.1 |
| Women | 48 | 24.9 |
| Education | | |
| Lower Education | 175 | 90.7 |
| Higher Education | 18 | 19.3 |
| Total | 193 | 100 |

Based on Table 1, it is known that the majority of respondents aged 36 - 45 years were 86 people with a percentage of 44.6%, the gender of the participants was dominated by men with 145 people or 75.1%. Most of the participants had a low level of education, 175 people or 90.7%.

Bivariate Analysis

The effect of basic life support training before and after the intervention was given on the knowledge of online motorcycle taxi workers using the Kruskal Wallis test to assess the relationship between pre and post-test scores for respondents in terms of age and the Wilcoxon Signed Ranks Test as the main indicator for assessing the effectiveness of training and testing.

Table 2. Pre- and post-test relationships with respondents before and after BHD training using the Kruskal Wallis Test

| | | N | Median (Min-Max) | p |
|----------------|-----------------|-------|---------------------|-------|
| Knowledge test | Before training | 0.269 | 4 (0-8) | 0,008 |
| | After training | 0.00 | 4 (2-8) | |

Based on Table 2, it can be seen that a total of 193 people had differences in results before and after BHD training. In the post-test, the results of the Kruskal Wallis test were obtained with a value of $P = 0.008$, where there was a change between before training and after training.

Table 3. Relationship between the effects of basic life support training before and after training

| | Levels Table | n | % | p |
|----------------|--------------|-----------------|------|--------|
| Post-pre test | Ranking (-) | 44 ^a | 22 | 0.008* |
| | Ranking (+) | 71 ^b | 38.5 | |
| | Unchange | 78 ^c | 39.5 | |
| Total | | 193 | 100 | |
| *Wilcoxon test | | | | |

a. Post Test < Pretest

b. Post Test > Pretest

c. Post Test = Pretest

Berdasarkan tabel 3 dapat diketahui bahwa mayoritas sampel berada pada ranking positif yaitu 38.5%. Dari hasil uji Wilcoxon Signed Ranks Test dengan menggunakan statistik Z didapatkan nilai Z -3,362 dengan tingkat kesalahan 0,05 dengan tingkat kepercayaan 95% maka nilai P-value sebesar 0,001, yang berarti H_a diterima. Hasil ini menunjukkan bahwa secara statistik ada pengaruh yang signifikan dalam pemberian pelatihan bantuan hidup dasar terhadap pengetahuan pekerja ojek online di sekitar Fakultas Kedokteran Trisakti Jakarta.

DISCUSSION

Based on Table 1, it shows that the majority of respondents aged 36-45 years were 86 people (44.6%). The results obtained from research conducted by Jambi University Medical and Health Sciences students, M. Anggaguna et al. in 2021, the majority of motorbike taxi driver respondents were aged 26 – 35, 62 people (41.3%).⁷

Verner and Davison in Notoatmodjo (2012) revealed that the factor that can hinder the physical condition of learning in adults is age. This is also supported by the theory according to Notoatmodjo (2012) regarding the benefits of promotional aids (education) which explains that a person's knowledge is received through the senses. It can be said that visual tools make it easier to convey and receive information or educational materials. Understanding that age can influence a person's physical condition and general health, including their learning ability, can help in designing appropriate learning approaches. In addition, the recognition of the important role of the eyes as the main channel for receiving knowledge in accordance with the theory of the benefits of promotional aids (education) shows how visualization has a significant impact on learning. Data noting that most human knowledge is transmitted through the eyes encourages to utilization of visual tools and learning approaches that emphasize visualization. The use of visual tools such as pictures, graphs, and presentations can make it easier to convey information and facilitate the acceptance of educational material. By utilizing visual tools, learning can become more effective and enrich the learning experience. This is also consistent with a multisensory learning approach, considering that the use of other senses can also make an important contribution to the understanding and retention of information.⁸

From the research conducted, age influences the increase in knowledge. In the results of the post-test questionnaire, the highest scores were obtained at the ages of 24 years, 25 years, and 36 years with a score of 8, and the lowest results were at the ages of 42 years, 46 years, 49 years, and 52 years with a score of 2 from the questionnaire. The highest increase in score between the pre-test and the post-test was 5 with ages 25 years and 26 years. The youngest respondent was 20 years old and the oldest was 62 years old.

