

Establishment of Layperson First Aid Burn Cases With E-Fa Game Technology

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Abstract

Burns that occur in children are a vital health problem but are not as widely disclosed as compared to adults. Thermal burns most often occur in children, either from fire or hot water. Children are an age group that is vulnerable to injury due to curiosity about things around them. One injury that often occurs in school-aged children is burns. The results of the situation analysis and discussions with partners formulated one problem, namely: lack of information, knowledge and understanding and related to the problem of first aid in groups of students at school, especially in providing first aid for burns. The proposer offers through PKM in first aid for burns using Education First. Aid (E-Fa Game) as promotional media. In this PKM activity, the school as a partner participates in program implementation by providing human resources, namely students and teachers in this activity.

Keywords: Burn, Efa Game, First Aid, Knowledge

Introduction

Burns are the main cause of crisis conditions and major trauma injuries that are at risk of causing various problems, resulting in tissue death conditions. Burns are injury conditions that occur in skin tissue or other tissues caused by radioactivity, electric current, friction of hot objects, or exposure to chemicals. Burns that occur in children are a vital health problem but have not been able to be revealed more widely than adults. Age, sex, cause of burns, characteristics of burns, depth of burns and degree of burns can be used as indicators of morbidity and mortality rates in burn cases. Thermal burns are most common in children, either due to fire or hot water (Christie et al., 2018).

The prevalence of burns in the world is still relatively high, evidenced by the death rate that reaches around 180,000 victims die each year. The majority of burns in the world occur in low- to middle-income countries, data shows that Africa and Southeast Asia contribute the highest number of 60% of deaths each year. The number of deaths due to burns as many as 3,275 has occurred every year due to fire, vehicle accidents, smoke inhalation, hot objects, contact with electricity and hazardous chemicals (Adimaharani, 2019).

Data from the Basic Health Research of the Ministry of Health in 2018 states that burns rank sixth cause of accidental injuries after falling 40.9%, motorcycles 40.6%, sharp or blunt objects 7.3%, other land transportation 7.1% and falls 2.5%. The results proved that children are the

group most at risk of burn injuries and someone who is exposed to burns at home, hot liquids and fire are the most frequent causes (Intansari, 2018).

The causes of burns as parameters of morbidity and mortality rates. Indiscriminate use of combustible materials leads to more trauma from burns. Fire-induced burns more often cause life-threatening inhalation trauma. This trauma is caused by inhaling harmful gases or hot vapors that can cause laryngeal edema so as to block the airway (airway obstruction), mucosal damage, stridor, lung damage to cause Acute Respiratory Disease Syndrome (ARDS) and result in death (Christie et al., 2018) It is important to understand the main causative agent of burns. As shown in the study of (Souza Lima et al., (2017), hot water is more at risk of occurring in children, considering the majority of children's body composition is water so they are at risk of dehydration and even hypovolemic shock.

Prevention and first aid in injuries especially limb injuries are essential in schools to create safe schools for children. This is also supported by the Safe Community program launched by WHO for accident prevention, increasing community capacity in preventing injuries and health organizations are important in this program. The implications that can be done in the school environment are increasing the knowledge of school residents in dealing with injuries and doing P3K that can be applied in the school environment and at home (Spinks et al., 2009). Providing first aid is an important thing to do in the school environment considering that schools are locations with a high risk of extremity injuries. In addition, education is also needed to increase one's confidence before handling injuries (Nastiti, 2020).

The development of the times followed by the latest innovations is one solution to provide information to school-age children in providing first aid in burn cases. E-Fa Game media is one of the technological innovations that can be used as a medium for delivering information. E-Fa Game is one of the first forms of application-based games that can be operated using Android as a medium in delivering learning in the form of first aid in injury cases in school-age children (Nastiti & Darotin, 2022). Based on this background, the Community Partnership Program (PKM) of schools in rural areas of Jember Regency, educational facilities can be used as partners in expanding students' knowledge and skills in providing first aid as an effort to form students who are Resilient and Emergency Response in providing assistance to friends or family, especially in cases of burns.

Identification of Problems

The focus of community service activities will be carried out at SPMN 1 Kalisat as one of the first level schools in rural areas with low knowledge about first aid due to lack of information, ignorance, unwillingness and lack of student motivation in accessing information. Analysis of the situation in the field with partners and teachers found that there were quite a lot of burns in the area. In addition, information was obtained that so far, the skills in providing first aid have been provided through extracurricular scouts and PMR but students feel less sure about the procedures carried out are correct or there are still shortcomings. So many students say they have not been optimal in providing first aid when there are burn cases. Therefore, schools and students need first aid education media that suits the needs of junior high school students and their growth and development.

Based on the results of the study of the partner problems above, it can be concluded that there is a need for PKM in junior high school student groups through the formation of Peer Groups in first aid for burn cases. This PKM program is an application of research results on the development of first aid education technology for junior high school children from (Nastiti & Darotin, 2022). Therefore, this PKM program takes this theme in an effort to improve access and quality of first aid health education in burn cases.

