

Original Article

THE EFFECT OF FRACTURE HANDLING SIMULATION THROUGH TV TUBE STREAMING ON STUDENT PREPAREDNESS IN HANDLING FRACTURES AT HIGH SCHOOL AL ISLAM 1 SURAKARTA

Sutiyo Dani Saputro¹⁾, Anissa Cindy Nurul Afni¹⁾, Heri Suroso^{2)*}, Saelan¹⁾, Bintari Ratih Kusumaningrum³⁾

¹⁾ Faculty of Health Science, University Kusuma Husada, Surakarta, Indonesia

²⁾ Nursing Department STIKES Adi Husada, Surabaya, Indonesia

³⁾ Faculty of Nursing, University of Brawijaya, Malang, Indonesia

*Corresponding Author, E-mail: herisos39@gmail.com

ABSTRACT

Background. Injuries from accidents in the school environment generally occur in the musculoskeletal system and must be treated quickly and appropriately. Injury will cause bleeding, bone deformity or disability and even death. Splint dressing relief can be performed by any trained layperson. One of the lay people trained at school is a student who has received basic emergency education. Improving fracture treatment in students can be done by online simulation using Streaming Tv Tube. The purpose of this study was to determine the effect of fracture handling simulation through TV Tube streaming on student preparedness in handling fractures

Research Method. This type of research is a quantitative study using a Quasi-Experimental research design with a pre-post-test without control by providing a TV Tube streaming simulation intervention in one group without a comparison. The research sample was 43 students of SMA Al Islam 1 Surakarta. Data analysis was performed using the Wilcoxon test

Findings. The results of the Wilcoxon test showed a p-value of 0.000 so there was an effect of simulation on handling fractures through streaming TV tube on students' preparedness in handling fractures.

Conclusion. There is a difference in students' preparedness in providing treatment for fractures before and after being given a fracture handling simulation intervention via TV Tube streaming. Before being given the intervention, it was shown that almost all respondents had almost ready preparedness, whereas after being given the intervention, most of the respondents had ready preparedness.

Keywords: Fracture, Preparedness, Simulation, Streaming, TV Tube.

BACKGROUND

An emergency is a life-threatening condition that requires proper, fast, and accurate help. If not can result in disability or death. Emergency conditions can occur anywhere, anytime, and also occur in areas covered by health workers or relief teams, so in these conditions the role of the community to help victims before being treated by health workers becomes very important.[1]

The World Health Organization (WHO) noted that more than 5.6 million people died from traffic accidents and 1.3 million people suffered from fractures. One of the incidents of accidents with a high prevalence is the incidence of lower extremity fractures with a prevalence rate of 40% of incident accidents.[2] Based on the results of Basic Health Research by the Health Research and Development Agency in 2018, in Indonesia, the incidence of fractures was recorded at 5.5% in Indonesia Central Java, the fracture rate was 6.2%. Injuries from traffic accidents will increase in 2020 and will become the world's third biggest killer after coronary heart disease and depression.[3]

One study in Finland (Europe) in 2014 regarding the school environment and injuries at school as many as 722 injuries were classified, in 11.6% injuries obvious physical environmental factors, and 28.1% injuries from the physical environment were suspected as risk factors. So that the school environment is a factor in (39.7) of injuries that occur at school, in the school environment or during the trip to school. Injuries that occur in the school environment are more common in boys than girls. While another study stated that the injuries suffered by high school students were 26.4 on the road, 23.1% occurred at school, 28.6% were in sports activities, and 22% occurred at home. In one study in Vancouver, British Columbia (Canada) the rate of accidents that occurred in the school environment was 1.8% of 100 children, injuries which included bleeding, sprains, fractures (broken bones) and brain concussion were 0.09% of 100 children. Meanwhile, another study stated that the injuries suffered by high school students were 26.4% on the road, 23.1% occurred at school, 28.6% for sports activities, and 22% occurred at home.[3]

Injuries from accidents in the school environment generally occur in the musculoskeletal system and must be treated quickly and appropriately. Otherwise, it will cause more severe injury and can trigger bleeding. Other impacts that occur can result in bone deformities or disability and even death. To prevent injury to the musculoskeletal system, splint dressing assistance is needed through education.[4] Knowledge itself is influenced by many factors such as education, age, environment, and socio-culture.[5]

