



Original Article

Life Experience of Sirau Community Health Resilience in Facing Floods

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ABSTRACT

In Indonesia, floods are a common disaster particularly among Sirau Village, and Kemranjen Region, Banyumas, Central Java. The climate and geographic location are two main factors resulting from the floods in Sirau Village. The aims of study is to gain insight into the experiences and health effects of flood-affected inhabitants of Sirau Village. A qualitative with descriptive phenomenology used to carry out the study. The results of the study showed that three topics emerged from the study: theme 1 was how the society saw floods; theme 2 was how flood water was used; and theme 3 was illnesses linked to flooding. Discussion topics include the general public's opinions on floods, uses of floodwater, and medical issues. In conclusion the residents of Sirau Village, flooding is typical, and when it happens residents tend to suffer from various diseases, prompting them to seek treatment at the health post. Some residents use flood water for their daily needs as well.

INTRODUCTION

Floods are natural disasters that often occur in various parts of the world. Apart

from damaging infrastructure and causing material loss, floods also have a significant impact on public health. In this article, we will explore the health impacts caused by HealthCare Nursing Journal, Vol 6 No 1 | 125

flooding, as well as measures that can be taken to deal with them.

One of the most common health impacts resulting from flooding is the spread of disease. Polluted flood water can contain various pathogenic microorganisms, such as bacteria, viruses and parasites. When people are exposed to flood water, they are at high risk of developing diseases such as diarrhea, skin infections, dengue fever, leptospirosis, and so on. Apart from that, flooding can also cause an increase in the number of insects, such as mosquitoes, which have the potential to spread infectious diseases such as malaria and fever.

Apart from spreading disease, floods can also have a negative impact on people's mental health. Loss of shelter, property and environmental damage can cause stress, anxiety and depression in flood victims. Moreover, the recovery process after a flood can also affect mental health, due to stress and uncertainty about the future.

As stated in Soehatman (2011) by the National Development Program (UNDP), "A disaster is an extreme event in the natural or human environment that has a negative impact on life, property or human activities to a level that causes a disaster." At least 1,291 flood disasters occurred in Indonesia in 2021, according to data from the National Disaster Management Agency (BNPB). On November 15 2021, Batu, Malang experienced the worst floods which caused hundreds of houses to be destroyed and 15 people died. The Banyumas Regency area in Central Java was also hit by flooding. There are at least six sub-districts in Banyumas that were identified as flood-prone areas in the mapping of flood-prone sub-districts carried out by the Regional Disaster Management Agency (BPBD): Banyumas, Kemranjen, Sumpiuh, Tambak, Kalibagor, and Lumbir sub-districts (Theophilus Yanuarto, 2020).

Floods that hit an area can destroy houses and cause losses and even death, as

happened in Wasior and Bohorok. Apart from causing congestion for private vehicles such as trucks and minibuses, flooding also causes longer travel distances due to waterlogging, as often happens on the Java Pantura Route. In addition, flooding disrupts the efficient operation of rail and air transportation. As happens every year in Cienteung, South Bandung, residents are often forced to evacuate temporarily to areas that are safer and less prone to flooding (Arif Rosidi, 2013). Health problems are also caused by flood disasters, both during and after the incident.

For example, floods often occur in Sirau Village, Kemranjen District, Banyumas Regency, every year. This is caused by high rainfall and the geographical condition of Sirau Village, which is shaped like a bowl and is located in the lowlands. As a result, Sirau Village became a reservoir for water from nearby villages. The Head of Sirau Village, Pak Mualiful Khasan, said that at least eight hamlets are affected by flooding every year, with Pacarmalang Hamlet suffering the most. According to the Head of Pacarmalang Hamlet, since 1998, floods have always occurred in Sirau Village. The biggest flood that ever hit the village occurred in 2021, with the water level rising by around 150 cm. Of the total population of 749 people, 235 families were affected.

Health problems arise every year when floods occur in Sirau Village. Due to the small number of emergency shelters and limited medical resources, obstacles in the health sector are always a major problem. For this reason, researchers used observation and interview techniques as well as sampling techniques to conduct qualitative research. Through the use of purposive sampling, we can specifically identify diseases that emerged in Sirau village after the disaster by talking to local health workers. In addition, by interviewing community leaders in particular, we can learn more about community customs and culture that impact health after a flood.

culture in order to fully understand the health conditions in Sirau Village and the impact of flooding on it. The aim of this research is to determine how floods affect human health and psychology.