Implementation Methodology

In the application method section, describe clearly and concisely the methods used to achieve the goals that have been proclaimed in the service activity. The results of the service must be measurable and the author is asked to explain the measuring instruments used, both descriptively and qualitatively. Explain how to measure the level of success of service activities. The level of achievement can be seen in terms of changes in attitudes, socio-culture, and economy of the target community.

The implementation of activities will be carried out with several activities below, including:

1. **School Community Deliberation**

In the first month, the activity began with a meeting between the PKM proposal team and school partners. The school's community meeting was attended by teachers and student representatives. This activity aims to introduce the proposer team with the partners involved. In addition, in the first step, a deliberation was also held on the possibilities that could occur during activities related to student and teacher activities.

2. Health Education and Use of E-Fa Game Technology

In the second month, participants carried out first aid Health Education using E-Fa Game technology, containing quiz materials accompanied by materials and videos containing first aid materials including burn cases will be studied by students in 2 weeks in the second month of PKM. Every week the activities carried out will be assisted by the proposer team. Program success will be evaluated in the fourth week of the second month using knowledge and skills questionnaires.

The role descriptions and duties of each team are as follows:

No	Name	Affiliation	Expertise	Job Description
1	Rida Darotin	Universitas dr. Soebandi	emergency in nursing	a. PKM team leader b. Program planning c. Supervision and guidance of activities d. Program evaluation e. Report preparation
2.	Eky Madyaning Nastiti	Universitas dr. Soebandi	emergency in nursing	a. Coordinator of peer group formation b. Program assistance c. Health Education Interventions to companions d. Program sustainability evaluation
3.	Feri Ekaprasetya	Universitas dr. Soebandi	emergency in nursing	a. Evaluation of the sustainability of technology-related programs b. Making output in the form of activity videos

Results and Discussion

Tabel 1 Identify Respondents by Age

Age	Frekuensi (f)	Presentase (%)
12	5	5,2
13	76	79,2
14	15	15,6
Total	96	100,0

(Data Source: Primary Data 2023)

Based on table 1, it is known that the identification of respondents based on the type of age of the majority of 13 years old was 76 respondents with a percentage of 79,2%.

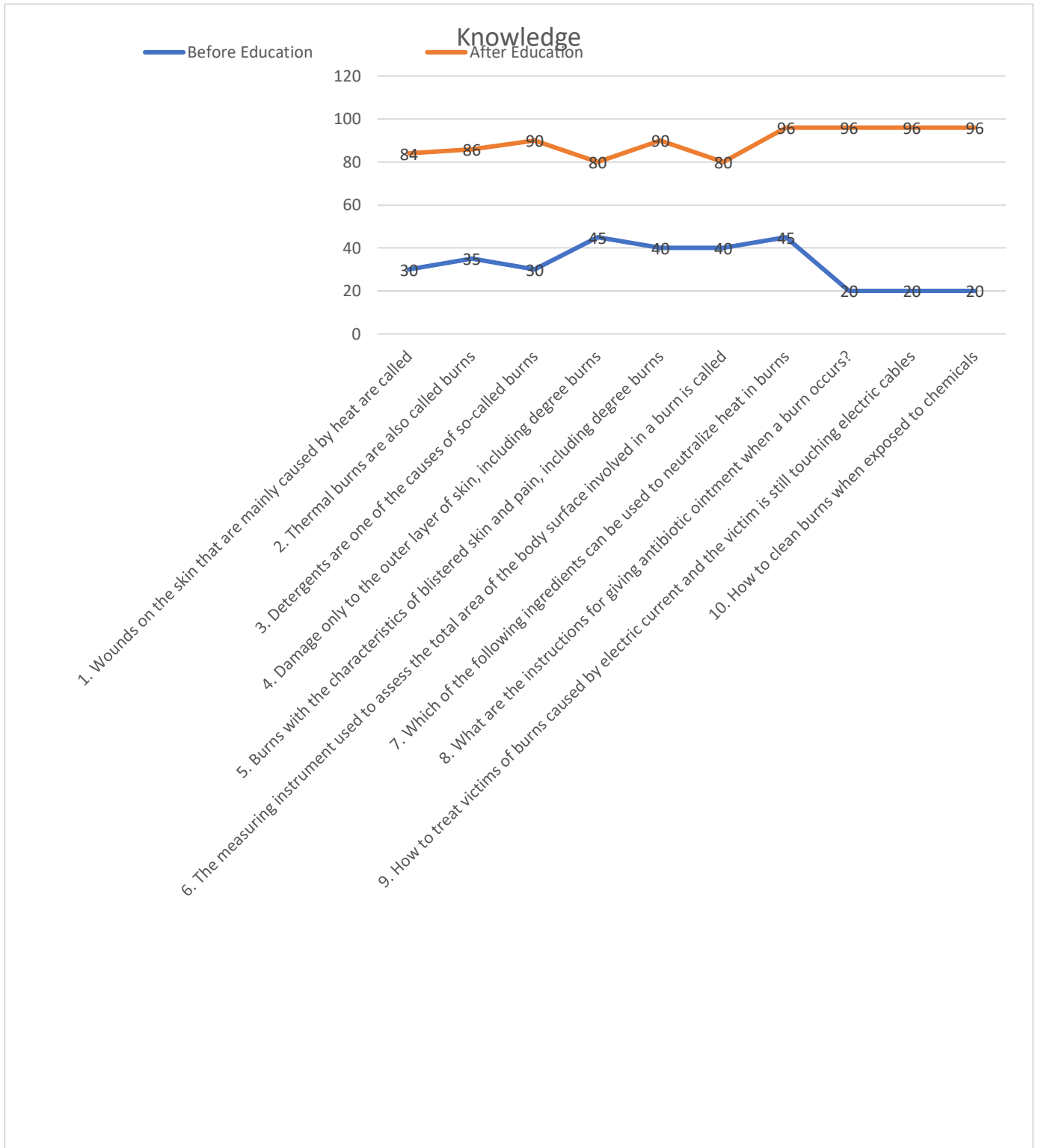
Tabel 2 Identifikasi Responden Berdasarkan Jenis Kelamin

