

# Knowledge and Skill Levels of Midwives Regarding Reproductive Health Services in Disaster Emergency Situations in Padang City

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**ABSTRACT:** Efforts to improve disaster preparedness health education is one of the education that contributes to this effort. Efforts to provide health services in crisis conditions due to disasters continue to be improved but are not yet optimal. This study aims to determine the level of knowledge and skills of midwives in serving reproductive health in disaster emergencies in the city of Padang. This research method uses the Research and Development Model. The research was conducted in Padang City, the population of this study was all midwives who were members of the IBI profession in Padang City, using a sampling method using a questionnaire of 50 respondents. The results obtained related to the knowledge and skills regarding the preparedness of midwives in health services in dealing with disasters have a poor level of knowledge of 76% (38 people) while the skill level of midwives was found from 50 respondents to have poor skills of 96% (48 people).

**KEYWORD:** Knowledge, Skills, Midwives, Reproduction, Disaster.

## INTRODUCTION

Indonesia is a country that has the potential to experience natural disaster situations such as earthquakes, volcanic eruptions, tsunamis, floods, landslides, tornadoes, and so on. Disasters that occur affect the quality of life of the community, especially in the health sector. Various health problems can arise for affected communities, especially for vulnerable groups of people. Disaster is a matter of public administration and public policy (Gao & Yu, 2020). The reason why disaster issues are currently one of the public policy agendas is bearing in mind that the State of Indonesia is a country that is frequently hit by disasters. Of the many disasters, the earthquake and tsunami disaster is the most threatening, this is due to the position of the area in the subduction zone between the Indo-Australian plate and the Eurasian plate. This phenomenon makes Padang City one of the areas that often experience earthquakes.

In improving disaster preparedness, health education is one of the schools that contributes to this effort. Efforts to provide health services during a crisis due to a disaster continue to be improved but are not yet optimal, both in terms of trained health workers, equipment, competence, and knowledge of these health workers, in this case, one of them is a midwife. As a result, services are still limited to handling health problems in general, while reproductive health is not yet a priority and is often not available (Chandra-Mouli et al., 2019).

Midwives are health workers who generally work in a public health center or the community/community closest to the impact of the disaster. Midwives' contribution to disaster/disaster emergency risk reduction or preparedness is very important. Midwives are often excluded from disaster preparedness at the local, national and international levels. This is supported by facts from WHO which state that the health of mothers, newborns, and women needs to be considered in education and mass casualty management so that the International Confederation of Midwives (ICM) and its member associations ensure that midwives can participate and take a role in disaster preparedness (WHO, 2011).

During a disaster, there will still be pregnant women who will give birth at any time while the disaster is happening, during the evacuation process, or while living in evacuation shelters. Due to the chaotic situation at the time of the disaster, mothers who had not yet given birth could also give birth early/prematurely due to the chaotic situation and had to save themselves. 15-20% of pregnancies will be complicated and require immediate treatment to save lives. Therefore midwifery education plays an important role in producing midwifery graduates who have expertise in midwifery services in disaster situations. This competency can be achieved through the integration of disaster into the expertise subject at the Padang Midwifery D III Study Program.

Several studies on the integration of disaster teaching materials have been carried out by several researchers including the Regional Consultative Committee (RCC, 2017) which stated that many RCC member countries such as Bangladesh, Cambodia, India, Indonesia, Iran, Maldives, Laos, Nepal, Pakistan, Malaysia, Philippines, Sri Lanka, and others have either already integrated Disaster Risk Education (DRR) into the school curriculum or are in the process of completing the integration or are starting to. But depending on the policy decisions of state educators, often the methods of integrating differ from country to country. Sometimes DRR is integrated as an independent subject. Often DRR concepts are taught by combining with certain sections and chapters from other subjects such as environmental studies, geography, science, etc.

Previous research from the LIPI Research Team, Widayatun and Zainal (2013), entitled "Reproductive Health Problems in Disaster Situations: The Role of Health Officers and Community Participation". The results of the study show that health workers together with the community play a role in earthquake disaster management, starting immediately after the earthquake (day 1 to day 3), the emergency response period (day 3 to a month), and the rehabilitation and reconstruction period (since a month after the earthquake).

Next is research by Lee & Lee, (2020) entitled "The Effects of Disaster Training Education on the Attitudes, Preparedness, and Competencies in Disaster Nursing of Hospital Nurses" Results: There is a statistically significant relationship between midwifery skills, preparedness, and disaster midwifery competency. Disaster midwifery skills and preparedness have a significant effect on disaster midwifery competence. Furthermore, research by Ramadhan et al (2019) "Environmental education and disaster mitigation through language learning". This research was conducted in two stages: identifying and analyzing complete information about the steps and developing an indirect teaching model as a mitigation literacy model disaster through the ADDIE development model.

