

ORIGINAL ARTICLE

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Differences in Skills Before and After Being Given Health Education Using Audiovisual about First Aid Burns in Students MA Raudlatus Syabab

Rida Darotin^{1*}, Tiaratul Hasanah²

¹Faculty of Health Sciences, Universitas dr. Soebandi, Jember, Indonesia

² Faculty of Health Sciences, Universitas dr. Soebandi, Jember, Indonesia

*Correspondence:

Author Name: Rida Darotin

Email: rida.1448@gmail.com

Abstract

Introduction: Burns are an emergency problem that can occur anytime and anywhere, both minor, moderate and severe burns. Burns require proper treatment from the beginning of the wound incident. There are still many actions in providing first aid for burns that are not appropriate. Based on the results of a preliminary study at MA Raudlatus Syabab, as many as 80% of 10 students have experienced burns such as chemical contamination, scalded etc.

Research Objectives: The purpose of this study was to determine the differences in skills before and after being given health education using audiovisual about first aid burns in MA Raudlatus Syabab students. **Methods:** Pre-experimental research design with One group pre-post test design approach. The research population of MA Raudlatus Syabab class X students with a total of 37 people and a sample used 34 respondents. Purposive sampling technique is used. The measuring instrument uses an observation sheet and is analyzed using the Wilcoxon test. **Results:** The average score of students' skills in practicing first aid for burns before being given health education was 32.24. While the skills of students after being given health education are with an average score of 81.71. The difference in average score before and after health education was 49.47. The results of the Wilcoxon test obtained P-values $(0.000) < \alpha (0.05)$, so the conclusion was that there were differences in positive skills from the category of less skilled to very skilled in students after being given health education using audiovisual about first aid burns. **Conclusions:** Students' knowledge and ability to provide first aid for burns can be increased through learning audiovisual video tutorials and actively receiving information related to burn management.

Keywords: Audiovisual, First Aid Burns, Health Education, Skills

Introduction

Burns are injuries that occur on the skin caused by heat sources such as fire, radioactivity, electricity, contaminated with chemicals and so on World Health Organization,

(2018). Minor burns can be severe burns therefore it is necessary to correct first aid from the beginning of the wound incident. There are still many actions of someone and even the community who are not right in providing first aid to burns such as giving toothpaste, butter, soy sauce and even oil to the wound area Eli et al (2022). Burns are open wounds that must be treated properly so as not to damage skin tissue, cause inflammation or irritation, aggravate the condition of the wound and cause the healing process of burns to be longer (Wijayanti *et al.*, 2021).

In the period 2014-2018 the incidence of burns in Indonesia increased by 35%. While the incidence of burns in 2018 was 1,701 (20,19%), in 2017 the incidence of burns was 1,570 (18,64%), in 2016 the incidence of burns was 1,432 (17,03%), in 2015 the incidence of burns was 1,387 (16,46%) and in 2014 the incidence of burns was 1,209 (14,35%). The frequency of burns throughout Indonesia was 2,2% in 2018, which occurred in various provinces. Judging from education, the highest number of burns is in junior high school graduation education with a percentage (1,5%), the most data on burns is in the third order, namely in the age group of 15-24 years with a percentage (1,23%) of the Ministry of Health of the Republic of Indonesia (Kementerian Kesehatan RI, 2019; Riskesdas, 2018). There was an increase in the prevalence of burn cases in East Java as much as (11,12%). Burns due to hot water or hot steam are the most common cause with a percentage (52,2%). The hands and forearms are the most affected body parts (36%), followed by the face and neck (21,1%) (Riskesdas, 2018)

Based on a preliminary study conducted by researchers to school principals by conducting interviews, it was found that at that location they had never received health education about burns, and researchers also conducted interviews with 10 students, it was found that 80% of 10 Madrasah Aliyah (MA) Raudlatus Syabab students had experienced burns such as direct contact with hot liquids such as chemicals while practicing in the laboratory, hot water, and electric iron, splash cooking oil. Of the 10 students interviewed, 90% of students said that in providing first aid for burns is by applying toothpaste to the wound area and students said that by giving toothpaste to the wound can cool and heal burns where knowledge and actions are obtained from previous experiences, namely from friends and from the experience of family relatives at home, while According to (Wijaya *et al*, 2019) in his research stated that toothpaste cannot be used as a first treatment in the incidence of burns because there are mint, bleach, and dyes that can slow wound healing, cause infection and can cause the burned skin to become more blistered.