Sex	Frekuensi (f)	Presentase (%)
Boy	52	54,2
Girl	44	45,8
Total	96	100,0

(Data Source: Primary Data 2023)

Based on table 2, it is known that the identification of respondents based on gender, the majority of men were 52 with a percentage of 54,2%.

Tabel 3 Knowledge Identification of SMPN 1 Kalisat Students





Picture 1 Community service activities carried out by Ns. Rida Darotin S.Kep., M.Kep. at SMPN 1 Kalisat

Activities carried out in the form of activating Layperson in order to realize emergency alert schools in handling burns in the form of exposure to the E-fa Game (Education First Aid) application about burns (Combutio) aim to increase the knowledge and awareness of junior high school students on events that often occur in the school environment but do not know what actions should be taken due to lack of knowledge and limitations in making decisions according to level age. Junior high school students in the adolescent age category. Teenagers are not yet considered capable of making decisions. While the most important aspect of adolescence is the ability to make decisions and self-determination is the phase towards maturity. This phase is supported by the ability of junior high school students who are expected to have a mindset to make a plan in achieving a goal for the future. The inability of junior high school students to make decisions can result in the student not achieving a complete person in themselves. Therefore, the skill to make decisions is a competency that must be possessed by adolescent students, namely junior high school students (Rofiq, 2016).

The form of evaluation and target achievement in this activity is to introduce basic emergency measures through the Efa Game (Education First Aid) application about burns (Combutio) in junior high school students as an effort to increase awareness and early decision-making actions if emergency conditions are found in the immediate environment, including one of them where the school is also ranked first in the occurrence of burn cases (Risksedas, 2018). Conditions that cause burns in children including school children are usually caused by scalded, contact with hot steam, drinking hot water or accidents when playing with fire, for example hot steam firecrackers (firecrackers). The severity of the burn is based on the depth, color, location, surface area of the body, complications, and the cause of the wound. The extent of damage to body tissues can be used as an indicator of the state of a person's injury. The condition of the wound is classified into 3 degrees, namely burns of degree I, degree II, and degree III (Hamdiya et al., 2015). Management in terms of making first aid decisions in burn cases is influenced by the perception and willingness of the helper. Perception itself is defined as a person's view of experience of events or objects, namely how to perceive, interpret and assess an event based on information and interpretation of messages that have been obtained (Rahardian, 2017).

Before the process of forming a Layperson through the Efa Game (Education First Aid) application, the implementation of activities identified several things that were known and often done by those closest to students both in the home and school environment if there were burn cases, some of the answers submitted by students were still mostly in the category of not in accordance with the management of burns, namely the administration / use of topical antimicrobial creams or ointments and sterile dressings. The answer given by students before health education related to first aid burns was given toothpaste, soy sauce, coffee grounds, and some traditional concoctions. Applying creams, ointments, lotions or butter/cooking oil applied to minor burns can trigger infection. In addition, the provision of first aid with non-conventional or inappropriate traditional medicine can delay the healing process (Hamdiya et al., 2015). First aid measures delivered in health education are in accordance with (Walsh et al., 2013), namely first aid carried out is to remove clothing or something attached to the burn area, rinse with running water, and bandage the wound using a sterile cloth. First aid carried out in accordance with the guidelines will minimize negative impacts and can speed up the recovery process of burn conditions (Kattan et al., 2016; Wood et al., 2016).

Conclusion

The establishment of layperson *first aid* burn cases with E-Fa Game technology shows that:

1. Before being given health education through the E-Fa Game, knowledge results were obtained in the category of lack in students of SMP 1 Kalisat
2. After being given health education through the E-Fa Game, knowledge results were obtained in the good category for students of SMP 1 Kalisat

Acknowledgments

Thanks to LPPM Universitas dr. Soebandi who supported the implementation of Community Service.

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