The studies above provide information and methodological reinforcement that emphasizes the importance of integrating disaster material into educational content in educational institutions, such as schools and universities. But in the study of obstetric health issues, as long as the researcher's research is very minimal, therefore. Disaster study is a multidisciplinary study because it can be seen from various scientific perspectives such as geology, geography, physics, psychology, sociology, policy, education science including health sciences. Health issues are urgent issues because they involve the problem of physical and non-physical resilience and sustainability of human life. One of the health problems related to the disaster is the reproductive health of the people affected by the disaster, such as reproductive health in adolescents, pregnant women, women giving birth, postpartum women, and the elderly. To anticipate potential problems,

it is necessary to approach reproductive health education as part of disaster mitigation. In this position, role of midwife education is needed to prepare midwives to anticipate and reduce risks from disasters to reproductive health. The subject of this research is to describe the level of knowledge of midwives about reproductive health services in disaster emergencies in Padang City.

## METHODS

The research model that is considered appropriate to use is the Research and Development model (research and development) (Choi & Contractor, 2016). Research and development is "a process used to develop and validate educational products" and the procedures for carrying out research and development as stated by Borg & Gall above, are broadly concluded in three activities and stages, namely: a preliminary study, model building, and testing. model implementation (Rukun, 2019). All stages of the above activities can be seen in the following figure, to analyze the level of knowledge of midwives about reproductive health services in disaster emergencies in Padang City. The population in this study were all midwives who were members of the IBI profession in Padang City, using the sampling method, namely Custer Random Sampling, that is, midwives were clustered based on IBI branches in Padang City, which consisted of 25 branches, then taken randomly as many as 5 branches, based on the level of vulnerability from disaster threats. All members of the selected branch were used as the research sample, totaling 50 respondents. Data Collection Techniques quantitative data collection was carried out through questionnaires to obtain the level of knowledge of the informants. Furthermore, the documentation method was also used to obtain secondary data.

## RESULTS

Based on the results of the distribution of questionnaires to the research respondents, 50 midwives in Padang City have a place of practice (Independent Midwife Practice), the characteristics of the respondents based on age, education, and length of service can be seen in Table 1 below.

**Table 1. Characteristics of respondents**

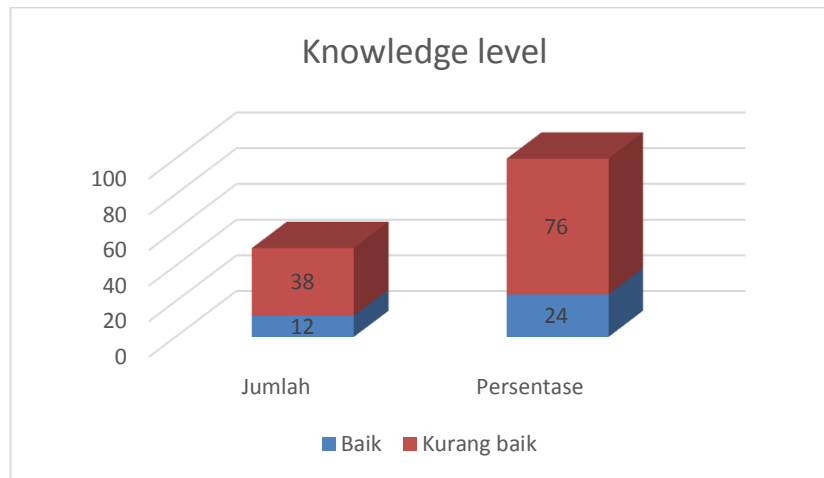
Characteristics	Frekwensi	rsentase
<b>Age<sup>(TH)</sup></b>		
30-39	6	12,0
40-49	18	36,0
50-59	18	36,0
>= 60	8	16,0
Total	50	100,0
<b>Education</b>		
D3 Midwifery	14	28,0
D 4 Midwifery	26	52,0
Master of Science/Health	10	20,0
Total	50	100,0
<b>Length of work<sup>(TH)</sup></b>		
	15	30,0
10-19	12	24,0
20-29	23	46,0
30-39		
Total	50	100,0

In the table above the characteristics of the respondents are illustrated in terms of age, the average respondent is 40 years old -59 years old (36 people/76%) of the 50 respondents. This shows that most of the respondents

already have long experience practicing midwifery. In terms of education, it can be seen that most of them have educational qualifications of S1/D IV midwifery as many as 26 people (52%), and the length of service is 30-39 years as many as 23 people (46%).

### 3.1 Level of knowledge of respondents on the concept of disaster and midwifery services in disaster emergencies

The number of question items on the knowledge level questionnaire is 25. Of the 25 question items, 16 questions were answered incorrectly by the majority of respondents, namely questions about the respondent's knowledge of the concept of disaster and midwifery services in disaster emergencies. An overview of the level of expertise of midwives regarding services to pregnant women in disaster emergencies in Padang City can be seen in the Fig 1 below.