METHOD

This research uses a descriptive phenomenological approach combined with qualitative methods. The research was carried out in November and December 2022 in Sirau Village, Kemranjen District, Banyumas Regency. Five residents of Sirau Village became informants for this research. The sampling technique uses purposive sampling technique. By selecting informants based on inclusion and exclusion criteria, as follows:

a. Inclusion criteria

Inclusion criteria are criteria for research subjects who can represent or fulfill the requirements of the research sample (Rikomahetal, 2018). Criteria that meet the requirements for inclusion in this study include:

- 1) The people of Sirau Village who experienced flooding
- 2) Willing to be an informant
- 3) Has experience in dealing with floods for a period of 10 years

b Exclusion criteria

Exclusion criteria are criteria where research subjects cannot represent the sample because they do not meet the requirements as a research sample. This exclusion criterion is also samples that do not meet the inclusion criteria (Rikomahetal, 2018).

So the exclusion criteria are as follows:

- 1) Blind
- 2) Deaf
- 3) Age under 21 years

And data collection uses in-depth interview techniques. And data analysis using the Collaizi content analysis technique. The researcher reread the interview transcripts and then combined them with field notes. Then the researcher marked the informants

according to the research objectives, and explained the meaning of the statements in order to get the appropriate keywords. Researchers group themes according to keywords in table form. Researchers develop interview results to be comprehensive and describe the basic structure to eliminate excessive or repetitive descriptions.

The researcher categorized the informants according to the research objectives and selected relevant keywords after reviewing the interview transcripts and combining them with field notes. After that, the themes that emerged were arranged in a table. In order to provide a comprehensive description and eliminate descriptions that are too long or too repetitive, researchers develop interview results.

The aim of this research is to better understand the impact of flooding on the health of Sirau Village residents. It is hoped that the findings of this research will provide useful knowledge in efforts to combat flooding and improve the health of affected communities.

RESULTS

Table. 1 Characteristics of Internal Informants Facing Floods

No	Code	Age	Gender	Long
1.	R1	40 Yr	L	22 years
2.	R2	40 Yr	L	15 years
3.	R3	45 Yr	L	20 years
4.	R4	45 Yr	L	20 years
5.	R5	71 Yr	P	46 Years

Research findings show that there are four themes that govern how the people of Sirau Village perceive the impact of flooding on their health. These themes are as follows:

1. The public's view of floods, in this theme there are several sub-themes which

include the public's views of floods, including:

a. Floods occur annually

In this sub-theme, the community provides opinions regarding annual floods that:

"Flooding is actually a normal thing, especially in climate conditions (R1.01)"

"Floods in Sirau Village often occur every year (R4.01)" "And indeed every year, floods occur here (R4.05)"

b. Residents are alert

In this sub-theme, the community revealed that there were residents who patrolled RW 8 because this area was most affected by the flood. Apart from that, there are also residents who are alert, especially from the STB (Disaster Response Unit). (R4.11, R1.18)

c. Look for sunken areas

In this sub-theme, the community explains that Sirau Village has a concave topography, similar to a bowl. This causes water from the surrounding area to flow into the low-lying Sirau Village, and there is no appropriate solution to deal with flood water. (R1.03, R3.07, R4.03)

d. Floods create many obstacles

In this sub-theme, the community revealed that flooding in Sirau Village often becomes an obstacle that makes it difficult for residents. Residents experienced difficulties and felt disturbed by the flood. (R3.05, R4.02, R5.01)" "Indeed, the residents here really have a hard time when there is a flood (R4.02)" "In my opinion, flooding is very difficult for the residents (R5.01)" These opinions reflect the community's views regarding residents' preparedness in facing floods, the sunken geographical condition of Sirau Village, as well as the obstacles faced by residents due to flooding.

2. Use of flood water

This theme is divided into several sub-themes, including:

a. Lack of clean water supply

In this sub-theme, the community reveals that flood water is often used for washing

because of the limited supply of clean water. They also mentioned that on normal days, the water in people's homes is yellow and cannot be used for washing or cooking. Some areas also don't have drilled wells because the water is dirty. (R1.08, R2.10, R5.12)

b. Clean water assistance

In this sub-theme, the community said that even though someone provides clean water, there is still distribution of clean water to areas affected by flooding. They also mentioned the use of wells as a water source when floods occur. (R1.09, R3.17, R4.16)

These opinions describe the use of flood water as an alternative when clean water supplies are limited. Despite efforts to provide clean water during floods, there are still challenges in ensuring adequate supply.