Improper first aid practices can lead to very adverse consequences (Kattan *et al.*, 2016). Burns if not handled properly can damage muscle tissue, blood vessels, bones and epidermal

tissue, complications that can occur due to burns include hypovolemic shock, infection, electrolyte imbalance and respiratory distress problems (Herlianita et al., 2020). The success of first aid can be measured from one's behavior which is strongly influenced by one's knowledge, so the higher the level of knowledge, the better the actions and behaviors carried out and applied (Didit, 2023).

So it is necessary to provide health education about proper first aid for burns. Health education is an effort to create a rationale so that individuals can have knowledge, attitudes and skills that are in accordance with the guidelines of health values (Notoatmodjo, 2007 in Andreas *et al.*, 2015). There are several media that can be used in providing health education, one of which is audiovisual media. Audiovisual media is a learning tool that utilizes the senses of hearing and sight in such a way that the more senses involved in absorbing information, the more information can be understood and remembered in memory (Muttaqien, 2017).

Senior high school students are considered ideal to be given health education about the practice of proper first aid burns, because the characteristics of adolescents today are less concerned about events around them and lazy to remind their own knowledge and are more busy with playing gadgets, so that the provision of health education is expected to change their perspective and they can spread it to their families, friends and the community around them (Herlianita et al., 2020). Based on this background, the researcher is interested in conducting research on the difference in skills before and after being given health education using audiovisual about first aid for burns in MA Raudlatus Syabab students.

Methods

This study is quantitative research that aims to determine the differences in skills before and after being given health education using audiovisual about first aid burns in MA Raudlatus Syabab students. The research design used was Pre experimental design with One group pre posttest design approach. The sampling technique uses non-probability sampling techniques of purposive sampling type. The population in this study was grade X students of Science MA Raudlatus Syabab with a total of 37 students. The sample in this study was 34 respondents. Inclusion criteria: Active students of class X MA Raudlatus Syabab and students who are willing to become respondents. Exclusion Criteria: Students who are unable to attend the burn first aid education due to illness / alpha / permission when data are collected. This research was conducted at the Raudlatus Syabab MA school, this research was conducted in May 2023.

Instruments in this study: Observation Sheet in the form of a burn first aid skill checklist adopted and developed from Moenadjat (2017) and Audiovisual Link:

<https://youtu.be/nSjxnQjG5nQ>. This research has received a letter of ethical feasibility from the Health Research Ethics Committee of dr. Soebandi University No. 217/KEPK/UDS/V/2023.

Results

This study was conducted in May 2023 by providing an intervention in the form of health education with audiovisual airings about first aid for burns with a duration of 5 minutes 49 seconds 3 times. Based on the results of research that has been carried out, the results of general data and specific data are as follows:

Table 1. Characteristics of respondents by age

No	Age	Frequency (f)	Percentage (%)
1	15	5	15%
2	16	22	65%
3	17	7	20%
TOTAL		34	100%

Based on table 1 shows the distribution of characteristics based on the age of students in MA Raudlatus Syabab i.e. most students are 16 years old.

Based on the results of the overall research of respondents (100%) with as many as 34 respondents are female.

Table 2 Skills before being given health education using audiovisual about first aid burns

Category	Min	Max	Mean	Modus	SD	SE
Skills before being given health education	28	37	32,24	31	2,675	0,459
Skills after being given health education	72	100	81,71	78	6,878	1,180

Based on table 2 shows that skills before being given health education using audiovisual about first aid for burns in MA Raudlatus Syabab students obtained a minimum score of 28, a maximum score of 37 and the average score obtained by students was 32.24. that students' skills after being given health education using audiovisual about first aid obtained a minimum score of 72, a maximum score of 100 and an average score of 81,71.

Table 3 Analysis of students' skill scores before and after being given health education using audiovisuals on first aid burns.

Variabel	N	Min	Max	Mean	SD	Nilai Z	P-Value
Pretest Skills	34	28	37	32,24	2,675	-5,098	0,000
Posttest Skills		72	100	81,71	6,878		
Total	44	63		49,47	4,203		

Based on table 3. The difference in skill scores before and after being given health education using audiovisual about first aid for burns was obtained with a minimum score difference of 44, a maximum score difference of 63 and an average score difference of 49.47. Based on the results of the Wilcoxon test, a P-value of $0.000 < 0.05$ can be concluded, thus it can be concluded that H_0 is rejected and H_a is accepted in the sense that there is a positive difference in students' skills after being given health education using audiovisuals.

