

HOSPITAL PREPAREDNESS AND RESILIENCE IN PUBLIC HEALTH EMERGENCIES AT ROYAL PRIMA MEDAN HOSPITAL

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ABSTRACT

Hospitals have a very important role in public health, because hospitals are places where people can get maximum health services to support the health of these patients. With the importance of the role of hospitals for the community, it is necessary to have preparedness and resilience on the part of the hospital to always be ready to receive emergencies that come from the community, such as when a disaster occurs where the role of the hospital is very important in helping victims affected by disasters. . The aim of this research is to determine the preparedness and resilience of hospitals in public health emergencies at RSU Royal Prima Medan. This type of research is quantitative research with a cross sectional approach. The population in this study was all medical and non-medical employees at RSU Royal Prima Medan, totaling 822. The sampling method used in this research was systematic sampling. The sampling technique in this research used Proportional Random Sampling so that the number of samples in this research was 134 samples. Data analysis in this study used univariate analysis. The results showed that the majority of respondents in this study were aged 36-45 years, 73 people, the majority were female, 91 people, the majority had worked < 5 years, 74 people and the majority worked as nurses, 50 people. The preparedness of RSU Royal Prima Medan in facing public health emergencies is good, the resilience of RSU Royal Prima Medan in facing public health emergencies is good.

KEYWORDS Preparedness, Resilience, Emergency, Public Health



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INTRODUCTION

A hospital is a health service institution that organizes medical staff, and staff of other professions, has patient inpatient facilities, and provides services 24 hours a day, 7 days a week. Hospitals provide services for acute patient conditions, patients who are on the way to recovery and patients who are in terminal care conditions, using diagnostic and curative services (WHO, 2017). Another definition of a hospital is, a hospital is a facility that provides inpatient services and active

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observation, diagnosis, and treatment services for individuals with medical, surgical, obstetric, chronic diseases, and rehabilitation conditions that require daily direction and supervision from a doctor (Chrismis, 2019).

In Indonesia, the recent development of relevant hospitals has made the implementation of a patient safety culture important. With the aim of minimizing risks and preventing injuries during treatment, Health authorities issued regulations requiring hospitals to build systems that make patient care safer (Linda, 2021). Given the importance of the role of hospitals for the community, therefore it is necessary to have preparedness and resilience from the hospital to always be ready to receive emergencies that come from the community, as well as when a disaster occurs where the role of the hospital is very important to help victims affected by disasters.

Hazards or disasters have the potential to destroy or damage hospitals and render them non-functional. For example, an earthquake in 2009 damaged 85 hospitals and health facilities in Padang City, West Sumatra. Likewise, after an earthquake hit Yogyakarta Province in 2006, 17 of the best hospitals in Indonesia had to be closed. Of the total 117 health centers in Yogyakarta Province, 45 were destroyed, 22 were severely damaged and 16 were lightly damaged. About 65% of the total damage and losses in the health sector are suffered by private practices and hospitals (United Nations Office for Disaster Risk Reduction, 2010).

Most natural disasters cannot be prevented, WHO considers it important to improve the readiness of health care systems, especially hospitals, so that appropriate services can be provided to victims. Hospitals and service providers must continue to work and do whatever they can to help injured people when disaster strikes. Therefore, having a strong and resistant structure can help hospitals in disasters. In some cases, hospitals are directly affected by disasters that can suffer structural, non-structural, equipment damage, injuries to medical staff and other personnel, and even organizational and managerial problems. In such conditions, hospitals will not be able to provide services to disaster victims. Thus, ensuring the maintenance of the structural and functional safety of hospitals in critical conditions is a necessary issue. Actions and policies before a disaster must be carried out by hospitals to reduce damage and casualties due to disasters, as well as be ready to handle disasters and plan actions after disasters occur (Ririn, 2020).

Preparedness is one part of the disaster management process and preparedness is one of the important elements of pro-active disaster risk reduction prevention activities, before a disaster occurs (Astari 2017). In all forms of emergencies, hospitals are required to always be on standby to help people who are experiencing emergencies. Preparedness in hospitals must be established from every hospital environment, just like the preparedness of health workers in the hospital, health workers must be really ready to be on standby in every situation to anticipate unwanted events.

As the research conducted Iga Berliana (2019) Regarding the preparedness of health workers in dealing with flood disasters, the results of the study show that the preparedness of health workers can be said to be ready to be on standby in facing flood disasters, but it has not met the standards of health workers' needs. The preparedness that must be carried out by the hospital is not only to be ready to

receive an emergency from public health, but the hospital must also be ready to be on standby for situations that may come from inside the hospital, such as in the event of a fire in the hospital.