**Figure 1. Knowledge level of midwifery services for pregnant women in disaster emergencies (In Indonesia)**

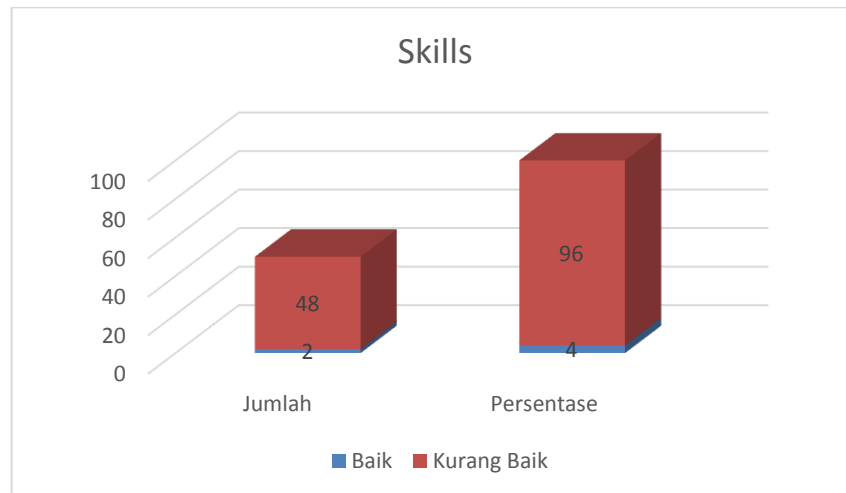
The Fig 1 above explains the level of knowledge of respondents about midwifery services for pregnant women in disaster emergencies. The results of the study found that out of 50 respondents, 76% (38 people) had a poor level of knowledge. From this data, it can be concluded that even though most of the respondents had quite a long service experience, their knowledge of midwifery services in disaster situations was still lacking because midwifery education itself was not prepared. The results of this study are in line with research conducted by Tilahun et al (2021) which shows that 66.7% are men and 33.3% are women with an average age of respondents  $31.2 \pm 5.8$ . Among the respondents, 54% (52.9%) have no understanding of disaster preparedness. As a result, most of the participants, 52 (51%), had insufficient knowledge. Most of the respondents had a sufficient attitude (57.8%) and only a few, namely 12 (11.8%) respondents were very knowledgeable about disasters and disaster management preparedness. This can be caused because in early adulthood a person tends to broaden his horizons, have solid activities and master good cognitive skills.

Midwives must know about health service preparedness in dealing with disasters. This is because all matters related to medical assistance and assistance equipment must be carried out properly at an urgent time (Gupta & Denton, 2008). Midwives' knowledge regarding disaster preparedness efforts is the basis for providing health services when a disaster occurs (Pourvakhshoori et al., 2017). Meanwhile, according to another opinion, the lack of knowledge of midwives will affect the speed and accuracy in providing optimal health services in urgent situations or during a disaster emergency response (Cao et al., 2020). Poor knowledge of midwives can be caused by the small number of respondents who are exposed to information regarding the importance of implementing disaster preparedness and the lack of procurement and participation in training

related to disaster preparedness as well as the limited experience of midwives in managing flood disaster events. Even though knowledge is one of the variables that can become a person's skills and behavior. One of the main variables in the formation of one's skills is knowledge, this is if the knowledge is good then indirectly the skills will also be better.

### 3.2 Level of Skills of respondents on the concept of disaster and midwifery services in disaster emergencies

The number of items assessed on skills was 21 items, and it was found that the items the respondents were unable to answer correctly were as many as 17 skills items, namely about how midwives are skilled in providing midwifery services in disaster emergencies. An overview of midwives' skills in serving pregnant women in a disaster emergency in Padang City can be seen in the Fig 2 below:



**Figure 2. Skill level of midwifery services for pregnant women in disaster emergencies (In Indonesia)**

The Fig 2 above explains the skills of the respondents regarding midwifery services for pregnant women in disaster emergencies. The results of the study found that out of 50 respondents, 96% (48 people) had poor skills. From this data, it can be concluded that although most of the respondents have quite a long service experience, their skills regarding midwifery services in disaster situations are still not good enough, so it is necessary to prepare a curriculum on midwifery services in disaster emergencies in midwifery education.

Skill is a skill that midwives need in taking action on patients in an emergency that will determine a person's actions or behavior. Skills influence behavior through the process of making decisions and in this case the midwife's decision to carry out preparedness in disaster management efforts (Hesti et al., 2019). Disaster preparedness skills in midwives will increase the midwife's sense of optimism in providing midwifery care during a disaster emergency response (Helmi, 2022). Midwives' preparedness skills are intended to raise awareness and readiness of midwives in preparing health services that are ready to face disasters. The factor influencing these skills is that midwives have obtained a good basic knowledge of disaster management through the training conducted. Another thing that can affect midwives' skills is the high workload with a minimum number of midwives; the influence of other people who are considered important in this case has not been able to maximize midwifery health service preparedness efforts in dealing with disasters in their working area.

## CONCLUSION

The results of research related to knowledge about the preparedness of health services in the face of disasters showed that the knowledge of midwives from 50 respondents was found to have a poor knowledge level of



76% (38 people) while those who had good knowledge were 24% (12 people) of respondents. For the skill level of midwives, it was found that out of 50 respondents, 96% (48 people) had poor skills, while 4% (2 respondents) had good knowledge.

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