Discussion

1. Student skills in providing first aid for burns before being given health education using audiovisual media

Based on table 2 of the data obtained, the average value of students' skills in providing first aid for burns before being given health education using audiovisual is with a minimum score of 28 and a maximum value of 37 and an average value of 32,24 where the average score can be qualified in the less skilled category. Based on the results of the study, it is known that the sex characteristics of respondents are all female. Based on table 1, it is known that the characteristics of respondents based on age are that most respondents are at the age of 16 years as many as 22 students with a percentage (65%). This shows that most students are in their middle teens.

The results of this study are in line with previous research conducted by (Andreas, 2015) which explained that the results before health education were given which explained that the results before health education were obtained data 9 students (50%) were still in the category of inadequate in the first treatment of burns. According to Notoatmodjo, (2014) there are several factors that can affect the ability as if knowledge can be influenced by several things such as education, information, experience, age and gender. According to Eli *et al.*, (2022) Based on developmental stage, men tend to be slower compared to women, the delay can affect on broader cognitive, emotional and social abilities. Women's fine motor development is better when compared to men. Verbal skills in women will have an impact on the daily learning process on their environment. This is because a woman's knowledge is better than a man's Notoadmodjo, 2016 in Priosusilo, (2019).

Experience in obtaining accurate information can improve a person's skills in performing a procedure. According to Sulastri *et al.*, (2022) states that knowledge can be a determinant of a person's ability to absorb and understand knowledge received in general. In theory Notoatmodjo, (2014) explains that skills are an application of one's knowledge,

skills can be formed through several things, one of which is knowledge and knowledge occurs because of several things such as information and experience so that the more information and experience obtained by a person, the better one's behavior and skills will be. The development of one's knowledge can be seen by one's ability to apply that knowledge in the form of skills.

The skills of students before being given health education using audiovisual show that students' skills in giving actions are still in the category of less skilled, where students are still less effective and less perfect as when performing burn first aid actions because they have not formed skills because students have not received information and knowledge about the correct first aid burns. So in this study it is necessary to provide information in order to increase students' knowledge in providing first aid for burns so that this knowledge can be applied in the form of skills.

2. Student skills in providing first aid for burns after being given health education using audiovisual media

Based on table 3 shows that the average skill score of students after being given health education using audiovisual is to achieve a minimum score of 72, a maximum score of 100 and the average obtained is 81.71 where the average score can be qualified in the highly skilled category. This is in accordance with research conducted by (Eli, *et.al.*, 2022), showing that first aid skills after being given health education the majority of respondents' skills were in the capable category, namely 23 respondents with a percentage of 54.8%. This study is in line with research conducted by (Herlianita et al., 2020), showing that there were changes in respondents' behavior in providing first aid after being given health education, with 21 respondents (43%) categorized as sufficient behavior in providing first aid and 25 respondents (52%) categorized in the good category. The results of this study also showed that there were changes in students' skills after providing health education using audiovisual media about first aid for burns.

Based on the theory of notoatmodjo 2010 in Priosusilo, (2019) states that the learning process can be interpreted as a process to increase knowledge, understanding and skills that can be obtained from an experience or can be by conducting studies (teaching and learning processes) from learning and the experience is expected to be able to explore something hidden in the individual by encouraging individuals to think and develop his personality by freeing from ignorance into a knowing and skilled individual.

Health education is an activity carried out by disseminating messages and providing confidence and understanding to the community so that people can understand from a behavioral relationship to health with the aim that community behavior that is not or less healthy becomes healthy behavior Notoatmojo, (2010 in Ummah, 2021). Health education is one of the non-formal education in order to have knowledge. Individuals who get information from health education means gaining experience related to the knowledge gained from health education. A person's experience is related to age and education such as the higher the education and information obtained, the wider his knowledge and experience and the older a person gets, the more experience he gets according to his development (Priokusilo, 2019).

