Factors Related to Rabies Prevention Measures in Nangapanda Community Health Center, Ende, East Nusa Tenggara

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ABSTRACT

Background: Rabies is an acute infectious disease of the central nervous system caused by the rabies virus and transmitted through the bites of Rabies Transmitting Animals (HPR), especially dogs. The bite of an unvaccinated rabies-infecting animal is the cause of most cases of rabies which can lead to death. This study aimed to determine the factors related with the prevention of rabies in the community in the working area of the Nangapanda Community Health Center, Ende, East Nusa Tenggara.

Subjects and Method: This cross-sectional study was conducted in the working area of the Nangapanda Public Health Center, Ende Regency from August to September, 2022. A total of 116 families were selected for this study. The dependent variable is rabies prevention measures and the independent variable is knowledge and attitude. Data were analyzed using the chi-square test.

Results: Good knowledge (OR= 19.25; 95% CI= 5.94 to 62.36; p<0.001), and positive attitude (OR= 0.11; 95% CI= 0.02 to 0.53; p= 0.001) are associated with rabies prevention measures.

Conclusion: There is a significant relationship between knowledge and attitude towards rabies disease prevention measures.

Keywords: rabies, action, prevention.

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BACKGROUND

Rabies is an acute infectious disease of the central nervous system caused by the rabies virus, and is transmitted through the bites of Rabies Transmitting Animals (HPR), especially dogs (Abidin and Anas, 2020). Unvaccinated dog bites are the cause of most cases of rabies. In addition, vaccination is given to people who are at high risk of being inoculated and then enters the peripheral nerves at the neuromuscular junction and spreads up to fever, headache, difficulty swallowing, hypersalivation, fear of water, sensitivity to wind and sound stimuli and then ends with death (Huwae et al., 2020).

According to the World Health Organization (WHO), the death rate due to rabies in the world is 59,000 people every year, and as many as 60% come from Asia. The majority of deaths caused by rabies are children. Data comes from the Zoonoses

Sub-Directorate, P2P Directorate, Ministry of Health of the Republic of Indonesia, only 8 out of 34 provinces in Indonesia are free from rabies, namely Riau Islands, Bangka Belitung, DKI Jakarta, DIY, Central Java, East Java, Papua and West Papua (Juliansyah and Nurdin, 2019). Therefore, NTT is one of the 26 provinces where rabies is increasing day by day, this of course can be caused by community negligence and lack of knowledge about this rabies virus (Ministry of Health, 2016).

The emergence of a disease is influenced by aspects of the behavior of the local community. The influence of behavior in the health sector is also motivated by the knowledge and perceptions of the community about disease. A person's behavior is supported by the individual himself and the surrounding environment, and not because of coercion from other people (Mohan, 2016).

The high number of deaths due to rabies (Lyssa virus) is caused by cases where dog bite sufferers do not go directly to the nearest health care facility, the level of public knowledge and awareness of rabies and the initial action that must be taken after a rabies bite is still low (Murtini et al., 2022). In addition, the lack of counseling between the central government and the regions has also contributed to the slow control of rabies in Indonesia. Considering that rabies cannot be cured but can only be prevented, post-bite Post Exposure Prophylaxis (PEP) is very important, in the form of Anti-Rabies Vaccine (VAR) and Rabies Immunoglobulin (RIG) or Anti-Rabies Serum (SAR) which is given to sufferers bitten by rabies-infecting animals.

Availability of VAR in primary health care facilities is very important as an effort to inhibit the spread of lyssa virus to the brain. This is because the lyssa virus moves in the human peripheral nerves and goes straight to the human brain as a target at a speed of approximately 12-24 mm/day (Novita, 2019).

Based on data on the rabies situation by province in Indonesia in 2018-2020, the Province of East Nusa Tenggara (NTT) recorded 12,530 cases of Rabies Transmitting Animal Bites (GHPR) and 12 lyssa cases (2018), 13,449 cases of GHPR and 16 cases of lyssa (2018). 2019), and there were 11,262 cases of GHPR and 5 cases of Lyssa (2020). Based on data from the Ende District Office, in 2018 there were 2102 cases of GHPR, in 2019 there were 1754 cases, and in 2020 there were 68 cases of GHPR. Based on data from 26 health centers in Ende District, the Nangapanda Health Center is one of the health centers with a relatively high number of GHPR cases.