Astari (2017) conducted a study on the preparedness of inpatient installation nurses against fire disasters, the results of the study showed that the attitude of the main informant regarding the preparedness of nurses in fire management efforts showed a positive response where the informant agreed and was obliged to know the fire management plan and participate in training and fire management simulations on a regular basis. The hospital already has a policy for implementing K3RS in the form of policies related to fire management, the policy is in the form of a decree signed by the Director of the Hospital. Socialization related to policies related to fire management is still lacking for nurses, patients, and visitors to the hospital. The hospital already has standard operational procedures regarding fire management, but because the standard operational procedures are in the form of a book, information has not been seen around the strategic area of hospital X The hospital already has a fire management plan in the form of a hospital disaster plan (HDP) prepared by the K3 installation. However, this HDP should be updated because there are several building constructions in the gathering point area, so there needs to be a notification back to all installations.

Hospital preparedness in dealing with public health emergencies must have good procedures, because with good procedures in itself, preparedness in hospitals in dealing with public health emergencies can be easily overcome. Because we know that hospitals are the spearhead of public and individual health services. Hospitals have a very large authority and responsibility in maintaining public health in their work areas in order to improve the status of public health as optimally as possible. In the event of disasters and other public health emergencies, hospitals are expected to continue to carry out their functions, especially in carrying out disaster emergency response to save lives so that they can minimize the number of casualties due to disasters.

In addition to the preparedness needed by hospitals in dealing with public health emergencies, considering the importance of the role of hospitals in the event of a public health emergency, efforts are urgently needed to increase hospital resilience to public health emergencies and during disasters. Where the hospital must be able to save lives and be able to continue to provide essential health services for the community. In general, these efforts can be carried out by: 1) protecting the lives of patients and health workers by ensuring the structural resilience of hospitals; 2) ensure that due to community emergencies and disasters, health facilities and health services in hospitals are able to continue to function; and 3) improve the emergency management capabilities of health workers and related agencies (Rina, 2016). To build hospital resilience to disasters, it is important to first understand the concept of disaster resilience and its supporting elements.

Research by Anjarsari et al. (2014) on disaster preparedness planning at the Balung Regional Hospital, Jember Regency, that organizational planning, organizational structure, and disaster preparedness teams already exist but have not run as they should, so that the implementation of the organization is not good.

Based on Ismunandar (2013) research on the readiness of the Undata Palu Hospital in handling disaster victims, the disaster management team that has been formed is not running as it should, and has been inactive for a long time and has never conducted a disaster management simulation within the scope of the Hospital (Internal Disaster). The readiness of facilities, facilities and infrastructure is still lacking in handling disaster victims. According to Tika (2019) research on the application of hospital disaster plans in regional public hospitals, the overall result of the hospital safety index of Tugurejo Semarang Hospital is 0.64, including hospitals with level B in disaster management.

From the description of the background above, the researcher wants to conduct research with the title "Hospital preparedness and resilience in a public health emergency at the Royal Prima Medan Hospital".

RESEARCH METHOD

This type of research is a quantitative research with a cross sectional approach. Quantitative research is a research that is required to use numbers starting from data collection, interpretation of the data, and the appearance of the results, for which the role of statistics in this research is very important and dominant (Arikunto, 2018).

This study uses a cross sectional research design. According to Notoatmodjo, (2018) cross sectional is a study to study the dynamics between risk factors and effects, by way of approach, observation or data collection at once at a certain time (point time approach).

RESULT AND DISCUSSION

Profile of RSU Royal Prima Medan

Royal Prima Hospital Medan is one of the largest private hospitals and will be a referral center for the community, especially the city of Medan and the people of North Sumatra in general. A proud moment, on May 17, 2011, the Deputy Minister of National Education of the Republic of Indonesia, Prof. Dr. Fasli Jalal, PhD. laid the first stone for the construction of Royal Prima Hospital. On February 14, 2013, the Head of the North Sumatra Provincial Health Office has issued a Temporary Operational Permit to Royal Prima Medan Hospital No. 440.442/1641/II/YEAR 2014. On February 16, 2014, RS. Royal Prima Medan was inaugurated by the Deputy Governor of North Sumatra Province Ir. H. Tengku Erry Nuradi, M.Si with a Permanent Operational Permit from the North Sumatra Provincial Health Office signed by the Head of the North Sumatra Provincial Health Office, dr. Siti Hatati Surjantini, M.Kes.