Based on table 1, shows that 145 respondents were male (75.1%), this result is in accordance with research conducted by Putu Gede Wiyata Darma et al in 2022, from Udayana University, Faculty of Medicine, Nursing and the Nursing Profession, with the majority of respondents being male. 89 people (92.7%).⁹

Based on Table 1, it is known that the majority of respondents had low education or education from elementary to high school as many as 175 people (90.7%). Meanwhile, only 18 people (9.3%) had tertiary education graduates from higher education. Research conducted by Eko Budi Santoso et al, from Muhammadiyah Gombong University in 2020 obtained the same results, namely that the majority of motorcycle taxi drivers had low education, 47 people (94%).¹⁰

The Effect of BHD Training on the Knowledge of Online Motorbike Taxi Workers

The results of research on the distribution of respondents based on knowledge characteristics before providing BHD training to online motorcycle taxi workers showed that the majority of all respondents were at a low level of knowledge (scores between 0 - 5) totaling 173 respondents.

In the results of the bivariate test between pre- and knowledge, almost all respondents did not know their knowledge about BHD well, as in the results of Table 2, the pre-test obtained a value of $P = 0.008$, where $P < 0.05$ means that the training process was well received by the respondents. there should be a difference in knowledge between before and after training.

According to Mubarak (2011) explains that one of the external factors that influences knowledge is information. Understanding that easy access to information can accelerate the

acquisition of knowledge in accordance with the development of modern information and communication technology. With the internet and various digital information sources, a person can easily access various types of knowledge without geographical limitations. This can support the learning process and increase one's knowledge. Additionally, it is important to remember that valid and trustworthy sources of information are also a critical factor in ensuring the accuracy of the knowledge gained. Therefore, the ability to filter and assess the reliability of information is also an important aspect of the process of acquiring knowledge.¹¹

This research is in line with research conducted by Hutapea (2012) regarding the description of the level of knowledge of traffic police regarding basic life support (BHD) in Depok City. Results generally showed that the level of knowledge of traffic police regarding BHD was in the poor category.¹²

From this explanation, it can be concluded that the lack of knowledge about BHD is due to a lack of socialization about BHD among online motorcycle taxi workers.

Meanwhile, the results of the bivariate post-test with knowledge after training as in Table 2 showed a value of $p = 0.008$, where $p < 0.05$ so that the training process was well received by respondents. And there was a difference between before and after training.

According to the theory, humans always want to know the truth. To fulfill this curiosity, humans have been trying to gather knowledge since ancient times.⁸

In this study, the increase in knowledge was due to the existence of information that provided knowledge about the importance of carrying out basic life support when finding someone experiencing cardiac arrest and respiratory arrest, so they tried to be curious and enthusiastic about basic life support training activities which was evident from several questions from respondents. that arise during training activities. Apart from that, the researcher prepared a handout containing the meaning, indications for carrying out and stopping basic life support, objectives, and steps for carrying out basic life support accompanied by pictures, so that respondents could study again at home and increase their knowledge about basic life support.

The more science develops, the more updated information must reach the public, in this case regarding the latest procedures regarding the latest BHD steps. On October 18, 2010, AHA changed the sequence of CPR steps from A-B-C (Airway-Breathing-Circulation) to C-A-B (Circulation-Airway-Breathing). This change aims to emphasize the importance of immediately starting chest compressions or circulation before providing ventilation or respiratory support. Despite changes in the sequence of steps, in 2015, the AHA again revised several aspects of the CPR procedure, but the sequence of steps remains C-A-B. This indicates that the emphasis on providing chest compressions as the first step remains preferred. Despite changes in the sequence of steps, in 2015, the AHA again revised several aspects of the CPR procedure, but the sequence of steps remains C-A-B. This indicates that the emphasis on providing chest compressions as the first step remains preferred. It is important to note that CPR guidelines may change over time in line with the latest medical research and practical experience. Therefore, it is important to always update your CPR knowledge according to the latest guidelines issued by relevant health agencies, such as the AHA.¹³⁻¹⁵

Comparison of the Relationship between Online Motorcycle Taxi Workers' Knowledge about BHD Before and After Being Given Basic Life Support Training

The Wilcoxon Signed Rank test in Table 3 shows that statistically there is a significant influence in providing basic life support training on the knowledge of online motorcycle taxi workers around the Trisakti Medical Faculty, Jakarta.

According to theory, training is assistance provided to students to master various skills. Skills or skills are activities that require high intellectual awareness.¹⁶

Research conducted by Hasanah in 2015 regarding the relationship between the level of knowledge and skills of nurses in carrying out basic life support measures at the Karanganyar Regency Regional Hospital illustrates that the majority of nurses have a sufficient level of knowledge regarding basic life support. In addition, the research results show that nurses' skills in carrying out basic life support actions are in the quite skilled category. Furthermore, the research shows a relationship between the level of knowledge and skills of nurses in carrying out basic life support actions. This may indicate that nurses with a higher level of knowledge tend to have better skills in providing basic life support.¹⁷

The results of this research can be a basis for improving training and education related to basic life support for nurses, to improve their skill level and in turn, improve the quality of health services.

