The Influence of Integrated Emergency Response System (SPGDT) Health Education on Pre-Health Services on Residents' Knowledge of Maternal Emergencies in the Work Area of the Plaju Health Center

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ABSTRACT

Background: The Integrated Emergency Management System (SPGDT) is an emergency patient management system consisting of pre-hospital service elements, in-hospital and inter-hospital services. Quick response services to reduce the number of victims and avoid disability, by involving the community, competent health workers (nurses and medical personnel), emergency ambulance services and communication systems. Objective: To determine the effect of SPGDT health education on pre-health services on residents' knowledge of maternal emergencies. Methods: This research was a Quasi Experiment with a nonequivalent pretest-posttest non-control group design which was carried out in July 2023 in the working area of the Plaju Palembang Health Center and a sample of 28 people were given health education about SPGDT in pre-health services to residents' knowledge about maternal emergencies. The media used was a booklet compiled by the researcher himself. Data analysis used the Wilcoxon test. Results: Health education statistics on prevention of pregnancy emergencies; Unsafe Abortion in Adolescents is effective in increasing respondents' knowledge with a value of 0.000. Conclusion: statistically health education is effective in increasing respondents' knowledge about SPGDT in Pre-Health Services Against Residents' Knowledge of Maternal Emergencies in the Work Area of Plaju Palembang Health Center with a P value of 0.000. Suggestion: Suggestions for further research, namely that further research can be carried out discussing the effectiveness of health education to prevent pregnancy emergencies in pre-health services using other media.

Keywords: Health Education; Knowledge; Pre Hospital; pregnancy emergencies; Small books; SPGDT
INTRODUCTION

An emergency condition is a condition resulting from a disease or physical injury that can threaten a person's life. Emergency conditions can occur in the pre-hospital or in the hospital. Emergency services provided in the pre-hospital environment are a series of complex service systems and their presence is required within the framework of emergency services (WHO, 2016).

SPGDT is an emergency patient management system consisting of pre-hospital service elements, in-hospital and inter-hospital services. Services with a quick response reduce the number of victims, by always saving time to save lives and avoid disability, which involves services by the community, competent officers (nurses and doctors), emergency ambulance services and communication systems (Ministry of Health RI, 2016). (Yudhanto et al., 2021). SPGDT consists of five components, namely communication systems, education, transportation, funding, and quality control. Communication in SPGDT related to the clarity of where the news is about an emergency incident submitted, an important number to call when in a condition emergency services and the delivery of communication in times of emergency emergency (WHO, 2016).

Obstetric and neonatal emergencies are conditions that can threaten a person's life, this can occur during pregnancy, during childbirth and even during pregnancy. There are so many diseases and disorders during pregnancy that can threaten the safety of the mother and the baby to be born. (Purwani et al., 2022) According to the World Health Organization (2019), around 810 pregnant women die every day due to complications related to pregnancy and childbirth. The main complications that cause nearly 75% of all maternal deaths in the world are due to bleeding, infection, preeclampsia and unsafe abortion (WHO, 2019). Maternal emergencies in Indonesia in 2019 are bleeding, hypertension in pregnancy, infections, metabolic disorders, and others (RI Ministry of Health, 2019). Around 25-50% of maternal deaths are caused by problems related to pregnancy, childbirth and the puerperium (WHO, 2018).

Various obstacles in maternal emergencies from the perspective of pregnant women are delays in making decisions, delays in reaching health facilities, and delays in the treatment to be carried out. This is influenced by status in the family, severity of disease, lack of cultural and traditional knowledge, distance to health facilities, transportation barriers, dissatisfaction with health service providers, and costs to be incurred (Desai et al., 2014).

Maternal Mortality Rate (MMR) will be 70 per 100,000 live births in 2030. According to the Indonesian Demographic and Health Survey (SDKI) data, the Maternal Mortality Rate (MMR) in Indonesia increased from 228 per 100,000 live births in 2002-2007 to 359 per 100,000 live births in 2007-2012. The Maternal Mortality Rate (MMR) decreased in 2012-2015 to 305 per 100,000 live births and the number of maternal deaths in Indonesia in 2019 was 4,221 cases (Ministry of Health RI, 2019).

Presence of pre-hospital emergency services as the front line and the fastest in dealing with various clinical threat situations that can be experienced by everyone, at unpredictable times and locations. Therefore, it is necessary to send aid as soon as possible and seek appropriate assistance (WHO, 2009). Prehospital is all activities that include aspects of planning and management aimed at preventing loss of life and reducing human suffering (Pusponegoro & Sujudi, 2016). Pre-hospital emergency services can be carried out both at the scene of the incident and during the referral process by remembering the principles of immediate evacuation and referring or staying and stabilizing the patient at the scene of the incident. (Muskananfola, 2020).

