

The Effect of Health Education with Pictorial Quizmedia on Knowledge of First Aid for Burns

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ABSTRACT

Purpose: This study aims to determine the effect of health education with illustrated quiz media on first aid knowledge in vocational high school students. **Methods:** This study uses a type of quantitative research using a Pre-experimental design with a One-Group Pretest-Posttest design approach. Pre-experimental design with One-Group Pretest-Posttest design approach. **Results:** This study used a sample of 75 respondents in grade 11. Method of collecting burn first aid knowledge data was collected by picture quiz. Based on wilcoxon test, statistically significant increase in knowledge of P-value = 0.00 < 0,05. The mean pre-test was 6.29 and post-test was 9.00. **Conclusion:** There is an effect of health education with illustrated quiz media on the knowledge of first aid for burns in vocational high school students.

Keywords: Knowledge, first aid, burns, students

Introduction

Burns are skin injuries caused by exposure to heat or cold, which can be life-threatening because they can damage blood vessels, cause electrolyte and body temperature imbalances, and disrupt breathing and nerve function (Suparmanto, 2022). First aid for burns (prehospital) can be done as soon as possible with running water for at least 15 minutes. The use of running water after a burn can reduce the temperature of the burn tissue and minimize its severity (Sari, Safitri, dan Utami, 2018).

Previous research conducted (Cristianingsih, 2021) found that health education using video media is less able to display in detail the objects to be presented perfectly. Further research conducted (Mulyanto, 2022) found that health education using video and demonstration media has limited time, samples, and resources used. In addition, it makes students quickly feel bored and unwilling to participate in research activities.

So if more modifications are made related to the use of videos so that they can be optimized for health education activities using picture quiz. The picture quiz method is a visual learning method that aims to attract attention and focus attention to concentrate on health education activities (Mustikawati, 2019). The illustrated quiz that will be used by researchers is using a web called “QuizWhizzer”.

The results of a preliminary study conducted in January 2024 through interviews with 10 grade 11 students at SMKN 1 Sawit showed that 4 people used toothpaste, 1 person used flour, and 5 people used herbal oil as the first step of first aid for burns. Additional data obtained by the researcher showed that SMKN 1 Sawit often holds camping activities and students are required to bring their own cooking utensils such as stoves and other cooking equipment, which can increase the risk of burns.

Furthermore, there was an incident in 2023, when making a tent plot 2 students were burned by a candle used to cut the scout rope used to make a tent plot. In 2019, there were 2 students who were exposed to splashes of cooking oil while cooking during camping. The problem of burns experienced by vocational high school students is that they do not know the correct handling of first aid for burns and just leave it alone when exposed to burns which causes improper management.

Based on the results of the preliminary study above, the researcher is interested in choosing the title Effect of Health Education with Picture Quiz Media on Knowledge of First Aid for Burns in Vocational High School Students.

Methods

This study uses a type of quantitative research with a Pre Experimental research design with the type of one group pre post test design. The design in this study is that the subject group observed before the intervention, then observed again after the intervention. after the intervention. This research was conducted on May 7, 2024 The general objective of this study was to determine “The Effect of Health Education with Picture Quiz Media on Knowledge of First Aid for Burns in Vocational High School Students”

Results

a. Univariate Analysis

Table 1 Characteristics of Respondents Based on Gender

Gender	F	%
Male	11	14,7%
Female	64	85,3%
Total	75	100%

According to the research results above, the number of respondents based on gender men 11 (14.7%) and based on gender 64 women (85.3%).

Table 2 Characteristics of Respondents Based on Age

Age	F	%
15 years old	1	1,3%
16 years old	30	40,0%
17 years old	41	54,7%
18 years old	3	4,0%
Total	75	100%

According to the research results above, the number of respondents based on age 15 years old was 1 people (1,3 %), based on age 16 years old was 30 people (40,0%), based on age 17 years old was 41 people (54,7%) and based on age 18 years old was 3 people (4,0%).

Table 3 Characteristics of Respondents Based on Class

Class	F	%
Pharmacy Technology 1	35	46,7%
Pharmacy Technology 2	34	45,3%
Automotive Engineering 2	2	2,7%
Computer Network and Telecommunication Engineering 1	2	2,7%
Industrial Chemical Engineering 2	1	1,3%
Automotive Engineering 4	1	1,3%
Total	75	100%

According to the research results above, the number of respondents based on class pharmacy technology 1 was 35 people (46,7 %), based on class pharmacy technology 2 was 34 people (45,3%), based on class computer network and telecommunication engineering 1 was 2 people (2,7%), based on class automotive engineering 2 was 2 people (2,7%), based on class industrial chemical engineering 2 was 1 people (1,3%) and based on class automotive engineering 4 was 1 people (1,3%) .

Table 4 Characteristics of Respondents Based on Burn Experience

Burn Experience	F	%
Ever	71	94,7%
Never	4	5,3%
Total	75	100%

According to the research results above, the number of respondents based on burn experience ever was 71 people (94,7 %) and based on burn experience never was 4 people (5,3%).

Table 5 Characteristics of Respondents Based on Information About Burn First Aid

Experience getting information about burn first aid	F	%
Ever	29	38,7%
Never	46	61,3%
Total	75	100%

According to the research results above, the number of respondents based on information about burn first aid ever was 29 people (38,7 %) and respondents based on information about burn first aid never was 46 people (61,3%).