Vision and Mission of Royal Prima Hospital Medan

Vision

The vision of Royal Prima Hospital Medan is to become a Superior Hospital in the fields of health services, education and health research and development by prioritizing the interests of public health.

Mission

The mission of Royal Prima Hospital Medan is:

1. Organizing quality and professional plenary health services based on evidence and scientific research
2. Continuously improve the competence of human resources in accordance with the development of science and technology in medicine, dentistry and other health
3. Improving the quality and quantity of health service facilities/infrastructure in accordance with technological developments and community needs
4. Carry out evidence-based education and research functions in the field of comprehensive and integrated health
5. Creating a work environment that synergizes with each other and upholds human and religious values and improves the welfare of related parties
6. Establish partnerships with various parties in an effort to strengthen the role of hospitals in health services and education
7. Carrying out community service to the interests of public health

Facilities and Services

1. Ambulance
2. Emergency Installation
3. Pharmacy / Pharmacy
4. Blood Bank
5. Operating Room
6. General practitioner

Medical Support

1. Laboratory
 - A. Clinical Pathology
 - B. Pathologists Anatomies
2. Radiologi
 - A. X-rays
 - B. CT Scan
3. Ultrasound (ultrasound)
4. Electrocardiogram (EKG)
5. Elektroensefalografi (EEG)

Outpatient

General polyclinics and specialist polyclinics provide services according to a predetermined schedule. The following is a list of poly services at Royal Prima Medan hospital:

1. Internal Medicine Specialist
2. Obstetrics and Gynecology Specialist
3. Pediatrician
4. Surgical Specialist
 - A. General Surgery
 - B. Oral Surgery

- C. Paediatric Surgery
- D. Neurosurgery
- E. Oncology Surgery
- F. Digestive Surgery
- G. Cardiovascular Thoracic Surgery
- H. Plastic Surgery
- 5. Heart and Blood Vessel Specialist
- 6. Eye Specialist
- 7. ENT Specialist
- 8. Pulmonary Specialist
- 9. Urology Specialist
- 10. Orthopaedic Specialist
- 11. Neurologist
- 12. Skin and Venereal Disease Specialist
- 13. Psychiatric Specialist
- 14. Dental Clinic

Patient Hospitalization

- 1. Special and Intensive Care
 - A. ICU / NICU
 - B. Isolation Room
 - C. Baby Care Room
- 2. General Care
 - A. Super VIP Class Treatment Room
 - 1) Electric Bed
 - 2) Dining Table
 - 3) Sofa
 - 4) 32" LCD TV
 - 5) Hot Water
 - 6) Mini Bar
 - 7) Refrigerator
 - 8) Air Conditioner
 - B. VIP Class Treatment Room
 - 1) Electric Bed
 - 2) Dining Table
 - 3) Sofa
 - 4) 32" LCD TV
 - 5) Hot Water
 - 6) Mini Bar
 - 7) Refrigerator
 - 8) Air Conditioner
 - C. Class I Treatment Room
 - 1) 2 Manual Beds
 - 2) Hot Water
 - 3) 32" LCD TV
 - 4) Air Conditioner

- D. Class II Treatment Room
 - 1) 3 Manual Beds
 - 2) 32" LCD TV
 - 3) Air Conditioner
- D. Class III Treatment Room
 - 4 Manual Beds
 - 32" LCD TV
 - Air Conditioner

Research Results

Frequency Distribution of Research Respondent Characteristics

The characteristics of the respondents in this study were age, gender, length of work and work position.

1. Frequency Distribution of Research Respondent Characteristics Based on Age

The following are the results of the research on the frequency distribution of respondent characteristics based on age which can be seen in the following table.

Table 1. Frequency Distribution of Research Respondent Characteristics by

Age		
Age	n	%
26-35 Years	50	37,0
36-45 Years	73	54,1
>45 Years	12	8,9
Total	135	100

Source : Primary data processed (2024)

Table explains the frequency distribution of respondent characteristics based on age. There were 50 respondents aged 26-35 years with a percentage of 37.0%, 73 respondents aged 36-45 years with a percentage of 54.1% and 12 respondents aged >45 years with a percentage of 8.9% of the total sample of respondents in this study as many as 135 respondents. From these results, it can be seen that the majority of respondents in this study are 36-45 years old.

2. Frequency Distribution of Research Respondent Characteristics by Gender

The following are the results of the research on the frequency distribution of respondent characteristics based on gender which can be seen in the following table.

