



CORRELATION OF KNOWLEDGE AND ATTITUDES WITH FIRE EMERGENCY RESPONSE PREPAREDNESS IN THE COMMUNITY OF SEKARAN VILLAGE, LAMONGAN DISTRICT

Ega Delia Rizqah Firnanda^{*}, Mitoriana Porusia

Public Health Studies Program, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta,
Jln Gatak, Pabelan, Kecamatan Kartasura, Sukoharjo, Kodepos 57102, Indonesia
Email: egadeliarizqahf@gmail.com

Abstract

Sekaran Lamongan Village is a densely populated settlement where some of the residents work as smoked fish traders. During the fish smoking process, corncobs are used as fuel. This can increase the room temperature and potentially cause a fire. Fire emergency response preparedness in places that have a higher risk is needed for residents. Therefore, the knowledge and attitude towards fire management is very necessary to be owned by the community. This study aims to analyse the correlation between knowledge and attitude with fire emergency response preparedness in the community of Sekaran Village, Lamongan Regency. This research method uses analytical observations with a cross sectional approach. The independent variables in this study are knowledge and attitude, while the dependent variable is fire emergency response preparedness. The sample in this study was 322 residents of Sekaran Village with proportional random sampling technique for each neighbourhood. The research instrument used questionnaires for the independent and dependent variables. The results showed that there was a correlation between knowledge and fire emergency response preparedness (CI 95%: 0.077-0.296), OR 0.151, and there is a correlation between attitude and fire emergency response preparedness (CI 95%: 0.312 - 0.761), OR 0.488. The better the knowledge and attitude, the better the emergency response preparedness.

Keywords: Attitude, Emergency Response Preparedness, Knowledge

Introduction

Fire is an event when a material reaches a critical temperature accompanied by a chemical reaction in oxygen, which oxygen can produce heat, flame, smoke, light, and so on. Fires can occur in settlements, offices, cities, and forests. This shows that fire prevention knowledge needs to be improved⁽¹⁾. The occurrence of fire events is difficult to predict. The impact of fires often has undesirable consequences in the form of property, business, and safety threats for humans⁽²⁾.

Data National Disaster Management Agency in 2023 there were 1,792 cases of forest and land fires⁽³⁾. Based on data Lamongan government in 2021, there were 51 fire cases in houses, shops, offices, and others for the cause of fires caused by electrical short circuit, gas stoves, oil stoves, and others⁽⁴⁾.

One of the ways to prevent fires is knowledge. Fire-related knowledge means understanding and knowing the types, dangers and the most appropriate way to take action against fire. Knowledge is very important in a person's actions in carrying out emergency preparedness⁽⁵⁾. Disaster preparedness is an activity carried out before a disaster occurs with the aim of building operational capabilities and facilities that can be used in emergency situations⁽⁶⁾.

Sekaran Lamongan Village is a densely populated settlement where some of the villagers work as smoked fish traders. In the process of smoking fish using charcoal or corn stalks as fuel, the fish is placed in a roasting area, which does not have good air ventilation except for the door and chimney. In addition, there was almost a fire caused by two gas stoves that were close to each other in the residents' kitchen. This triggered the flames and the extinguishing process was still wrong. The wrong extinguishing process is due to the lack of knowledge and attitude of the community regarding preparedness. Therefore, this research was conducted to improve insights related to knowledge and attitudes during fire management in relation to fire emergency response preparedness. Based on the preliminary study above, the researcher is interested in conducting research with the title "Correlation of Knowledge and Attitudes with Fire Emergency Response Preparedness in the Community Sekaran Village, Lamongan Regency".

Methods

This study used an observational analytic with a cross sectional approach. This research start from September to October 2023 in Sekaran Village, Lamongan Regency. The population was 1643 family cards, and the formula calculation obtained a total sample of 322 residents of Sekaran Village. The inclusion sample criteria is the head of the family or family members who reside in Sekaran Village aged ≥ 17 years, and the exclusion sample is family members aged ≤ 17 years. To determine the number of samples to be taken in each RT with proportional random sampling technique.

Primary data was obtained from the results of questionnaires and interviews with the Sekaran Village community. Secondary data were obtained from book references and research journals relevant to the object. This research instrument used a questionnaire consisting of knowledge, attitude and fire emergency response preparedness. The data analysis used was Spearman correlation test and logistic regression test to determine correlation of knowledge and fire emergency response preparedness, and chi square test, and logistic regression test for attitude with fire emergency response preparedness. This research has been reviewed through the ethics committee of the Faculty of Health Sciences, Muhammadiyah University with ethics number 020/KEPK-FIK/IX/2023.

Result

The characteristics of the respondents in this study include age, gender, and education level. The following is a table related to the frequency distribution of respondents' characteristics.