3. Health problems qkibqt flood

This theme is divided into several sub-themes, including:

a. Itchy rash

People's experiences regarding itching during floods:

The people of Sirau Village revealed that when the flood occurred, many residents experienced itching on their skin. They feel an uncomfortable itching sensation that often occurs after contact with flood water. Some people also reported the appearance of rashes or red spots on their skin after being exposed to flood water. (R1.11, R3.C21, R4.22, R5.21)

b. Stomach ache

People's experiences regarding stomach ache during floods:

During the flood, many residents of Sirau Village experienced stomach aches. Some people reported symptoms such as stomach cramps, diarrhea, or nausea and vomiting after exposure to flood water. They are also aware that consuming contaminated food or drink during floods can cause stomach upset. (R1.11, R3.C21, R4.22, R5.21)

c. Chills

People's experiences regarding symptoms of hot and cold during floods:

During the flood, several residents of Sirau Village experienced symptoms of chills such as fever, runny nose and cough. They feel uncomfortable and experience changes in body temperature after being exposed to flood water or exposed to cold air during a flood. (R1.11, R3.C21, R4.22, R5.21)

4. Community views on psychological disorders caused by flooding:

a. Floods as a trigger for psychological disorders

The public is aware that floods can trigger psychological disorders in individuals affected by them. They admit that floods often cause stress, anxiety and depression in flood victims. Loss of housing, property, and environmental damage can affect a person's mental well-being. "Flooding is often an obstacle that makes it difficult for residents. They experience difficulties and feel disturbed by the flood." (R3.05, R4.02, R5.01)

b. Traumatic impact

The community is aware that floods can leave a traumatic impact on victims. The experience of seeing a house submerged in water, losing someone close to you, or experiencing a sudden evacuation can leave traumatic scars that affect long-term mental health. "Floods in Sirau Village often become obstacles that make it difficult for residents. Residents experience difficulties and feel disturbed by the floods." (R3.05, R4.02, R5.01)

c. Readiness in dealing with psychological disorders

The community expressed the importance of being prepared in dealing with psychological disorders caused by flooding. Several residents carried out patrols and provided emotional support to fellow flood victims. There are also efforts from related parties to provide counseling services and psychological support to flood victims. There are residents who patrol RW 8 because this area is most affected by flooding. Apart from that, there are also residents who are alert,

especially from Sirau Disaster Response Team (STB)." (R4.11, R1.18)

These statements reflect the community's experience regarding the health impacts that arise during flooding. Itching, stomach ache, and flu symptoms such as chills are some examples of health problems that commonly occur during flood periods. Awareness of the risk of disease is also a concern for the public in efforts to maintain health during floods.

DISCUSSION

This research produced four themes, including people's description of floods, use of flood water and health problems. The following is an explanation of each research theme, including:

The first theme is "Community Description of Floods" which discusses the understanding and experience of the community in Sirau Village regarding floods. They understand that flooding is an annual event that is influenced by the geographical conditions of Sirau Village—which is shaped like a basin—and meteorological variables. As a result, flooding occurred in Sirau Village because water from the surrounding environment entered the village. Apart from that, flooding also makes it difficult to access roads, makes daily activities difficult, and has a detrimental economic impact—especially for farmers who experience crop failure.

According to additional research, flooding can also cause problems for local communities and road access in affected areas. One example is the situation that occurred on the Total Persada Raya road which connects Tangerang Regency and Tangerang City. Blocked road access due to flooding also creates difficulties for local communities. Yutantri (2023), explains in the journal that the negative impacts of flooding also hit people outside the housing complex because the flood overflowed onto Jalan Total Persada Raya, which is the connecting route between Tangerang City

and the Regency. Tangier. The fact that floods block or impede public access to highways causes significant disruption to the surrounding area.

The use of flood water is the second theme. This subtheme explains how the scarcity of clean water sources forces people to wash clothes in flood water. On the other hand, RW 8 has a drilled well which was created to supply clean water for daily needs or during floods. The Water Resources Department (Dinas SDA) and PAM Jaya, as State-Owned Enterprises (BUMD), play an important role in meeting community needs and providing clean water, according to additional research (Sari et al., 2022). This neighborhood is particularly plagued by a lack of road access.

Health problems are the third theme. This sub-theme explains how floods can cause various health problems for society, especially for vulnerable groups such as the elderly and the younger generation. Health problems that often occur include fever, diarrhea and itching. Because flood-affected residents are vulnerable to disease, managing public health after flooding is a top priority, as explained by additional research (Fernalia et al., 2023).

Infections that are susceptible to occurring after floods include dengue fever, diarrhea and skin diseases that cause itching. This is caused by unclean environmental conditions due to flooding and large amounts of standing water which is a breeding ground for mosquitoes which are the main vectors for disease transmission.

The presence of a host, a causative agent, and an environment that promotes mutual support are some of the variables that influence how quickly a disease spreads.