The level of education has a relationship with the level of knowledge, where the level of education is able to influence a person's level of knowledge. It is expected that the higher a people level of education, the higher the level of knowledge. Health education is an effort or activity to help individuals, groups and communities in improving their abilities in terms of knowledge, attitudes and skills to achieve optimal healthy living[6], even by requiring all students to receive first aid education before graduating from junior high school and advanced first aid before graduating from high school or before getting a driver's license,

then we can ensure that in the next two generations, everyone at the scene of an accident or in acute illness will be better able to save life and limb until professional help arrives.[7]

Splint dressing relief can be performed by any trained layperson. One of the laypeople trained at school is a student who has received basic emergency education. Basic nursing education is provided through the Youth Red Cross (hereinafter abbreviated as PMR) extracurricular.[8] The results of research conducted by Sari entitled the effect of splint dressing training on the knowledge and skills of students at SMA Negeri 2 Sleman Yogyakarta mostly experienced an increase in knowledge from before and after being given training high knowledge 6.7% to 66.7% and low knowledge decreased from 43.3% to 10.0%.[8]

One of the media that can be used in the modern era to improve health standards and be able to communicate or consult with health services online is to use internet media or websites. Eight out of ten American adults have searched the internet for medical information.[9] YouTube and TV Tube have over one billion users and continue to be one of the three most commonly used internet video sites. In addition, the absence of editorial evaluations of videos uploaded to the site also continues to be the subject of discussion in the literature about their qualifications to inform the public.[10] Due to its worldwide prevalence, osteoporosis is considered a serious public health problem, and however, in the literature there are no assessment studies about osteoporosis on YouTube and TV Tube.[11] The purpose of this study was to determine the effect of Fracture Handling Simulation Through Tube TV Streaming on Student Preparedness in Handling Fractures at SMA Al Islam 1 Surakarta.

RESEARCH METHOD

This type of research was a quantitative research with a Quasy Experiment research design pre and post-test without control group design. The population in this study were all PMR members at High School Al Islam 1 Surakarta, consisting of 48 students. This study used a purposive sampling technique. Inclusion criteria: 1) Respondents are willing to participate, 2) Respondents have never received training or socialization on fracture management, 3) Respondents are students of class XI and XII. The number of samples in this study were 43 students. This research was conducted on April-June 2021. The instrument in this study was a fracture preparedness questionnaire adopted previous research[14] and the intervention was fracture handling simulation through Tube TV Streaming. Data analysis was used the Wilcoxon test.

FINDINGS

Table 1. Characteristics of Respondents Based on Age and Gender

Characteristics	Min	Max
Age	15	18
Gender	F	%
Male	9	20.9
Female	34	79.1
Total	43	100

Table 1 shows that the youngest respondent is 15 years old and the oldest is 18 years old. The characteristics based on the gender of students at SMA Al Islam 1 Surakarta mostly are female (79.1%).

Table 2. The Effect of Simulated Handling of Fractures Through Streaming Tv Tube on Students' Preparedness in Handling Fractures at SMA Al Islam 1 Surakarta

Variable	Pre-Test		Post-Test		P-Value	Z
Preparedness	F	%	F	%		
Less Ready	3	7.0	0	0	0.000	-5.887
Almost Ready	35	81.4	1	2.3		
Ready	4	9.3	25	58.1		
Very ready	1	2.3	17	39.5		
Total	43	100	43	100		

Based on table 2, it shows that before being given a simulation intervention for handling fractures through streaming Tv Tube, almost all respondents (81.4%) had almost ready preparedness, whereas after being given a simulation intervention for handling fractures via streaming TV Tube, most of the respondents (58.1%)) have preparedness ready. The results of the Wilcoxon test showed that the p value of preparedness was 0.000, meaning that there was an effect of simulated fracture management through streaming TV Tube on student preparedness in handling fractures at SMA Al Islam 1 Surakarta.

DISCUSSIONS

Characteristics of Respondents

Based on table 1 shows that the youngest student is 15 years old, and the oldest is 18 years. This research is in line with the research of Listiana, Effendi & Oktarina, which shows that the majority of respondents (73%) who are registered as PMR members at SMA N. 4 Bengkulu City are women [12]. Research by Warouw, Kumaat & Pondaag, shows that the majority of students are in the 15-18 year range of 16 students (100%) [13]. Adolescence

has the ability to analyze and reason around the phenomena around it, including about first aid in accidents [13].

