



Quasi-Experimental Study on the Level of Knowledge of Fire Emergency Response to Health Workers at Tanah Abang Community Health Center 2023

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ABSTRACT

This study aims to analyze the difference in average knowledge scores before and after providing fire emergency response training to health workers at the Tanah Abang Community Health Center in 2023. This is quantitative research with a quasi-experimental study design using the one group pretest-posttest design method. The sample size in this study was 30 people. The results of the bivariate analysis found that there is a significant difference between the average knowledge score before and after the training. Community Health Center are advised to carry out training, socialization and fire emergency response simulations on a regular basis, carry out safety induction for new employees, make media posters for flammable materials and fire emergency response symbols, attach symbols in places where flammable materials are stored, and when providing further training and socialization can provide more time.

INTRODUCTION

Community Health Center is one of the primary healthcare facilities and serves as the frontline of healthcare services for both the community and individuals. In terms of fire risk classification, Community Health Center falls into the light category but still has the potential for fire incidents considering the activities that use electrical power, the presence of pressurized gas cylinders, and the use of flammable and explosive chemicals (Ministry of Manpower of the Republic of Indonesia, 1999).

Fire is an uncontrolled flame, meaning it is beyond human ability and need (Ramli, 2020). Fire is a disaster that can occur, is unpredictable and unforecastable, and can cause losses both materially and in other ways (Karimah et al., 2016). Fires can be triggered by electrical short circuits, as well as by the use of pressurized gas cylinders and various chemicals that are flammable, corrosive, and harmful (Sholeh et al., 2021). Fires can also occur due to a lack of worker attitude and knowledge, poor building layout, the incompatibility and malfunctioning of installed protection systems in the building such as detectors, fire extinguishers, sprinklers, and fire hydrants, as well as the lack of fire disaster response infrastructure (Rahardjo et al., 2019).

Several cases of fires affecting hospitals worldwide include the fire incident on January 26, 2018, at Sejong Hospital in Miryang, South Korea, which killed 33 people, left 13 severely injured, and 66 others with minor injuries. Based on the statements of two nurses, the fire suddenly appeared and spread, suspected to be caused by an electrical short circuit in the Emergency Room (ER) (Choi et al., 2022). Fires also occurred in hospitals and community health centers in the region of Indonesia. Based on a preliminary study, it was found that a fire incident occurred once in the last 5 years at the Haji Regional General Hospital in South Sulawesi, on the third floor near the laundry room due to an electrical short circuit, but it was quickly extinguished using a fire extinguisher (Yudiantri et al., 2023). A fire incident also occurred at the Margo Mulyo Balikpapan Health Center in the dental polyclinic room (Ministry of Manpower of the Republic of Indonesia, 1999). Additionally, a fire incident in the past 5 years occurred once in the dental polyclinic at the Dawan I Bali Health Center, which did not result in any casualties but caused a loss of around 250 million rupiah (Sebu et al., 2019).

Based on the interview results with the K3 coordinator of the Tanah Abang Community Health Center, there was one fire incident in 2022 caused by an explosion and fire of a mobile phone being charged in the delivery room. Fortunately, there were no casualties, and it was extinguished by an APAR. In 2023, there was one incident on the ground floor in the main electrical cable route of the Tanah Abang Community Health Center, near the TB clinic, which caused two explosions due to an electrical short circuit, but there were no casualties.

Efforts to mitigate fire hazards require a fire protection system, which is one of the important factors in building structures to face fire hazards (Sebu et al., 2019). In addition to the fire protection system, emergency response to fire disasters is important and needs to be implemented in community health centers for health workers to address the adverse effects of fires. Disaster emergency response is a series of activities carried out immediately at the time of a disaster

to address the adverse impacts caused, which include activities such as rescuing and evacuating victims, property, fulfilling basic needs, protection, managing refugees, rescue operations, and restoring infrastructure and facilities (Tarwaka, 2020). According to the Ministry of Health Regulation Number 52 of 2018, the purpose of preparedness is to minimize the impact of emergency and disaster conditions, both internal and external, that can cause physical, material, and human losses to the human resources of health facilities, patients, patient companions, and visitors, the community around the community health center, as well as the operational system in the community health center Ministry of Health RI, 2018). Emergency preparedness in case of a fire at the Community Health Center is very necessary at the Tanah Abang Community Health Center to minimize the impact, in this case related to the knowledge that can be gained by participating in training. This research focuses on examining the knowledge gap among healthcare workers at community health centers in Tanah Abang, where the researcher emphasizes occupational safety, particularly fire safety in healthcare facilities, which usually only focus on medical safety.