Table 6 Average Level of Knowledge Before being given Health Education with Picture Quiz Media About First Aid for Burns in Vocational High School Students

Knowledge	F	%
Good (76-100%)	22	29,3%
Fair (56-75%)	27	36,0%
Poor (<55%)	26	33,3%
Total	75	100%

Based on the results of the study above, the characteristics of knowledge before being given health education with pictorial quiz media about first aid for burns from 75 respondents of SMK N 1 Sawit students obtained the most results in the moderate category as many as 27 people (36.0%) followed by a category of less as many as 26 people (33,3%) and a good category of 22 people (29.3%).

**Table 7 Average Knowledge Level after being given Health Education
with Picture Quiz Media About First Aid for Burns in School Students
Vocational High School**

Knowledge	F	%
Good (76-100%)	64	85,3%
Fair (56-75%)	8	10,7%
Poor (<55%)	3	4,0%
Total	75	100%

Based on the results of the study above, the characteristics of knowledge after being given health education with pictorial quiz media about first aid for burns from 75 respondents of SMK N 1 Sawit students were found to be in the good category as many as 64 people (85.3%), followed by the moderate category as many as 8 people (10.7%) and the poor category as many as 3 people (4.0%).

b. Bivariate Analysis

Table 8 Effect of Health Education with Picture Quiz media on burn first aid

Variabel	N	Median (Min-Max)	Mean	SD	<i>p-value</i>
Effect of Knowledge Before education with pictorial quiz media	75	6 (2-9)	6,29	1,858	0,00
Effect of Knowledge After health education with pictorial quiz media	75	9 (5-10)	9,00	1,305	

Based on the table above, the Wilcoxon test results show a significance value of $0.000 < 0.05$ or smaller than 0.05, meaning that there is a significant difference between the level of knowledge before and after health education with illustrated quiz media.

Discussion

a. Univariate Analysis

1. Respondent Characteristics

a) Gender

The characteristics of respondents based on gender were mostly female 64 people (85.3%). According to (Sherestha and Gurung 2018) knowledge of information seeking habits is influenced by gender. Women have higher mortality than men due to burns. Often men are reluctant and less motivated in receiving health-related information in everyday life.

b) Age

The characteristics of respondents based on age were mostly 17 years old, 41 people (54.7%). According to (Marisda, 2019) vocational school-age children are at the formal operation stage, meaning that students aged 16-17 years old can absorb knowledge at this age.

c) Class

The characteristics of respondents based on the majority of classes majoring in Pharmaceutical Technology 1 were 35 people (46.7%). According to (Setiawan, 2017) students outside of pharmacy classes tend to get less health information than students in pharmacy classes which they get through the learning process. Whereas students who are in pharmacy classes are more likely to be taught related to health topics.

d) Based on Burn Experience

Characteristics of respondents based on the experience of getting burned, the majority of respondents had experienced burns, 71 people (94.7%). According to (Herlianita, dkk, 2020) that knowledge is influenced by the experience and emotions concerned such as agreeing-disagreeing for attitudes must be in line with the knowledge gained from health education so as to create a good attitude (positive).

e) Experience Getting Information About Burns

Characteristics of respondents based on the experience of getting burns, the majority of respondents never received information about burns, 46 people (61.3%). The researcher's opinion states that the ease of obtaining information can help accelerate students in interacting with their environment, on the other hand, the lack of approach and information obtained from information media will affect the level of student knowledge.

b. Bivariate Analysis

The Effect of Health Education with Picture Quiz Media on Knowledge of First Aid for Burns in Vocational High School Students.

Based on the results of the Wilcoxon Test, it shows 0.00 or <0.05 , so H_0 is rejected and H_a is accepted. So it can be interpreted that there is an effect of health education with pictorial quiz media on knowledge of first aid for burns in vocational high school students.

Respondents in this study experienced an increase in knowledge after health education was conducted. This is due to the health education intervention carried out in providing knowledge about burn first aid. Of the 4 aspects of knowledge about burn first aid, there are aspects that have been well understood by grade 11 students, namely the definition of burns, causes of burns and manifestations of burns. The remaining aspect that is still poorly understood is the aspect of burn management. This is due to habits and traditions that are commonly practiced for generations such as using toothpaste, herbal oil and flour.

Therefore, the study is in line with (Notoadmodjo, 2018) which states that one of the factors that influence knowledge is information. New information received by a person will provide a new cognitive foundation for the formation of this knowledge. This study is in accordance with the theory that the goal of health education is to increase knowledge to change behavior.

Conclusion

The knowledge of students before and after health education has increased and from the results of the Wilcoxon test (p value $0.00 < 0.05$) shows that "There is an Effect of Health Education with Pictorial Quiz Media on Knowledge of First Aid for Burns in Vocational High School Students".

Suggestion

For Educational Institutions It is hoped that the results of this study can be used as a source of reference or additional literature, especially in the field of medical-surgical nursing. reference sources or additional literature, especially in the field of emergency nursing. For Institutions where research is expected to increase knowledge and be active in obtaining information from various reliable sources to find out how to properly first aid burns. For Other Researchers It is hoped that other researchers can use this research as a literature review or

reference in conducting research, especially regarding ROM and delirium. The recommended health education is animation media or can be combined.

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