Tabel 1 Respondents characteristics

Respondents characteristic	N	%
Age		
17-25	53	16,5
26-35	112	34,8
36-45	81	25,2
46-55	61	18,9
56-65	15	4,7
Sex		
Female	200	62,1
Male	122	37,9
Education		
Uneducated	4	1,2

SD	51	15,8
SMP	63	19,6
SMA	135	41,9
D3/S1	69	21,4

Based on table 1, the age of respondents ranges from 26-35 years with a total of 112 (34.8%). For the characteristics of the respondent's gender, it was found that the female was 200 (62.1%). and for the characteristics of formal education with the smallest formal education level was uneducated with a total of 4 (1.2%) and the largest formal education level was SMA with 135 (41.9%). Analysis related to variables consists of variables of knowledge, attitude, and emergency response preparedness. The following are the results of variable frequency distribution.

Tabel 2. Frequency Distribution

Variable	N	%
Knowledge		
High	128	39,8
Moderate	128	39,8
Low	66	20,5
Attitude		
High	173	53,7
Low	149	46,3
Emergency response preparedness		
Prepared	169	52,5
Unprepared	153	47,5

Based on table 2, the frequency distribution of knowledge obtained the results of respondents with high and moderate knowledge of 128 (39.8%), while for low knowledge 66 (20.5%). the frequency distribution of attitudes obtained the results of respondents with high attitudes more than respondents with low attitudes of 173 (53.7%). the frequency distribution of emergency response preparedness obtained the results of respondents prepared of 169 (52.5%). In this analysis, correlation of knowledge and attitudes with emergency response preparedness was tested using the spearman test, then the logistic regression test obtained the following results:

Tabel 3. Correlation of Knowledge and Attitude with emergency response preparedness

Variable	Emergency response preparedness				P	OR (CL95%)		
	Prepared		Unprepared				Total	
	n	%	n	%			n	%
Knowledge								
Low	50	75,8	16	24,2	66	100	0,000	0,151
Modarate	62	48,4	66	51,6	128	100		(0,077-0,296)
High	41	32	87	68	128	100		
Attitude								
Low	85	57	64	43	149	100	0,002	0,488
High	68	39,3	105	60,7	173	100		(0,312-0,761)

Based on table 3, respondents have high knowledge 87 (68%) with prepared emergency response preparedness, and respondents who have high knowledge 41 (32%) with unprepared emergency response preparedness. The results of the research test there is a correlation of knowledge and emergency response preparedness (CI 95%: 0, 077 - 0.296). The r value is 0.312 which means the degree of relationship is moderate, with r value showing a positive number. The Odd ratio value

obtained from $\exp(\beta)$ is 0.151, which means that there is less public knowledge 0.151 times of emergency response preparedness is not ready.

Respondents who have a high attitude are 105 (60.7%) with prepared emergency response preparedness and respondents who have a high attitude are 68 (39.3%) with unprepared emergency response preparedness. The results of is a correlation of attitude and emergency response preparedness (CI 95%: 0.312- 0.761). For the Odd ratio value obtained from $\exp(\beta)$ which is 0.488, which means that people have an unfavourable attitude 0.488 times less prepared emergency response preparedness.

Discussion

1. Knowledge With Emergency Response Preparedness

Based on the results of the analysis, it was found that there was a correlation of knowledge and emergency response preparedness in Sekaran Village, Lamongan Regency (95%CI: 0.077-0.296). This is in line with the research of Sari et al (2023) on the level of knowledge with fire disaster preparedness in the Gedongan Village community, which found that there was a significant relationship between the level of knowledge and disaster preparedness ⁽⁷⁾. Good knowledge tends to make emergency response preparedness more prepared, so to improve emergency response preparedness, it must increase public knowledge.

A key factor in preparedness is knowledge. A person's knowledge related to fire, how to prevent and overcome is one of the most important things to minimise a fire where a person's knowledge forms an action domain ⁽⁸⁾. It is in the knowledge questionnaire that people already know about disasters, causal factors, and possible levels of prevention. In Elliott's research (2016), it is explained that family knowledge in dealing with disaster preparedness is influenced by education, experience, social, economic, and age ⁽⁹⁾. Education is closely related to knowledge where the higher the level of education, the wider the knowledge related to disasters ⁽¹⁰⁾. People who have a higher level of education can absorb all information and implement it into daily activities ⁽¹¹⁾. From the results of the characteristics of respondents, it was found that the majority of respondents' education level was at the high school level 135 (41.9%). One of the factors that influence knowledge is age. Where the age is getting older, the mindset and ability to learn is increasing ⁽¹²⁾. This is in accordance with the characteristics of respondents obtained in the age range 26-35 years, which age has an increasing mindset.

Knowledge related to disaster management can be obtained by community counselling related to disasters, by providing knowledge related to disaster management is a key to success in managing hazards that can be caused by nature or man-made ⁽¹³⁾. Some residents already have experience in preventing fires, for example by replacing damaged electrical cables with new electrical cables, some mothers already know to unplug the stove regulator if they smell gas. These are simple experiences that individuals in Sekaran Village need to know. Several aspects of emergency response preparedness related to the knowledge of the Sekaran villagers, on average, tend to be lacking in the aspect of resource mobilisation that is carried out when conducting fire emergency response preparedness. Resource mobilisation is of particular concern for the ability of community knowledge to anticipate fire disasters with socialisation or fire training. Each individual should understand how to manage fires and choose self-evacuation skills to save lives as a top priority ⁽¹⁴⁾.