THEORETICAL REVIEW

The Following Factors Affect Health Workers' Knowledge of Fire Emergency Response

Knowledge is the result of human sensing, or the result of a person's knowledge of objects through the senses they have (eyes, nose, ears, and so on). A person's knowledge of objects has different intensities or levels. Broadly speaking, it is divided into 6 levels of knowledge, namely Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation (Notoatmodjo, 2014). Education, information/mass media, social, cultural, and economic factors, as well as the environment, experience, and age, all have an impact on knowledge (Budiman & Riyanto, 2013).

Education

Education is an effort to develop personality and abilities inside and outside school (both formal and non-formal), lasting a lifetime. Education is a process of changing the attitudes and behavior of a person or group and also an effort to mature humans through teaching and training efforts. Knowledge is closely related to education, where it is hoped that with higher education, that person will have broader knowledge (Budiman & Riyanto, 2013).

Information (Training) or Mass Media

Information is something that can be known, but there are also those who emphasize information as a transfer of knowledge. Information is a technique for collecting, preparing, storing, manipulating, announcing, analyzing and disseminating information with a specific purpose. Information includes data, text, images, sound, code, computer programs, and databases. Information obtained from both formal and informal education can have a short-term influence resulting in changes or increased knowledge (Budiman & Riyanto, 2013). The development of technology will provide a variety of mass media that can influence public knowledge about new innovations. As a means of

information, various forms of mass media such as television, radio, newspapers, magazines, etc. have a big influence on people's opinions and beliefs. Mass media also carries messages containing suggestions that can direct a person's opinion. The existence of new information about something provides a new cognitive basis for the formation of knowledge about that thing (Budiman & Riyanto, 2013). Information can be obtained by providing training. Sources of information are media that play an important role for a person in determining attitudes and decisions to act. Increasing a person's interest in seeking information in various forms (Sri et al., 2023). Sources of information can be obtained through print media, electronic media, as well as through health worker activities such as training held (Notoatmodjo, 2014).

Training is an important element in a fire management system. Training is a series of activities arranged in a directed manner to improve skills, experience, expertise, increase knowledge and change an individual's attitude. A training organized by an organization aims to ensure that employees experience an increase in knowledge, experience, skills related to their duties and responsibilities. Most training activities aim to improve work processes or techniques in completing certain tasks effectively and efficiently (Nugroho, 2019). From a conceptual standpoint, it can be developed into a training program with a minimum of three stages: the analysis of training needs, the implementation of training, and the evaluation of training (Herwina, 2021). Pretest and Posttest are tests carried out at the beginning and end of a lesson. The pretest aims to determine the extent of students' knowledge of the material to be taught. Posttest is a test carried out to measure whether the learning we have done has been effective or not, therefore posttest is always carried out at the end of learning. The pretest and posttest material is the same material, to analyze and see whether there is a difference or not between the pretest and posttest results, it can be seen from the highest and lowest scores (Supriyadi, 2020). Training requires the use of a medium. Training media is an attempt to show informational messages that the communicator wishes to get across so that the targets might learn more and adjust their behavior in a way that is healthier. Health promotion media consists of three types, namely electronic media, print media and outdoor media (Jatmika et al., 2019).

Based on research conducted with the research title Manual Evacuation Counseling for Preparedness in Fire Conditions in Kamal Sukoharjo Village, it was found that the pretest results were in the poor category of 21 respondents (70%) and after being given intervention in the form of education using the simulation method it increased to the good category with posttest results of 22 people or (73.3%). Judging from the increase in categories during the pretest and after being given the posttest, there is a significant difference, which means there is a difference in respondents' knowledge before and after being given a manual evacuation simulation for a fire disaster (Suparmanto et al., 2022).