This is based on data obtained from the Ende District Health Office that there were 292 cases of GHPR from 2018 to September 2021. Based on observations at the Ende District Health Office in November 2021, 2 cases of death due to rabies were recorded in Nangapanda Village. This is because many residents do not know about rabies and the life of the community in this village has the potential to get rabies because they often have direct contact with dogs, but the Ende District Health Office has taken action by vaccinating patients who are bitten by rabies-transmitting animals.

The aim of the research was to find out the factors related to Rabies Prevention Measures in the Community in the Working Area of the Nangapanda Public Health Center, Ende Regency (Case Study of Sanggarhorho Village). The purpose of this study was to find out the factors related to the prevention of rabies in the community in the Working Area of the Nangapanda Public Health Center, Ende Regency (Case Study of Sanggarhorho Village.

SUBJECTS AND METHOD

1. Study Design

This cross sectional study which was carried out in the working area of the Nangapanda Public Health Center, Ende Regency, Sanggarhorho Village from August to September 2022.

2. Population and Sample

The population in this study were 221 heads of households (KK) in the working area of the Nangapanda Health Center, Ende District, Sanggarhorho Village. The sampling technique used was random or probability sampling, in which each family head in the population has the opportunity to be selected as a sample and 116 families are selected in this study.

3. Study Variables

The dependent variable is the prevention of rabies. The independent variables were knowledge and attitudes.

4. Operational Definition of Variables

Rabies prevention is the behavior of the community to prevent rabies.

Knowledge is what the community knows about rabies prevention measures.

Attitude is the community's response or response to rabies prevention measures.

5. Study Instruments

This study used two ways of collecting data, namely primary data obtained directly through interviews using questionnaires and secondary data, namely data that can be obtained from data available from the health office. Data collection techniques in this study are using questionnaires and interviews.

6. Data Analysis

Univariate analysis was performed to see the frequency distribution and characteristics of the research subjects, while bivariate analysis was performed using the chi-square test to examine the relationship between the independent variables and the dependent variable.

RESULTS

1. Sample Characteristic

Table 1 showed the distribution of study subjects. The subjects studied were people who were included in the work area of the Nangapanda Community Health Center and heads of families who kept dogs, namely 116 respondents. The characteristics of the respondents are based on age, sex and recent education.

Table 1. Characteristics of research subjects.

Characteristics	Categories	Frequency (n)	Percentage (%)
Age	Teenager	2	1.7
	Adult	47	40.5
	Elderly	67	57.8
Gender	Male	89	76.7
	Female	27	23.3
Education	PS	47	40.5
	JHS	31	26.7
	SHS	32	27.6
	Bachelor	6	5.2
Preventive Action	Lacking	90	77.6
	Good	26	22.4
Knowledge	Lacking	74	63.8
	Good	42	36.2
Attitude	Negative	77	66.4
	Positive	39	33.6

Based on table 1, it can be seen that the age distribution in this study is domiciled by the elderly category as many as 67 subjects (57.8%) compared to teenagers 2 subjects (1.7%) and adults 67 subjects (40.5%). The distribution of gender in this study was mostly male with 89 subjects (76.7%) while those with female gender were 27 subjects (23.3%). The highest distribution of education levels in this study was high school, namely 32 subjects (27.6%) compared to subjects with the last education in elementary school, 47 subjects (40.5%), junior high school 31 subjects (26.7%) and undergraduate 6 subject (5.2%).

Most of the respondents did not take preventive measures for rabies as many as 90 subjects (77.6%) compared to good precautions 26 subjects (22.4%). As many as 74 subjects (63.8%) lack knowledge about rabies disease prevention measures and only 42 respondents (36.2%) have good knowledge. Respondents who had a positive attitude towards rabies disease prevention were fewer, namely 39 subjects (33.6%), compared to respondents who had a negative attitude, namely 77 subjects (66.4%).

2. Bivariate Analysis

Table 2 showed the result of bivariate analysis using ci-square.