Community participation is expected to contribute to the handling of these emergencies since they are still at the scene. The existence of the community as a first aider (MPP) or Community First Responder (CFR), namely someone who voluntarily provides emergency...
medical assistance in the community where they are, especially in areas that are rather difficult to reach by ambulance assistance (Atma Jaya, 2017). Public Safety Center (PSC) 119 is a service for emergency cases quickly, precisely and accurately to the public before being referred to the hospital (prehospital) and in carrying out their duties can cooperate with cross-sectors such as the police, fire service, transportation service, communication and information service or other services according to the problems of the area. The public can receive PSC services through the 119 call center application system. (Pieter G et al., 2021) The community is a user of PSC 119 services both as an emergency victim and as the person closest to the emergency victim who responds to call PSC 119. In article 9 of the Minister of Health Regulation No. 19 of 2016 it is stated that the role of the community in the emergency response system is to have knowledge of PSC 119 in their area and how to ask for help through the 119 call center in the event of an emergency case that befalls themselves or those around them. (Ministry of Health Republic of Indonesia, 2016). Socialization is needed to the whole community about SPGDT so that when an emergency occurs they know what to do before health services are provided. Community preparedness in the initial handling of emergency cases such as maternal emergencies can be through the provision of education and outreach.

A person’s knowledge can be influenced by several factors such as sources of information, environment and education. The more people get good information from the environment, family, neighbors, print media and health workers can affect a person’s level of knowledge. The low level of knowledge of these mothers can be caused by the environmental conditions in which they live. Knowledge is closely related to education. Education, especially formal education can affect one’s mindset and digestibility of the information received. The higher a person’s education level, the higher the information that can be absorbed, so that it can affect one’s knowledge. In the education level distribution, most of the respondents had low and moderate levels of education with their last education being high school or junior high school, and only a small proportion had higher education levels. (Putu & Sukma, 2020)

Booklet is a medium for delivering health messages in the form of books that are made as attractive as possible containing pictures and writing. Usually the book is small so it is easy to carry everywhere. Booklets are written in concise, clear, easy-to-understand language in a short time (Widuri et al., 2021) Another advantage of the booklet is that it does not require an electric current, making it easier to use. Booklets are given to each individual so they can be studied at any time. In addition, the booklet media can also train the responsibilities of each respondent to increase knowledge through the booklet media. received . Each respondent can study the booklet at any time because it is in the form of a book and contains more information. (Kusumawati & Zulaekah, 2021).

MATERIALS AND METHODS

A. Research Stages

Data collection procedures in research are useful for facilitating researchers in completing research, this research goes through the preparation and implementation stages. The steps of this research are as follows:

1. Preparation phase

At this stage the researcher will take care of permits for research sites by submitting a research permit application letter from IKesT Muhammadiyah Palembang

2. Implementation Stage

The stages of implementing this research are as follows:

a. The researcher approached the respondents by explaining the purpose,
benefits and process of the research to be carried out.

b. If the respondent agrees to be a respondent, the researcher provides a questionnaire pretest sheet to answer questions related to health education material.

c. After filling out the PreTest questions, respondents were given health education using a booklet

d. Then the respondent was given a Questionnaire Sheet about the PostTest

e. After completing the PostTest questions, respondents were asked to fill out the attendance list.

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g. The data that has been collected is then analyzed using a computer program.

B. Location and Time of Research
This research was carried out in the Work Area of the Palembang Plaju Health Center, in June 2023.

C. Measured Variables
Measured variable in this study is described in chart 4.1 below:

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Education using Booklet</td>
<td>Knowledge</td>
</tr>
</tbody>
</table>

D. Population and Sample
1. Population
The population is an area that includes objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions (Sugiyono, 2010:215). The population in this study were the people in the working area of the Pelaju Palembang Health Center

2. Sample
The sample is part of the object under study and is considered to represent the entire population (Notoatmodjo, 2012). In this research, sampling used the Purposive Sampling method, namely sampling based on certain considerations made by researchers as many as 28 people.

E. Research design
The research design in this study is described in chart 4.2 below:

F. Data Collection and Data Analysis Techniques
Data collection was carried out using a questionnaire, and data analysis was carried out using univariate analysis.

a. Data processing
Data processing carried out by researchers is to analyze research so that correct and appropriate information is obtained. Data processing in a study consists of four stages: data editing, data coding, data entry, and data cleaning.