Environment

The environment is everything that exists around an individual, whether social, physical or biological. The environment influences the process of

knowledge entry into individuals who are in that environment. This occurs because of reciprocal interactions or not between the social, cultural and economic environments which will be responded to as knowledge by each individual (Budiman & Riyanto, 2013).

Experience (Personal and Other People)

Experience as a source of knowledge is a way to obtain the truth of knowledge by repeating the knowledge obtained in solving problems faced in the past. Experience consists of two types, namely personal experience and the experience of other people. Personal experience is the basis for forming attitudes, personal experience must leave a strong impression. Therefore, attitudes or beliefs will be easily formed if personal experiences occur in situations that involve emotional factors. The experiences of other people around us are one of the social components that influence our attitudes or beliefs. Someone who is considered important and meaningful to us will influence the formation of our attitude towards something (Budiman & Riyanto, 2013).

Social, cultural and economic

Habits and traditions are carried out by people without reasoning about whether what they are doing is good or bad. In this way, someone will increase their knowledge even if they don't do it. A person's economic status will also determine the availability of facilities needed for certain activities so that this socio-economic status will influence a person's knowledge (Budiman & Riyanto, 2013).

Age

Age affects a person's ability to understand and think. The older you get, the more your understanding and thinking patterns will develop so that the knowledge you gain will get better. In middle age, individuals will play a more active role in society and social life, and make more preparations for successful adaptation to old age. Apart from that, middle-aged people will spend more time reading. Intellectual abilities, problem solving, and verbal abilities are reported to have almost no decline at this age (Budiman & Riyanto, 2013).

Factors that Influence Human Behavior

Fire Emergency Response is a behavior carried out by a person to prevent a fire and be able to handle it if a fire occurs. Lawrence Green stated that the factors that influence human behavior are: (Irwan, 2017).

1. Predisposing factors, which are manifested in knowledge, attitudes, beliefs, values and so on.
2. Enabling factors, which are manifested in the physical environment, the availability or unavailability of health facilities or facilities such as health centers, medicines, contraceptives, latrines and so on.
3. Reinforcing factors, which is manifested in the attitudes and behavior of health workers or other officers, who are the reference group for community behavior.