Table 2. Frequency Distribution of Research Respondent Characteristics by

Gender		
Gender	n	%
Male	44	32,6
Woman	91	67,4
Total	135	100

Source : Primary data processed (2024)

Table explains the frequency distribution of respondent characteristics by gender. There were 44 respondents with a male gender with a percentage of 32.6%, and 91 respondents with a female gender with a percentage of 67.4% of the total sample of respondents in this study as many as 135 respondents. From these results, it can be seen that the majority of respondents in this study are female.

3. Frequency Distribution of Research Respondents' Characteristics Based on Length of Work

The following are the results of the research on the frequency distribution of respondent characteristics based on length of work which can be seen in the following table 3.

Table 3. Frequency Distribution of Research Respondent Characteristics Based on Length of Work

Length of Work	n	%
< 5 Years	74	54,8
> 5 Years	61	45,2
Total	135	100

Source : Primary data processed (2024)

Table 3 explains the frequency distribution of respondent characteristics based on length of work. There were 74 respondents with a working < 5 years with a percentage of 54.8%, and 61 respondents with a working > 5 years with a percentage of 45.2% of the total sample of respondents in this study as many as 135 respondents. From these results, it can be seen that the majority of respondents in this study have a working period of < 5 years.

4. Frequency Distribution of Research Respondent Characteristics Based on Job Position

The following are the results of the research on the frequency distribution of respondent characteristics based on work position which can be seen in the following table 4.

Table 4. Frequency Distribution of Research Respondent Characteristics Based on Job Position

Job Position	n	%
Doctor	25	18,5
Nurse	50	37,0
Midwife	12	8,9
Paramedic	17	12,6
Non Medical	31	23,0
Total	135	100

Source : Primary data processed (2024)

Table 4 explains the frequency distribution of respondent characteristics based on job position. Respondents with a working position as a doctor were 25

people with a percentage of 18.5%, respondents with a working position as a nurse as many as 50 people with a percentage of 37.0%, respondents with a working position as a midwife as many as 12 people with a percentage of 8.9, respondents with a working position as a paramedic as many as 17 people with a percentage of 12.6% and respondents with a working position as a non-medical as many as 31 people with a percentage of 23.0% of the total The sample of respondents in this study was 135 respondents. From these results, it can be seen that the majority of respondents in this study have a working period of < 5 years.

Validity and Reliability Test Results

Validity Test Results

Table 5. Validity Test Results

Preparedness Questions	r calculate	r table	Information
P1	0,841	0,361	Valid
P2	0,370	0,361	Valid
P3	0,806	0,361	Valid
P4	0,841	0,361	Valid
P5	0,797	0,361	Valid
P6	0,645	0,361	Valid
P7	0,904	0,361	Valid
P8	0,904	0,361	Valid
P9	0,904	0,361	Valid
P10	0,584	0,361	Valid
P11	0,841	0,361	Valid
P12	0,469	0,361	Valid
P13	0,397	0,361	Valid
Resilience Questions	r calculate	r table	Information
P1	0,650	0,361	Valid
P2	0,760	0,361	Valid
P3	0,695	0,361	Valid
P4	0,946	0,361	Valid
P5	0,563	0,361	Valid
P6	0,597	0,361	Valid
P7	0,946	0,361	Valid
P8	0,946	0,361	Valid
P9	0,946	0,361	Valid
P10	0,946	0,361	Valid
P11	0,946	0,361	Valid
P12	0,946	0,361	Valid
P13	0,849	0,361	Valid
P14	0,760	0,361	Valid

Source : Primary data processed (2024)

Table 5 explains the results of the validity test of the questionnaire questions for preparedness and resilience where of all the questions the r value is calculated > the table r value is 0.361. From these results, it can be concluded that all questions on preparedness and resilience are valid.

Reliability Test

Table 6. Reliability Test Results

Variable	Cronbach Alpha	Information
Preparedness	0,929	Relib
Resistance	0,955	Relib

Source : Primary data processed (2024)

Table 6 explains the results of the reliability test of the questionnaire questions in this study, from the results of the research that has been carried out, the results of the Cronbach Alpha From the preparedness and resilience questions > 0.70 which means that the questions on preparedness and resilience in this study are all relib.

Univariate Analysis Results

Preparedness

The following is the respondent's answer based on the preparedness question of RSU Royal Prima Medan in a public health emergency which can be seen in table 7.