1) Editing
Is an activity to check the contents of the questionnaire whether the answers in the questionnaire have:

a) Complete: all questions have been answered.
b) Clear: the answer to the question is clear enough to read.
c) Relevant: whether the written answer is relevant to the question.
d) Consistent: Are there consistent answers between several questions related to the content of the answers?

2) Coding (coding)
Coding is an activity to change data in the form of letters into numbers or numbers. The purpose of coding is to simplify data analysis and speed up data entry. Coding of data results by writing numbers 1 and 2 in the answers on the questionnaire before being processed into the computer.

3) Processing (enter data)
Data is the answers from each respondent in the form of a "code" (numbers or letters) entered into a computer program or "software". There are various types of computer software, each of which has advantages and disadvantages.

4) Cleaning (cleaning)
When all data from each data source or respondent has been entered, it needs to be checked again to see the possibility of code errors, incompleteness, and so on, then corrections or corrections are made. This process is called data cleaning (data cleaning).

Data analysis

b. Data analysis
Data analysis was carried out using statistical methods using computer software with the following stages:

1) Univariate analysis
This analysis was carried out using descriptive statistics to get an overview of the frequency distribution of the variables studied.

2) Bivariate Analysis
Bivariate analysis in this study was used to analyze the relationship between the independent variable and the dependent variable. Before testing the hypothesis, the researcher interprets whether the data obtained has a normal distribution or not, because the choice of data presentation and hypothesis testing used depends on whether or not the data distribution is normal. The researcher conducted a data normality test using the Shapiro-Wilk test because the number of samples studied was less than 50 people. The data is said to be normally distributed if the p value is > 0.05 and is said to be abnormal if the p value is <0.05 (Dahlan, 2013).

To test the hypothesis, if the numerical data is normally distributed, bivariate data analysis uses a parametric test, namely the independent sample t-test. If the data is not normally distributed, bivariate data analysis uses the non-parametric test with the Wilcoxon test.

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RESULTS

Bivariate Analysis
To find out changes in knowledge scores before and after the intervention, the Wilcoxon test was carried out because the data were not normally distributed, as shown in table 5 below:

<table>
<thead>
<tr>
<th>Age</th>
<th>Before</th>
<th>After</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-8</td>
<td>60 (SD: 50)</td>
<td>62 (SD: 60)</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>9-16</td>
<td>60 (SD: 50)</td>
<td>62 (SD: 60)</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>17-25</td>
<td>60 (SD: 50)</td>
<td>62 (SD: 60)</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>26-35</td>
<td>60 (SD: 50)</td>
<td>62 (SD: 60)</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>36-45</td>
<td>60 (SD: 50)</td>
<td>62 (SD: 60)</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>46-55</td>
<td>60 (SD: 50)</td>
<td>62 (SD: 60)</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>56-65</td>
<td>60 (SD: 50)</td>
<td>62 (SD: 60)</td>
<td>0.12</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Based on table 5 above, it shows statistically that there was a significant increase in knowledge scores before and after the health education intervention in the respondents.

DISCUSSION

1. Overview of knowledge of residents in pre-health services regarding maternal emergencies prior to health education interventions

Various obstacles in maternal emergencies from the perspective of pregnant women are delays in making decisions, delays in reaching health facilities, and delays in the treatment to be carried out. This is influenced by status in the family, severity of disease, lack of cultural and traditional knowledge, distance to health facilities, transportation barriers, dissatisfaction with health service providers, and costs to be incurred (Desai et al., 2014).

According to the World Health Organization (2019), around 810 pregnant women die every day due to complications related to pregnancy and childbirth. The main complications that cause nearly 75% of all maternal deaths in the world are due to bleeding, infection, pre-eclampsia and unsafe abortion (WHO, 2019). Maternal emergencies in Indonesia in 2019 are bleeding, hypertension in pregnancy, infections, metabolic disorders, and others (RI Ministry of Health, 2019). Around 25-50% of maternal deaths are caused by problems related to pregnancy, childbirth and the puerperium (WHO, 2018).

Community participation is expected to contribute to the handling of these emergencies since they are still at the scene. The existence of the community as a first aider (MPP) or Community First Responder (CFR), namely someone who voluntarily provides emergency medical assistance in the community where they are, especially in areas that are rather difficult to reach by ambulance assistance (Atma Jaya, 2017). Public Safety Center (PSC) 119 is a service for emergency cases quickly, precisely and accurately to the public before being referred to the hospital (pre-hospital) and in carrying out their duties can cooperate with cross-sectors such as the police, fire service, transportation service, communication and information service or other services according to the problems of the area. The public can receive PSC services through the 119 call center application system. (Pieter G et al., 2021)

It is necessary to socialize the whole community about SPGDT so that when an emergency occurs they know what to do before health services are provided. Community preparedness in the initial handling of emergency cases such as
maternal emergencies can be through the provision of education and outreach.