Distribution Preparedness of Students in Handling Broken Bones

Preparedness for handling broken bones before the simulation was mostly almost ready as many as 35 students (81.4%). Preparedness for handling broken bones after the simulation was mostly ready as many as 25 students (58.1%). Students before being given earthquake disaster management training had the most preparedness in the ready category, 11 children (50%) and the lowest preparedness was in the unprepared category, 1 child (4.6%). The students who were given the most preparedness training in the very ready category were 18 children (81.8%) and the least in preparedness with the ready category were 4 children (18.2%) [14]

Based on table 2, it shows that after being given a fracture handling simulation intervention via Tv Tube streaming, most of the respondents (58.1%) had preparedness.. Yulianto's research showed that the level of preparedness of Gatak 1 Public Middle School students in dealing with disasters was included in the very prepared category and the use of disaster learning media had an effect on the level of student preparedness [14]. Cahayanti's research explains that applying the simulation method can increase student preparedness [14]. Research by Daud, shows that disaster preparedness training with a hands-on practice model imitating actions such as during an earthquake can increase the preparedness of the SMAN 5 Banda Aceh community [15].

Effect of Simulated Fracture Handling Through TV Tube Streaming on Students' Preparedness in Handling Fractures at SMA Al Islam 1 Surakarta

The preparedness p value of 0.000 means that there is an effect of simulation of handling fractures through streaming Tv Tube on student preparedness in handling fractures at High School Al Islam 1 Surakarta. Social Networking is a web-based service that allows individuals to build public or semi-public profiles in bound systems, articulate lists of other users with whom they share connections, and view lists of connections made by other people and systems. Social networks are not only used for communication but are used for education as well. Studies also show that social networking tools support educational activities by creating interaction, collaboration, active participation, sharing of information and resources and the possibility of critical thinking [15].

Tube TV can also stimulate active learning and provide additional knowledge beyond the expected capabilities. Youtube can be a source of learning and learning media that can meet the demands of the digital generation. Youtube can increase interest and support the

learning style of the digital generation. Apart from that, Youtube also provides hundreds of thousands of videos with various topics that can be integrated into classroom learning. Youtube and TV Tube will also become very extensive free video libraries for students which will encourage them to become independent learners [16].

Visualization is a learning technique that can make a material concept visible to the senses of sight in a real way [17]. Visualizing the problem at hand helps to facilitate problem solving, so in essence that visualization is definitely enough to convince oneself about the truth of a problem [18].

The development of the modern world is followed by the growth of sophisticated technology that can change various educational models, including the selection of learning models for nursing students [19]. Yunus, also explained in their research that technology that has components in the form of images, sound, and motion animation has the advantage of being easy for someone to remember so that it can increase motivation and decrease knowledge [20]. According to Jenson & Forsyth, that one of the strategies in innovative learning models that use technology is the use of instructional audio-visual videos which can provide real application concepts from nursing procedures or other nursing experiences in video form [21]. The use of this model will provide an understanding of understanding and skills [22]. Likewise, in research conducted by Smith and Hamilton, regarding the effect of instructional video as a learning strategy for nursing students, it shows that the learning model with instructional videos makes it easy for nursing students to improve clinical skills for basic nursing competencies [23].

A person's preparedness is related to age, gender, occupation and education. In line with Abu Ahmadi's theory in Hanifah's research which explained that indeed a person's memory is one of them influenced by age and it can be concluded that increasing age can affect the increase in knowledge gained, it can be concluded that age is still productive and has high opportunities in receive education [24]. Nugroho in Fitriana explained that gender is something that is permanent and cannot be used as an analytical tool to predict the reality of life [25, 26]. It can be concluded that there is no significant relationship between gender and one's preparedness.

CONCLUSION

There is a difference in students' preparedness in providing treatment for fractures before and after being given a fracture handling simulation intervention via Tv Tube streaming. Before being given the intervention, it was shown that almost all respondents had

almost ready preparedness, whereas after being given the intervention, most of the respondents had ready preparedness. The application of digital systems in counseling or training shows effective results in increasing preparedness and more efficient applications and can be done anywhere and anytime.

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