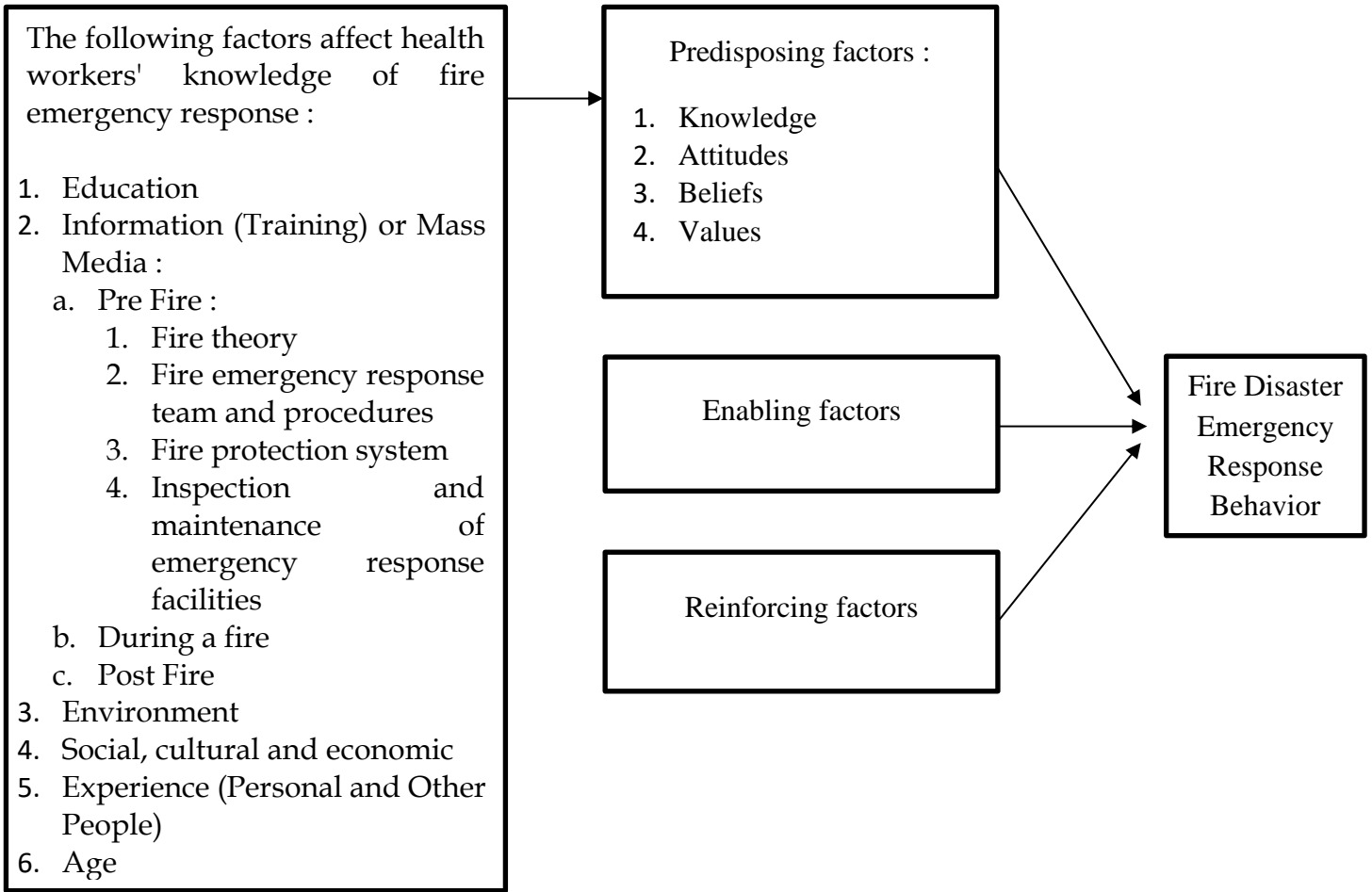


Figure 1. Theoretical Framework

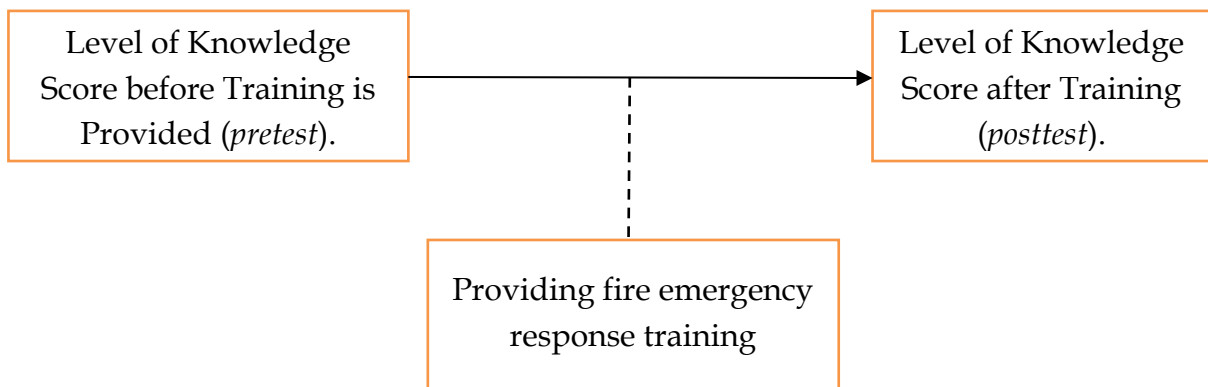


Figure 2. Conceptual Framework

METHODOLOGY

This research was conducted at the Tanah Abang Community Health Center, carried out from November 2023 to January 2024. This research is a quantitative study using a quasi-experimental design with a one group pretest posttest design. Sample in this study The sample calculation of knowledge in this study is a total population of 80 people, reduced by 20 people who have participated in the preliminary study, and reduced by 30 people who have

participated in the validity test. The total sample taken becomes 30 people. The inclusion criteria used are healthcare workers who work at the Tanah Abang Community Health Center and healthcare workers who participate in the research from start to finish. The exclusion criteria used are healthcare workers who are sick, on leave, or on vacation and therefore cannot participate in the research, and healthcare workers who are unwilling to be respondents in the research.