An integrated approach to SPGDT in pre-health services regarding maternal emergencies helps increase residents’ knowledge in various dimensions, especially pre-health services.

2. Description of community knowledge in pre-health care about maternal emergencies after health education interventions

Public Safety Center (PSC) 119 is a service for emergency cases quickly, precisely and accurately to the community before being referred to the hospital (pre-hospital) and in carrying out their duties can work together with cross-sectors such as the police, fire service, transportation service, communication and information service or other services according to the problems of the area. The public can receive PSC services through the 119 call center application system. (Pieter G et al., 2021)

The community is a user of PSC 119 services both as an emergency victim and as the person closest to the emergency victim who responds to call PSC 119. In article 9 of the Minister of Health Regulation No 19 of 2016 it is stated that the role of the community in the emergency response system is to have knowledge about PSC 119 in their area and how to ask for help through the 119 call center in the event of an emergency case that befalls themselves or those around them. (Ministry of Health Republic of Indonesia, 2016).

This research is also in line with previous studies where booklet media can increase knowledge about the effect of health education on maternal nutrition knowledge. Information and personal experience are factors that influence knowledge. The development of technology will provide a variety of media that can influence public knowledge. (Nadiya & Rahma, 2020)

3. Description of Community Knowledge in Pre-Health Services About Maternal Emergencies before and after Health education interventions

Wilcoxon statistical test results

According to Syah (2013), education is a process to train someone with certain methods so as to gain knowledge, understanding, and how to behave according to needs. Meanwhile, health education is planned efforts to change the behavior of individuals, families and communities in achieving optimal health (Maulana, 2009).

Health education methods are generally divided into two, namely: the diactive method and the socratic or expressive method. The diactive method is carried out in one direction (one way method), the aim is to transfer information or knowledge, support changes in the concept of health, and motivate targets in large groups. Examples of didactic methods include lectures, seminars, conferences, films, leaflets, booklets, posters, writing in print media and radio broadcasts. Health education in this study uses video, so that it attracts the attention of respondents in participating in health education.

In essence, health education is an activity or delivering health messages to communities, groups or individuals. Health education or promotion is a process that has input and output. Activities carried out to achieve health education goals are influenced by many factors, including
Health education media serves to assist in the process of education or teaching. Media facilitates the transfer of knowledge to individuals through the five senses. The more the five senses are used in the transfer of information, the clearer it will be and the more understanding and knowledge will be obtained. A person’s learning outcomes obtained through direct (concrete) experience will provide information and ideas contained in that experience, because it involves the senses of sight, hearing, feeling, smell, and touch. Abstract symbols and ideas can be more easily understood and absorbed if given in the form of concrete experiences.

The results of this study are in line with the research conducted by Davis and Summers (2015) on "Applying Dale's Cone of Experience to increase learning and retention: a study of student learning in a foundational leadership course." In this study the health education media used were booklets, the use of booklets in Dale's cones, the experience of learning to read and listen, respondents could absorb the material presented as much as 30%.

Booklet is a medium for delivering health messages in the form of books that are made as attractive as possible containing pictures and writing. Usually the book is small so it’s easy to carry everywhere. Booklets are written in concise, clear, easy-to-understand language in a short time (Widuri et al., 2021). Another advantage of booklets is that they do not require an electric current, so they are easier to use. Booklets are given to each individual so they can be studied at any time. In addition, the booklet media can also train the responsibilities of each respondent to increase knowledge through the booklet media. received . Each respondent can study the booklet at any time because it is in the form of a book and contains more information. (Kusumawati & Zulaekah, 2021)

CONCLUSIONS AND SUGGESTIONS
Conclusion
Based on the results of research conducted in the Plaju Palembang Health Center work area with a sample of 28 respondents. The results of the research and with the expected research objectives, the following conclusions can be drawn:

Statistically, health education is effective in increasing respondents' knowledge about the Integrated Emergency Management System (SPGDT) in Pre-Health Services on Residents' Knowledge of Maternal Emergencies in the Work Area of the Plaju Palembang Health Center with a P value of 0.000. The knowledge score before and after being given health education experienced an increase in the average difference of 25.72.

Suggestions
For IKesT Muhammadiyah Palembang, research is expected to be used as a source of reference and scientific foundation in the development of science, especially in Maternal Emergencies. And for DIII Nursing Study Program Students, Faculty of Health Sciences, IKesT MP, this research can be used as as a source of information in increasing knowledge about SPGDT pre-health services in Maternal emergencies

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