Table 2. The relationship between knowledge and attitude to prevention action.

| Variables | Category | Prevention Action | | | | OR | CI 95% | p |
| | | Lacking | | Good | | | | |
		n	%	n	%			
Knowledge	Lacking	70	60.3	4	3.4	19.25	5.94 to 62.36	<0.001
	Good	20	17.2	22	19.0			
Attitude	Negative	53	45.7	24	20.7	0.11	0.02 to 0.53	0.001
	Positive	37	31.9	2	1.70			

The result of Chi-square analysis based on table 2 showed that good knowledge increases rabies prevention actions by 19.25 times compared to poor knowledge (OR= 19.25; 95% CI= 5.94 to 62.36; p<0.001). People who have a positive attitude will increase rabies prevention measures 0.11 times compared to people who have a negative attitude (OR= 0.11; 95% CI= 0.02 to 0.53; p= 0.001), and is statistically significant.

DISCUSSION

Based on the results of the study, the researchers found that many respondents still did not understand how to prevent rabies due to lack of public awareness of the dangers of bites by rabies-infecting animals and the facilities for obtaining VAR were quite far from Sanggarhorho Village so that the community had difficulty getting the vaccine, but when the puskesmas staff conducted socialization on rabies prevention measures in Sanggarhorho Village, only about 20 people attended because they were more concerned with gardening. Thus, many cases of death are caused by the community's delay in handling dog bite cases and the indifferent attitude of the people of Sanggarhorho Village.

The results of research in the field showed that there were 70 (60.3%) subjects who had less knowledge about rabies prevention measures and as many as 20 (17.2%) respondents had good knowledge of rabies prevention measures. The results of the bivariate test obtained p< 0.001, so it can be concluded that there is a relationship between knowledge and preventive measures for rabies. This research is in line

with opinion (Novita, 2019), that a person's actions towards health problems, in this case the community in the rabies prevention program, will basically be influenced by knowledge about the problem. Likewise, Andersen's opinion was quoted by Notoadmodjo (2014) which said that a little knowledge will affect a person in certain consequences of the consequences of the actions taken.

Based on the results of the correlation test, the value of r= 0.541 was also obtained, meaning that knowledge of preventive measures for rabies has a correlation with the degree of relationship, namely a moderate correlation. Respondents who had less knowledge and less rabies prevention measures were 70 (60.3%) respondents. subject who lacks knowledge and good preventive measures are 4 (3.4%) respondents. Subjects with good knowledge and less precautions were 20 (17.2%) respondents. subjects with good knowledge and good precautions were 22 (19.0%) respondents.

The results of this study are also in line with Abidin (2020) which states that there is a significant relationship between knowledge and actions to prevent rabies. The results of the study found that most respondents had a lack of knowledge and lack of preventive measures so that counseling or outreach efforts to the community in Sanggarhorho Village needed to be carried out to increase the knowledge and awareness of the respondents about the dangers of rabies in order to increase their participation in preventing rabies.

The results of the bivariate test obtained p= 0.001, so it can be concluded that there is a relationship between attitudes and actions to prevent rabies. This research is not in line with research by Murtini (2022) which states that there is no significant relationship between attitudes and actions to prevent rabies, but this research

is in line with research by Tahulending (2015) which states that there is a relationship between attitudes and actions to prevent rabies. Based on the results of the correlation test, the value of r= -0.295 was also obtained, meaning that attitudes towards rabies prevention measures have a correlation with a low degree of relationship.

The results of field research showed that 53 (45.7%) respondents had a negative attitude towards rabies prevention and 37 (31.9%) respondents had a positive attitude towards rabies prevention. Respondents who had a negative attitude and lack of rabies prevention measures were 53 (45.7%) respondents. Respondents with negative attitudes and good precautions were 24 (920.7%) respondents. Respondents who had a positive attitude and lack of preventive measures were 37 (31.9%) respondents. Respondents who had a positive attitude and good rabies prevention measures were 2 (1.7%) respondents. This is because most people still consider the bite case of a rabies-transmitting animal (dog) to be harmless so that the community does not immediately take it to a health service facility or to the community health center because the place to get VAR is far from the village and before getting the vaccine the community must first arrange a referral letter from community health center, causing people to be lazy to get the vaccine.

Based on the results of the study it can be concluded that there is a relationship between knowledge (p<0.001) and attitude (p= 0.001) with rabies disease prevention in the work area of the Nangapanda Public Health Center, Ende Regency.