Data collection was conducted using primary data through a questionnaire. This research conducted an experiment in the form of fire emergency response training for healthcare personnel. There are 15 questions related to fire emergency response knowledge, including the definition of fire, classification of fire hazard potential, categorization of flammable materials, Fire Emergency Response Team, active fire protection systems, passive fire protection systems, procedures in case of fire, emergency codes and important fire numbers, as well as inspection and maintenance of fire emergency response facilities. The administration of the questionnaire in this study was conducted twice, before and after the fire emergency response training for health workers using Slide media (Ms. PowerPoint and LCD). The training was conducted once after a 15-minute pretest. Along with the respondents viewing the material, the researcher explained the content of the material to the respondents and played a video on how to use a fire extinguisher for 45 minutes. The posttest questions were distributed after the researcher finished explaining the content of the material, and the respondents completed them in 15 minutes. The knowledge questionnaire answers in this study are in the form of multiple choice consisting of 3 answers, namely options a, b, and c. Before the research, a validity and reliability test of the questionnaire was conducted first on 30 respondents outside the study, therefore the knowledge questions used during the research are already valid and reliable.

Data analysis in this study uses univariate and bivariate data analysis. Bivariate analysis is an analysis conducted on 2 variables directly using the dependent/t paired test. Before conducting the bivariate test, a normality test is performed first. The normality test used is the Shapiro-Wilk test because the sample size is < 50 healthcare workers. The purpose is that if the data is normally distributed, a parametric test with a dependent T-test is conducted. However, if the data is not normally distributed, a non-parametric test, namely the Wilcoxon sign test, is used. This research has received ethical review approval from the Research Ethics Committee of Esa Unggul University with the number 0924-01.124/DPKE-KEP/FINAL-EA/UEU/II/2024

RESULTS

Overview of Health Workers' Knowledge Regarding Fire Emergency Response Before Training at the Tanah Abang Community Health Center in 2023 is shown in Table 1 below:

Table 1. Distribution of Health Workers' Knowledge About Fire Emergency Response Before Training at the Tanah Abang Community Health Center in 2023

Variable	N	Mean	Median	Deviation Standard	Min	Max
Knowledge Score before Training is Provided	30	59.34	60.00	16.56	20.00	86.70

Table 1 shows that the knowledge of health officers regarding fire emergency response before the training was given had an average (mean) knowledge score of 59.34 with a median value of 60.00, a standard deviation of 16.56, a minimum knowledge score of 20.00, and a maximum knowledge score of 86.70.

Description of Health Workers' Knowledge About Fire Emergency Response After Training at the Tanah Abang Community Health Center in 2023 is shown in Table 2 below:

Table 2. Distribution of Health Workers' Knowledge Regarding Fire Emergency Response After Training at the Tanah Abang Community Health Center in 2023.

Variable	N	Mean	Median	Deviation Standard	Min	Max
Knowledge Score after Training	30	84.45	86.70	8.99	66.70	100

Table 2 shows that the knowledge of health officers regarding fire emergency response after training was given, with an average (mean) knowledge score of 84.45, a median score of 86.70, a standard deviation of 8.99, a minimum knowledge score of 66.70, and a maximum knowledge score of 100.

Normality Test of the Difference in Knowledge Regarding Fire Emergency Response Among Health Workers Before and After Training at the Tanah Abang Community Health Center in 2023.