The results of research related to research conducted by Ampago (2015) show that the majority of nurses who have good knowledge about BHD management also carry out or have competent abilities in carrying out ABC actions, namely nurses who work in the ER 74% and ICU 57%.¹¹ Other research that Strengthen the results. The results of related research by research conducted by Fernando (2018) show that in Pakistan children as young as 11 years old can learn basic life support skills and bring the results to a significant level. Through training, they will gain the physical endurance to perform chest compressions for up to 5 minutes without showing signs of fatigue.^{18,19}

From several articles and journals that we have found to date, there is always an increase in knowledge after training regarding basic life support.

According to an American study that compared the cost of mass first aid training with the frequency of people undertaking BHD, for every long-term survivor of a heart attack, around 13,695 other lay people had to be trained. This suggests that it would be more efficient to target training programs for those who work or live with people who are more susceptible to heart attack or stroke.²⁰

However, currently, the majority of BHD training participants are under 30 years old, while the majority of those facing heart attacks are elderly people.²⁰

“Older people are more likely to have heart attacks and in general they tend to gather with other elderly people,” said Dr. Alexander Dick, an interventional cardiologist at the University of Ottawa Heart Institute in Ontario. “Older people are historically untrained people.”²⁰

Knowledge about Basic Life Support (BHD) is very important for the general public, especially because respiratory arrest and cardiac arrest can occur anywhere and at any time. The fact that many victims do not receive adequate initial care outside the hospital setting highlights the importance of BHD training in the community.

Many people's lack of understanding of the steps that must be taken in emergencies can lead to delays in providing assistance or even inappropriate actions. Therefore, improving people's

knowledge and skills regarding BHD can play an important role in increasing the success rate of first steps in cases of respiratory or cardiac arrest.

BHD training may include knowledge of understanding early signs, performing chest compressions, providing rescue breathing, and using an external automated defibrillator (AED), if available. By understanding and being able to implement these measures, communities can provide effective first aid and increase the chances of safety and survival for those experiencing such emergencies. Increasing awareness and training regarding BHD can be a positive step in saving lives and minimizing the adverse effects of patient conditions.¹⁴

The research results showing that effective counseling and training can increase knowledge and skills in Basic Life Support (BHD) are very relevant and positive. The fact that knowledge about BHD can influence behavior in providing first aid shows the importance of education and training in this context.

A training approach that involves direct practice using teaching aids can be an effective method. This not only helps improve knowledge but also practical skills in providing BHD. Hands-on practice can provide real experience, allowing trainees to apply the theory learned and gain the necessary practical skills.

In addition, emphasis on the use of visual aids in training can improve training participants' memory and understanding. Direct involvement through hands-on practice can strengthen understanding of concepts and increase the level of confidence in providing BHD.

Results showing changes in skill levels after training suggest that formal education or specialized training can shape and improve a person's ability to provide basic life support. This has a positive impact on responders' ability to respond to emergencies and provide appropriate aid.⁶

The limitation of this research is that because online motorcycle taxi drivers were still working while the research was being conducted, their focus on studying the material and training was disrupted because there were still daily targets that they had to pursue every day. So the suggestion for further research is that this training should be facilitated by online motorcycle taxi providers, and this is something that is required by the provider so that online motorcycle taxi drivers will concentrate on learning how to carry out basic life support.

CONCLUSION

Based on this research, results were obtained showing that the influence of Basic Life Support (BHD) training and counseling on the level of knowledge of online motorcycle taxi drivers in providing first aid in the event of cardiac arrest was very positive. The implications can be very significant in reducing mortality and morbidity rates in victims of cardiac arrest and respiratory arrest, both due to traffic accidents and the patient's illness.

Online motorcycle taxi drivers, as part of the community who are often around emergency incidents, have an important role in providing first aid. By increasing their knowledge through BHD training and counseling, they can become more competent and effective first-aid agents.

Increasing the ability of online motorcycle taxi drivers to provide BHD can reduce the impact of emergency incidents, provide quick assistance, and increase the chances of safety and security

for victims. This can create a safer and more supportive environment, especially in emergencies that require a rapid response.

The role of communities and business actors in providing BHD training also creates awareness of the importance of preparedness and quick response in dealing with emergencies. Thus, these efforts can contribute to reduced mortality and better health impacts on society as a whole.

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AUTHORS CONTRIBUTION

Study conception, design: DN, AT, LP; data collection: DN, AT, LP, analysis, interpretation of results, manuscript preparation: DN, AT, LP; All authors reviewed the results and approved the final version of the manuscript.

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CONFLICT OF INTEREST

In this research, no conflict of interest was found.

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