Table 7. Preparedness

Preparedness	n	%
Good	124	91,9
Bad	11	8,1
Total	135	100

Source : Primary data processed (2024)

Table 7 explains the results of respondents' answers about the preparedness of RSU Royal Prima Medan in a public health emergency. The results of the study showed that 124 respondents who said that the preparedness of the Royal Prima Medan Hospital in the event of a public health emergency was good with a percentage of 91.9% and the respondents who said that the preparedness of the Royal Prima Medan Hospital in the event of a public health emergency was not good as many as 11 respondents with a percentage of 8.1% of the total sample of respondents in this study as many as 135 respondents. From these results, it can be seen that the majority of respondents said that the preparedness of the Royal Prima Medan Hospital in the event of a public health emergency is good.

Durability

The following is the respondent's answer based on the question of the resilience of Royal Prima Medan Hospital in a public health emergency which can be seen in table 8.

Table 8 Resistance

Resistance	n	%
Good	116	85,9
Bad	19	14,1
Total	135	100

Source : Primary data processed (2024)

Table 8 explains the results of respondents' answers about the resilience of Royal Prima Medan Hospital in a public health emergency. The results of the study showed that the respondents who said that the resilience of the Royal Prima Medan Hospital in the public health emergency were good as many as 116 respondents with a percentage of 85.9% and the respondents who said that the resilience of the Royal Prima Medan Hospital in the public health emergency was not good as 19 respondents with a percentage of 14.1% of the total sample of respondents in this study as many as 135 respondents. From these results, it can be seen that the majority of respondents said that the resilience of Royal Prima Medan Hospital in the event of a public health emergency is good.

Discussion

Hospital Preparedness in a Public Health Emergency at Royal Prima Hospital Medan with parameters (Skills, Attitudes of Health Workers, Facilities and Infrastructure)

The results of the study on preparedness in public health emergencies at Royal Prima Medan Hospital showed that 124 respondents said that the preparedness of Royal Prima Medan Hospital in public health emergencies was good as many as 124 respondents with a percentage of 91.9% and respondents who said that the preparedness of Royal Prima Medan Hospital in public health emergencies was not good as many as 11 respondents with a percentage of 8.1% of the total sample The respondents in this study were 135 respondents. From these results, it can be seen that the majority of respondents said that the preparedness of the Royal Prima Medan Hospital in the event of a public health emergency is good.

From the results of the study, it can be seen that the skills and attitudes of health workers at RSU Royal Prima Medan are in the good category in dealing with public health emergencies, this is because RSU Royal Prima Medan routinely conducts training and seminars on public health emergencies aimed at every employee who works at RSU Royal Prima Medan. In addition, facilities and infrastructure to support hospital preparedness in public health emergencies are also well available, complete and fit to use.

Preparedness is an effort that allows the community to overcome the dangers of natural events, through the establishment of a systematic emergency response structure and mechanism. Disaster preparedness includes efforts to reduce risk levels, formulation of disaster emergency plans, management of community resources, and training of residents in disaster-prone locations (Anies, 2018). Preparedness is an effort carried out to deal with emergency situations and recognize various forms of human resources to meet needs in the event of a disaster.

This aims to make the community better prepared to face a natural disaster so that the impact of losses caused by a disaster can be minimized (Maryono, 2016).

Hospital Resilience in Public Health Emergencies at Royal Prima Medan Hospital with parameters (Physical Condition, Institutional Role, Employee Capacity, External Relations)

The results of the study on resilience in public health emergencies at Royal Prima Medan Hospital showed that 116 respondents with a percentage of 85.9% said that the resilience of Royal Prima Medan Hospital in public health emergencies was not good as many as 19 respondents with a percentage of 14.1% of the total sample of respondents in the This study had 135 respondents. From these results, it can be seen that the majority of respondents said that the resilience of Royal Prima Medan Hospital in the event of a public health emergency is good.

In this study, resilience refers to physical resilience where what is meant is the ability of a system to respond to a disaster event physically, this has been going well at RSU Royal Prima Medan where it is proven by the complete facilities and infrastructure owned by RSU Royal Prima Medan to overcome public health emergencies.

CONCLUSION

The following is the conclusion of a study entitled Hospital Preparedness and Resilience in Public Health Emergencies at Royal Prima Hospital Medan. 1. The majority of respondents in this study were 73 people aged 36-45 years, the majority were 91 women, the majority worked < 5 years as many as 74 people and the majority worked as nurses as many as 50 people. 2. The preparedness of the Royal Prima Medan Hospital in dealing with public health emergencies is good. 3. The resilience of the Royal Prima Medan Hospital in facing public health emergencies is good.

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