Before conducting statistical tests, a normality test must be performed to determine whether the data is normally distributed or not. The following are the results of the normality test of the difference in knowledge before and after the fire emergency response training was given to health workers:

Table 3. Normality Test of the Difference in Knowledge Regarding Fire Emergency Response Among Health Workers Before and After Training at the Tanah Abang Community Health Center in 2023

Variable	N	Median	Min - Max	Shapiro-Wilk	
				P-Value	Conclusion
Difference in knowledge before and after the training was provided	30	20.00	6.60 - 66.70	0.013	Not Normal

Table 3 shows that the difference in knowledge among health officers regarding fire emergency response is indicated by a median value of 20.00, a minimum knowledge value of 6.60, and a maximum knowledge value of 66.70. The p-value of the difference in knowledge of healthcare workers before and after the training is $0.013 < 0.05$, so it can be concluded that the data is not normally distributed. The bivariate analysis that will be used on the knowledge variable employs a non-parametric test, namely the Wilcoxon sign test.

Differences in Knowledge Regarding Fire Emergency Response Among Health Workers Before and After Training at the Tanah Abang Community Health Center in 2023.

The following are the results of the differences in health workers' knowledge regarding fire emergency response before and after the training:

Table 4. Distribution of Health Workers' Knowledge Regarding Fire Emergency Response Before and After Training at the Tanah Abang Community Health Center in 2023.

Variable	N	Mean Difference	Standard Deviation Gap	95 % CI		P-Value
				Lower	Upper	
Knowledge of Health Workers before Training - Knowledge of Health Workers after Training	30	25.11	16.12	19.09	31.13	0.000

Table 4 shows that the difference in knowledge among health workers regarding fire emergency response resulted in a mean difference of 25.11 with a standard deviation of 16.12 and a 95% CI value ranging from 19.09 to 31.13. The analysis results indicate a p-value of $0.000 < 0.05$, meaning there is a significant difference in the average score of fire emergency response knowledge between before and after the training given to health workers at the Tanah Abang Community Health Center in 2023.

DISCUSSION

Overview of Health Workers' Knowledge Regarding Fire Emergency Response Before Training at the Tanah Abang Community Health Center in 2023

The univariate results on the knowledge of health workers before being given training on fire emergency response show that the knowledge of health workers before being given training using a questionnaire obtained a mean of 59.34. This is in line with research that shows the mean knowledge score of 35 respondents before the provision of education was 9.03 using a questionnaire (Yudiantri et al., 2023). This is in accordance with the theory that knowledge is the result of human perception, or an individual's understanding of an object through the senses they possess (eyes, nose, ears, etc.) (Notoatmodjo, 2014). This is also in line with the theory where a pretest aims to determine the extent of students' knowledge of the material to be taught. Posttest is a test conducted to measure whether the learning we have done is effective or not, therefore posttests are always conducted at the end of the learning (Supriyadi, 2020)).

The conclusion drawn is that out of 15 questions regarding fire emergency response knowledge among healthcare personnel, there are 4 questions that had fewer correct answers compared to incorrect ones. The proportion of correct answers in the classification of the potential fire hazard level at the community health center was 10 participants (33.3%), the classification of flammable materials was 10 participants (33.3%), the requirements for evacuation signs were 12 participants (40%), and the fire resistance of the emergency door was 11 participants (36.7%).

Based on the results of interviews with training participants in this study, only 10 participants (33.3%) answered correctly regarding the classification of the potential fire hazard level in the community health center and the classification of flammable materials. This is because many training participants have not yet attended fire emergency response training, have never participated in socialization about fires and the potential hazards that can cause fires, are not aware of the symbols for flammable materials, and have not undergone safety induction since starting work at the Tanah Abang Community Health Center. The Tanah Abang Community Health Center has conducted fire emergency response training in September 2023, but it was only given to 25 health workers and will be provided to other health workers in turn and continuously. This is in accordance with the theory that training should be conducted periodically and attended by all employees, including training on evacuation and emergency handling (Herawati et al., 2023). The Tanah Abang Community Health Center has never conducted a safety induction for employees who are newly working in the Tanah Abang Community Health Center area. This is not in accordance with the theory where safety induction is the introduction to the work environment or place that has certain potential hazards and their mitigation efforts. Safety induction must be conducted and socialized to every new worker or visitor. This is done to prevent accidents due to a lack of information about the work environment (Negara et al., 2023).