Suggestions to health parties to be more aggressive in providing information about rabies through counseling activities so that this information is expected to influence the prevention of rabies in the com-

munity.

REFERENCES

Abidin A, Anas B (2020). Hubungan antara Pengetahuan dan Sikap Terhadap Upaya Pencegahan Penyakit Rabies pada Masyarakat di Wilayah Kerja Puskesmas Tomoni Timur Tahun 2020 (Relationship between Knowledge and Attitudes towards Rabies Disease Prevention Efforts in Communities in the Work Area of East Tomoni Health Center in 2020). Retrieved at November 30, 2022

Huwae LBS, Sanaky M, Pirsouw CG (2020). Gambaran Pengetahuan , Sikap, Dan Perilaku Masyarakat Tentang Pencegahan Rabies Di Desa Morekau Kecamatan Seram Barat Kabupaten Seram Bagian Barat Tahun 2018 (Description of Community Knowledge, Attitudes, and Behavior About Rabies Prevention in Morekau Village, West Seram District, West Seram District in 2018). 47–58. Doi: 10.30598/pameri-vol2issue1page47-58.

Juliansyah E, Nurdin F (2019). Faktor Pelayanan Kesehatan, Dukungan Keluarga dan Masyarakat dengan Upaya Pencegahan Kejadian Rabies di Wilayah Kerja Puskesmas Pandan Kecamatan Sungai Tebelian Kabupaten Sintang (Factors of Health Services, Family and Community Support with Efforts to Prevent Rabies Incidents in the Work Area of the Pandan Health Center, Sungai Tebelian District, Sintang Regency). VISIKES: J. Kesh. Masy. 18. 120-129.

Kemenkes (2016). Buku Saku Petunjuk Teknis Penatalaksanaan Kasus Gigitan Hewan Penular Rabies di Indonesia (Pocket Book of Technical Guidelines for the Management of Rabies Transmitting Animal Bites in Indonesia). Retrieved at November 30, 2022.

Mohan K (2016). Sikap Dan Perilaku Masyarakat Terhadap Pencegahan Penyakit Rabies Di Kecamatan Banjarangkan Kabupaten Klungkung Bali Tahun 2015 (Community Attitudes and Behaviors Against Rabies Disease Prevention in Banjarangkan District, Klungkung Regency, Bali in 2015). J. Multidiscip. Healthc. 6(1), 65–77. Doi: 10.15562/ism.v6i1.21

Murtini, Kassaming, Rustam HK, Sudirman (2022). Peninjauan Hubungan Pengetahuan, Sikap, dan Tindakan Pencegahan Terhadap Penyakit Rabies di Soppeng (Review of the Relationship of Knowledge, Attitudes, and Prevention Measures Against Rabies Disease in Soppeng). J. Ilmiah Rekam Medis & Informatika Kesh. INFOKES, 12(2), 2745 - 5629.

Novita R (2019). Peran Fasilitas Pelayanan Kesehatan dalam Menghadapi Tantangan Rabies di Indonesia (The Role of

Health Service Facilities in Facing Rabies Challenges in Indonesia). 94-105. J. Penelitian & Pengembangan Layanan Kesh. Doi: 10.22435/jpppk.-v3i2.2005

Notoatmodjo S (2014). Ilmu Perilaku Kese-hatan (Health Behavioral Science), Rineka Cipta. Jakarta

Parwis M, Pengetahuan K, Masyarakat DANT, Parwis M, Ferasyi TR, Hambal M, Novita A (2012). Dalam Mewas-padai Giditan Anjing Sebagai Hewan Penular Rabies (HPR) Di Kota Banda Aceh (Study of Knowledge, Attitude , and Practice of the Community in Four Sub-Districts in Banda Aceh for Their Preparedness of Dogs Attacking as Rabies Risk Animals). 17–22. Doi: 10.21157/j.med.vet..v10i1.4030

Tahulending JMF, Ratag GDKB (2013). Faktor-faktor Yang Berhubungan Dengan Tindakan Pencegahan Penya-kit Rabies Di Kelurahan Makawidey Kecamatan Aertembaga Kota Bitung (Factors Associated With Precaution Of Rabies Disease In Makawidey Village of Aertembaga Subdistrict in Bitung City). JIKMU. 169–178