The fourth theme is Community Views of Psychological Disorders Due to Floods. The public is aware that floods can trigger psychological disorders in individuals affected by them. Floods often cause stress, anxiety and depression in flood victims due to loss of housing, property and environmental damage. In dealing with

these psychological disorders, society recognizes the importance of emotional preparedness and support. Several residents carried out patrols and provided support to fellow flood victims. Efforts from related parties, such as counseling and psychological support services, are also considered important to help flood victims' psychological recovery.

Opinions from other researchers also strengthen the public's view of the psychological impacts caused by floods. Research conducted by (Israfil et al., 2023) explains the psychological impact of disasters and their influence on health. The article highlights the psychological disorders experienced by individuals and families as a result of traumatic events such as floods.

From research conducted through in-depth interviews, it can be concluded that the residents of Sirau Village have direct experience of the negative impact of flooding on their health. The public's description of floods shows that they believe floods are an annual event. The scarcity of clean water sources makes the use of flood water necessary. Many people, especially the elderly, suffered from various illnesses during the flood, including skin diseases, fever, stomach ache and psychological disorders due to the traumatic feelings caused by the flood disaster.

This research has revealed the impact of flooding on the health of the people of Sirau Village. Research findings show that the annual flooding that occurs in this village has significant consequences for community health. Some health problems that commonly occur during floods include itching, diarrhea and fever, especially in vulnerable groups such as the elderly and children. This is in line with previous research which also found similar impacts of flooding on public health in areas that are regularly affected by flooding.

The importance of understanding people's views on floods was also revealed in this research. The people of Sirau Village consider flooding to be a routine

phenomenon that has become part of their lives. They realized that flooding was the impact of climatic factors and the sunken topography of the village. Although communities have developed awareness and preparedness in dealing with floods, there are still challenges in dealing with their impact on public health.

One aspect that stands out from the public's perspective is the use of flood water. The limited supply of clean water during floods resulted in people using flood water for washing and daily needs. This poses a higher health risk as flood water is often contaminated and unsafe to use. Efforts to provide clean water supplies during floods need to be increased to protect public health.

In the context of flood management, it is important to consider solutions that can reduce the impact of flooding on the health of the people of Sirau Village. Infrastructure improvements such as the construction of clean drilled wells and effective water management systems can help overcome clean water supply problems during floods. In addition, a comprehensive approach involving active participation from the community, government and related institutions is also needed to reduce vulnerability to floods and increase preparedness in facing them.

In this research, there are several limitations that need to be considered. First, this research was only conducted in Sirau Village and did not cover other areas that are also regularly affected by flooding. Therefore, generalization of the findings of this study needs to be done with caution. Apart from that, this research also does not discuss in detail the impact of flooding on other aspects such as economic and social impacts.

For future research, it is recommended to involve more variables and representative samples to gain a more comprehensive understanding of the impact of flooding on public health. In addition, research can also focus on more effective flood mitigation

efforts and sustainable solutions to protect the health of communities affected by flooding on a regular basis.

The discussion above illustrates how research on the impact of flooding on the health of the Sirau Village community can be interpreted and discussed in the context of existing knowledge. This discussion provides deeper insight into the importance of protecting public health in facing the threat of flooding and provides direction for further research and action in effectively dealing with the impacts of flooding.

This research offers a deeper understanding of people's experiences and perceptions regarding the impact of flooding on their health. By using this data as a basis, a more efficient Sirau Village flood mitigation and recovery strategy can be created.

CONCLUSION

The following conclusions can be drawn from the themes raised by residents of Sirau Village regarding the impact of flooding on health:

1. People's views about floods: People realize that floods are a common event that occurs every year. They also realized that Sirau Village had a concave topography, making it vulnerable to flooding.
2. Use of flood water: Flood water is often used for washing due to the limited supply of clean water. Despite efforts to provide clean water during floods, there are still challenges in ensuring adequate supply.
3. Health problems: During floods, people experience various types of illnesses such as itching, stomach aches, and flu symptoms. Awareness of the risk of disease during floods is a public concern.
4. People's views on psychological disorders due to floods: Floods trigger psychological disorders in the form of trauma, people feel that being prepared to face floods is one way to deal with the psychological

impacts in the form of traumatic experiences.

Overall, the themes expressed by the people of Sirau Village reflect their experiences and views regarding the impact of flooding on health. This indicates the need for further efforts in flood management and prevention of related health impacts.

RECOMMENDATION

Increasing public awareness and knowledge: Efforts need to be made to increase public awareness about flood risks and their impact on health. Education regarding preventive measures and preparedness for facing floods can help the community to be better prepared to face this situation.