According to (Waladani *et al.*, 2021), health education conducted using audiovisual media has been effective for improving participants' cognitive. Providing health education using audiovisual media can provide stimulation to the senses of the eyes and ears. This is in line with research conducted by (Yusuf, *et al.*, 2019) which states that the provision of health education using audiovisual media can change individual and group perceptions. So that respondents in this study were able to improve their ability to improve their skills in providing first aid in burns because they had obtained information and gained knowledge about how to properly burn first aid after seeing and understanding the content of audiovisual media that had been aired 3 times. This is in accordance with the theory of behavior change in Ekayani's research (2017) which states that to form a habit in behavior requires a constant time. At the first video screening is an introduction or introduction, at this stage students know the form of activities or movements that need to be done in providing first aid for burns, at the second video screening is in the repetition or exercise stage where at this stage it goes to the practice stage with repeated repetition many times so that students become easy to memorize, and the third video screening enters the strengthening or stabilization stage where students have started to go Stabilization so that the behavior in providing first aid for burns that is properly formed permanently becomes a habit.

After providing health education using audiovisual media, students' skills in providing first aid for burns in accordance with Standard Operating Procedures (SOP) have improved. The value of student skills has a positive difference where students' skills after being given health education become very skilled in practicing burn first aid, this is because in video or audiovisual screenings there is information related to how to burn first aid where there is a

learning process, so that students can imitate the knowledge gained through the information in the form of skills and forms appropriate action in providing first aid for burns.

3. Analyze differences in skills before and after health education using audiovisual about first aid burns in students

Based on table 4, the results of a minimum value difference of 44, a maximum value difference of 63 and an average value difference of 49.47 were obtained. After the Wilcoxon test, P-value of 0.000 was obtained $< \alpha = 0.05$. From the statistical test table with a Z value of -5.098, which means it is in the H_a reception area. Thus, it can be concluded that H_0 is rejected and H_a is accepted in the sense that there is a positive difference in students' skills after being given health education using audiovisual about first aid burns. The results show that there is a positive difference between the pre value and the post value. From the results that have been described, it shows that there is a significant difference in students' skills from the results before and after being given health education using audiovisual media about first aid in burns with a difference value before and after being given health education, namely with an average difference value of 49.47. This research is in line with research conducted by Herlianita *et al.*, (2020) with the results of research obtained that there are differences in the value of practice before and after health education is given.

Knowledge or media obtained from both formal education and non-formal education can have a short-term influence on a person so that it can produce changes and improve skills. In this study, information and knowledge are provided through audiovisual media. Audiovisual can make a very large contribution to changing one's behavior, especially in the aspect of information and persuasion, audiovisual media that provide stimulus to the senses of sight and hearing so as to get maximum results, knowledge and behavior in audiovisual media will stimulate participants to imitate or even inhibit behavior that is not in accordance with behavior in accordance with those in Notoatmodjo media, (2012, in Ekayani *et al.*, 2017). Audiovisual is a media or set of components that are able to display images and sound at the same time. So that in this case it can increase interest and provide stimulus to someone who listens to it.

The provision of health education using audiovisual media about first aid for burns can make a significant difference to the skills of students at MA Raudlatus Syabab, Sukowono District, Jember Regency. Audiovisual is suitable to be used as an educational medium, because with audiovisual provision respondents not only see but also hear. Respondents with the age of 16 years tend to be faster in grasping material, because the older a person is, the

more sufficient the level of maturity and strength in thinking. In this study, audiovisuals were shown 3 times. The first video screening is an introduction process where respondents recognize the form of activity or movement that needs to be done, the second video screening is a repetition and training stage and the third audiovisual display enters the strengthening stage where respondents have begun to strengthen so that behavior in providing first aid burns are properly formed permanently. This shows the need for a continuous learning process and the use of interesting media to increase knowledge and form skills.

Conclusion

Based on the results of research and understanding of differences in skills before and after being given health education using audiovisual about first aid for burns in MA Raudlatus Syabab students, the following conclusions can be drawn:

1. The skill of students in providing first aid in burns before being given health education using audiovisual media is categorized as less skilled.
2. The skill of students in providing first aid in burns after being given health education using audiovisual is categorized as highly skilled.

There are positive skill differences from the category of less skilled to highly skilled after being given health education using audiovisual media about first aid burns in MA Raudlatus Syabab students, Sukowono District, Jember Regency.

Acknowledgment

The researcher would like to thank Dr. Soebandi Jember University for facilitating the researcher in conducting this research.

Conflict of Interest

Writer state that there is no conflict of interest.

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