Community knowledge related to fire preparedness in terms of hazards, vulnerabilities, risks and risk mitigation can direct community action, both individually and in collaboration with the government to deal with emergency response disasters. Families that have better emergency response preparedness can improve human resources for disaster preparedness ⁽¹⁵⁾. The people of Sekaran Village still lack an understanding of the dangers of indoor fires. Where the danger of indoor fires is smoke above the room. In the process of rescuing fires indoors, people must evacuate themselves by walking crawling down by covering their noses with tissue or cloth, in order to avoid exposure to fire smoke which can cause

respiratory tract disorders (ARI). Therefore, to improve the lack of knowledge of the community can be done by providing educational materials and videos related to fire to find out the potential hazards, how to deal with fires, and fire emergency response preparedness in the community. The provision of educational materials can be carried out in a regular meeting forum such as neighbourhood leader meetings, PKK, farmer group meetings and so on.

2. Attitude with Emergency Response Preparedness

Based on the results of the analysis, it was found that there was a correlation of attitude and fire emergency response preparedness in the Sekaran Village community, Lamongan Regency (95% CI: 0.0312-0.761). This is in line with Suryadi's research (2021) where the community showed a good attitude in disaster preparedness such as being involved in preparedness plans, preparedness efforts, natural resource functions, simple equipment and evaluation ⁽¹⁶⁾. Good community attitudes tend to make emergency response preparedness more prepared, so that to improve emergency response preparedness, community attitudes must be improved.

Attitude research is in accordance with predisposition theory where the action of a particular behaviour is not a psychological attitude of the individual, but rather the individual's awareness process ⁽¹⁷⁾. There is research that is significantly related to disaster preparedness attitudes which are reviewed through a person's effective, behavioural and cognitive attitudes ⁽¹⁸⁾. Attitude is an indicator of flood disaster mitigation where a positive attitude can influence a behaviour that will be taken to achieve maximum disaster management ⁽¹⁹⁾.

An individual's attitude can determine the individual's behaviour, where a positive attitude encourages a strong motivation to make efforts to reduce disaster risk. Lack of attitude in preparedness can result in the risk of disaster impacts ⁽²⁰⁾. Attitude is a factor that influences preparedness in fire disaster management efforts. Attitudes also influence a person's behaviour in life, which is in line with the theory of reasoned action. Attitudes influence behaviour through decision-making to undertake disaster preparedness ⁽²¹⁾. Attitudes and behaviours show that positive attitudes can result in pleasant behaviours, but are negatively and significantly correlated if preparedness can make it clear that positive attitudes alone are unable to encourage high emergency response preparedness in the absence of favourable parameters ⁽²²⁾. A person's attitude can be driven by external factors such as education, culture, and environment ⁽²³⁾. This is in accordance with the characteristics of respondents at the education level, the majority of which are at the high school level 135 (41.9%). Where the level of education can make a person's attitude positive.

Community preparedness for fire hazards is categorised into several parameters including attitude. The attitude of each individual or household reflects the expected preparedness in the event of a fire disaster. The attitude of family members influences the community to prepare in emergency response preparedness activities ⁽¹⁵⁾. The attitude of community fire preparedness is shown by following the orders of firefighters and evacuating during a fire according to the emergency response plan in the emergency response preparedness aspect instrument.

To improve the attitude of the community that is lacking can be done by providing simulations of fire incidents at home or residential areas, so that the community understands the attitude that must be done when a fire event occurs in the community's residential environment. Providing emergency response simulations can be carried out in a regular meeting forum such as neighbourhood leader meetings, PKK, farmer group meetings and so on.

There is no programme related to fire emergency response preparedness in the community organised by the Sekaran Village Government, therefore the researchers suggest that the government should establish a programme related to fire emergency response preparedness counselling in the Sekaran Village community. Future research is expected to find other variables that can be related to emergency response preparedness.

Conclusions

The results of research on knowledge and attitudes with fire emergency response preparedness in the Sekaran Village community, Lamongan Regency showed high knowledge 128 (39.8%), Moderate knowledge 128 (39.8%), and low knowledge 66 (20.5%). The attitude of the community shows that the attitude is high 173 (53.7%), and the attitude is low 149 (46.3%). For community emergency response preparedness, it showed that the prepared was 169 (52.5%), and the unprepared was 153 (47.5%). The results showed there was a correlation of knowledge and fire emergency response preparedness (95% CI: 0.077-0.296), OR 0.151 and there was a correlation of attitude and fire emergency response preparedness (95% CI: 0.312-0.761), OR 0.488. The better knowledge and attitude, the better the emergency response preparedness.

The suggestion for this research is that the community is expected to implement emergency response preparedness in the event of a fire. The Sekaran Village government could create a programme related to fire emergency response preparedness counselling as community awareness of potential fire hazards. Future research is expected to use other variables as factors related to fire emergency response preparedness.

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