Based on the evacuation sign requirement question, only 12 participants (40%) answered correctly. This is because most of the participants have not received socialization regarding fire disaster emergency response symbols and

simulations of fire disaster emergency response. The Tanah Abang Community Health Center has conducted fire emergency response training and simulation in September 2023, where the training included material on the requirements and symbols of fire emergency response, such as evacuation signs. However, it was only provided to 25 health workers, and training will be given to other health workers in turn and continuously. This is in accordance with the theory that training should be conducted periodically and attended by all employees, including training on evacuation and emergency handling (Herawati et al., 2023). The Tanah Abang Community Health Center has increased health promotion related to fire emergency response by screening videos installed in elevators and information screens. This is in accordance with the theory that as a means of information, various forms of mass media such as television, radio, newspapers, magazines, and others have a significant influence on people's opinions and beliefs. Mass media also carries messages that contain suggestions that can shape a person's opinion. The presence of new information about something provides a new cognitive foundation for the formation of knowledge about that thing (Budiman & Riyanto, 2013).

Based on the fire resistance question about the emergency door, only 11 participants (36.7%) answered correctly. This is because most participants have not attended fire emergency response training and have never participated in fire awareness sessions. The Tanah Abang Community Health Center has conducted fire emergency response training and simulation in September 2023, which included material on the requirements for passive fire protection systems. However, this training was only provided to 25 health workers and will be given to other health workers in turn and continuously. This is in accordance with the theory that training should be conducted periodically and attended by all employees, including training on evacuation and emergency handling (Herawati et al., 2023).

In this study, there is one health officer who scored 20 on the knowledge questions before the training was conducted. This is because the health officer has only been with the Tanah Abang Community Health Center for 8 months and has never received training or safety induction regarding fire emergency response, which is why they only answered 3 correctly on the fire emergency response knowledge questionnaire. The Tanah Abang Community Health Center has never conducted a safety induction for employees who are newly working in the Tanah Abang Community Health Center area. This is not in accordance with the theory where safety induction is the introduction to the work environment or place that has certain potential hazards and their mitigation efforts. Safety induction must be conducted and socialized to every new worker or visitor. This is done to prevent accidents due to a lack of information about the work environment (Negara et al., 2023).

Overview of Health Workers' Knowledge Regarding Fire Emergency Response After Training at the Tanah Abang Community Health Center in 2023.

The univariate results on the knowledge of health workers after being given training using a questionnaire obtained a mean of 84.45. This is in line with research showing that the knowledge of 35 respondents after education was 10.91

using a questionnaire (Yudiantri et al., 2023). This is in accordance with the theory where the pretest aims to determine the extent of students' knowledge of the material to be taught. Posttest is a test conducted to measure whether the learning we have done is effective or not, therefore posttests are always conducted at the end of the learning (Supriyadi, 2020). The conclusion drawn is that after the training, the average knowledge score of health workers regarding fire emergency response increased from an average score of 59.34 to 84.45.

The results of this study can be concluded that before the training, out of 15 questions regarding fire emergency response knowledge among health workers, there were 4 questions where fewer answered correctly compared to those who answered incorrectly. However, after the training on fire emergency response, in 4 questions, more answered correctly compared to those who answered incorrectly, showing an increase in the number of health workers who answered correctly. In the classification of the potential fire hazard level at the community health center, before the training, 10 participants (33.3%) answered correctly, but after the training, the correct answers increased to 26 participants (86.7%). Regarding the classification of flammable materials, before the training, 10 participants (33.3%) answered correctly, but after the training, the correct answers increased to 24 participants (80%). For the requirements of evacuation signs, before the training, 12 participants (40%) answered correctly, but after the training, the correct answers increased to 26 participants (86.7%). And for the fire resistance of emergency doors, before the training, 11 participants (36.7%) answered correctly, but after the training, the correct answers increased to 27 participants (90%).

Before the training was given, there was one health officer who scored 20 on the knowledge question. After being given training, the knowledge score of the health officers increased, with the score becoming 86.7 and the number of correct answers being 13. This is in line with research where the educational activities conducted were able to impact the increase in knowledge of ship operators about fire prevention, as evidenced by the increase in knowledge of all participants at the end of the activity (Ilham et al., 2022). After the training, there were 2 questions where fewer participants answered correctly compared to those who answered incorrectly. The first question was about the purpose of maintaining the fire protection system, where 16 participants (53.3%) answered correctly. The second question was about the fire emergency response team responsible for leading fire suppression before receiving assistance from the relevant authorities, where only 7 participants (23.3%) answered correctly.