REFERENCES

- Agus Afandi. 2014. *Critical Social Research Methodology*.
- Arikunto Suharsimi. 2013. "Research procedures a practice approach." Jakarta: Rineka Cipta: 172. <http://r2kn.litbang.kemkes.go.id:8080/handle/123456789/62880>.
- Bich, Tran Huu et al. 2011. "Impacts of floods on health: epidemiologic evidence from Hanoi, Vietnam." *Global health action* 4: 6356.
- Brunekreef, B., Miller, B.G., and Hurley, J.F., "The brave new world of lives sacrificed and saved, deaths attributed and avoided," *Epidemiology*, vol. 18, no. 6, pp. 785–788, 2007, doi: 10.1097/EDE.ob013e3181570d88.
- Dungga, Elvie Febriani. 2020. "Devotion Report In the Community "The Impact of Flood Disasters on Public Health in Talumolo Village, Gorontalo City." : 1–9.
- Faiqoh, Fiana, Sulistiyani, and Budiyo. 2017. "Analysis of the Relationship between the Level of Vulnerability of the Population of the Coastal Area of Semarang City Due to Rob Floods and Health Status." *Angewandte Chemie International Edition*, 6(11), 951–952. 5: 649–58.
- Fernalia, Fernalia, Kheniva Diah Anggita, and Lista Fefrylia. 2023. "Establishment of the First Health Post and Food Assistance for Flood Victims, Semarang Village, Bengkulu City." *Journal of Community Service Creativity (PKM)* 6(2): 676–86
- Khasanah, Nurul, and Artika Nurrahima. 2019. "Health Care Efforts for Rob Flood Victims." *Journal of Community Nursing Science* 2(2): 15.
- Nurullita, U., Ritonga, GM, and Mifbakhuddin, M., "Citizens' Knowledge about Safety and Health Hazards that Occur in Floods (Study in Flood-Prone Areas in Bandarharjo Semarang)," *J. Health. Masy. Indonesia.*, vol. 16, no. 3, p. 154, 2021, doi: 10.26714/jkmi.16.3.2021.154-159.
- Ramba, Hardin LA. 2019. "Study of Community Alertness Experience Phenomenology in Facing Flood Disaster in Maros Regency."
- Reski, Gebrina, and Zahtamal. 2021. "Community Behavior in Facing the Health Impacts of Disasters." *Journal of Medical Sciences*: 69–78.
- Sari, Devika Anindya, Sri Untari, and Indah Artati. 2022. "Fulfilling the Need for Clean Water in Kapuk Muara Village by Jakarta Regional Government." 4(1): 204–18.
- Setiawati, I., Utami, GT, and Sabrian F., "Overview of Nurses' Knowledge and Attitudes Regarding Health Service Preparedness in Facing Flood Disasters," *J. Ners Indones.*, vol. 10, no. 2, p. 158, 2020, doi: 10.31258/jni.10.2.158-169.
- Suhr, Friederike, and Janina Isabel Steinert. 2022. "Epidemiology of floods in sub-Saharan Africa: a systematic review of health outcomes." *BMC Public Health* 22(1): 1–15. <https://doi.org/10.1186/s12889-022-12584-4>.

- Tobing, David Hizkia, Yohanes Kartika Herdiyanto, and Dewi Puri Astiti. 2016. Psychology Study Program, Faculty of Medicine, Udaya University. Teaching Materials for Qualitative Research Methods. https://simdos.unud.ac.id/uploads/file_pondidikan_1_dir/870ba33936829bb37ecd8f62f8514ba7.pdf.
- Ulfa, Rafika. 2021. "Research variables in educational research." *Journal of Education and Islam* 1(1): 342–51.
- Utariningsih, Wheny, and Agung Adiputra. 2019. "Analysis of Population Health Vulnerability Pre-Flood Disaster in Southwest Aceh District." *AVERROUS: Malikussaleh Journal of Medicine and Health* 5(2): 1.
- Yari, Y., "The Relationship between Levels of Knowledge and Attitudes with Flood Disaster Preparedness among Health Students in DKI Jakarta," *J. Health. Holist.*, vol. 5, no. 2, pp. 52–62, 2021, doi: 10.33377/jkh.v5i2.100.
- Yasin, A., et al., "Disaster environmental health and emergency response," no. February, 2021.
- Yutantri, Visca, Ratnawati Yuni Suryandari, Mega Novetrishka Putri, and Laili Fuji Widyawati. 2023. "Community Perceptions of the Factors Causing Floods in the Total Persada Raya Housing Complex, Tangerang City." *Journal of Regional and Rural Development Planning* 7(2): 199–214.