Based on the results of interviews with training participants in this study, regarding the question about the purpose of fire protection system maintenance, only 16 participants (53.3%) answered correctly. Additionally, for the question about the fire emergency response team responsible for leading fire suppression before receiving assistance from the relevant authorities, only 7 participants (23.3%) answered correctly. This is due to the training duration being too short, which resulted in participants not fully understanding the purpose of fire protection system maintenance during the training and not comprehending the duties of the fire emergency response team responsible for leading fire

suppression before receiving assistance from the relevant authorities. The researchers provided an intervention in the form of fire emergency response training for healthcare workers for 45 minutes with dense material. This is not in accordance with the theory where the time required for a lecture is adjusted according to the amount of material to be discussed (Sugiyono & Setiawati, 2020).

The Difference in Health Workers' Knowledge About Fire Emergency Response Before and After Training at the Tanah Abang Community Health Center in 2023.

The research results show that there is a significant difference between the average scores of health workers' knowledge about fire emergency response before and after the training was provided. This is supported by research stating that there is a significant influence before and after the provision of education on the improvement of fire emergency response knowledge (Yudiantri et al., 2023). This is in line with the theory where the pretest and posttest materials are the same. To analyze and see whether there is a difference or not between the pretest and posttest results, it can be observed from the highest and lowest scores (Supriyadi, 2020).

Before the training was given, the researchers conducted a pretest that included points on the definition of fire, classification of fire hazard potential, categorization of flammable materials, Fire Emergency Response Team, active fire protection systems, passive fire protection systems, procedures in case of fire, emergency codes and important fire numbers, inspection and maintenance of fire emergency response facilities. After the training was provided, the researchers administered a posttest with the same points and found that there was an increase in the knowledge of the health workers. This is in accordance with the theory that the pretest stage is the initial step in experimental research where the researcher conducts testing or data collection before the actual implementation of treatment or intervention. The purpose of the pretest stage is to measure the dependent variable and collect data before the experiment begins. After the pretest stage, a treatment (intervention) is administered, which is a critical stage in experimental research where the researcher applies certain actions or manipulations to the experimental group to test their effect on the dependent variable. The final stage, the posttest stage, is an important stage in experimental research because it is the moment when the impact of the treatment or intervention can be evaluated. By comparing the results before and after the treatment as well as with the control group, researchers can identify whether the treatment or intervention has a significant effect on the dependent variable (Gusti & Hilda, 2023).

Training is an essential element in the fire management system. Training is a series of activities organized in a directed manner to enhance an individual's skills, experience, expertise, knowledge, and attitude (Nugroho, 2019). The results of this study are in line with the theory, which shows that training can improve healthcare workers' knowledge of fire emergency response. Before the training was conducted, the healthcare workers had low knowledge of fire emergency response, but after the training was provided, their knowledge increased.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research results and discussion in the previous chapter, the conclusion drawn by the researcher is that the average score of knowledge regarding fire emergency response among health workers before training in the working area of the Tanah Abang Community Health Center in 2023 was a mean score of 59.337. The average score of knowledge regarding fire emergency response among health workers after training in the working area of the Tanah Abang Community Health Center in 2023 was a mean score of 84.447. There is a difference in the average score of knowledge regarding fire emergency response among health workers before and after training in the working area of the Tanah Abang Community Health Center in 2023.

Tanah Abang Community Health Center are advised to carry out training, socialization and fire emergency response simulations on a regular basis, carry out safety induction for new employees, make media posters for flammable materials and fire emergency response symbols, attach symbols in places where flammable materials are stored, and when providing further training and socialization can provide more time.

FURTHER STUDY

The limitations of this research are the time to provide the knowledge and the absence of observations of changes in attitudes and behavior after being given knowledge about fire emergency response to health workers at the Tanah Abang Community Health Center. For future research, it is recommended to observe changes in behavior and attitudes of health workers after being given knowledge about fire emergency response.

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