Case Report Paper

## Description of Anxiety, Stress and Depression Levels in Post Flood Disaster

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Abstract: The magnitude of the impact of the floods that have almost paralyzed all activities of the local community, the number of roads that are submerged, the destruction of public facilities and residential areas and the emergence of health problems make people at the disaster site feel deep trauma. This study aims to determine the description of the level of anxiety, stress and depression after the flood disaster in the people of Paku Alam Village, Sungai Tabuk District, Banjar Regency. The design of the study used descriptive. The sample of this study was taken with an accidental sampling technique of 86 people from Paku Alam Village, Sungai Tabuk District, Banjar Regency in 2022. This study used a DASS 21 questionnaire presented in the form of frequency distribution. The results showed that as many as 56 people (65.1%) were normal, as many as 10 people (11.6%) experienced mild anxiety, as many as 19 people (22.1%) experienced moderate anxiety, and as many as 1 person (1.2%) experienced severe anxiety. A total of 76 people (88.4%) were normal, as many as 9 people (10.5%) experienced mild stress, and as many as 1 person (1.2%) experienced severe stress. A total of 73 people (84.9%) were normal, as many as 4 people (4.7%) had mild depression, as many as 8 people (9.3%) had moderate depression and as many as 1 person (1.2%) had severe depression. Most of the respondents experienced normal anxiety, stress and depression about the flood disaster that occurred in Paku Alam Village, Sungai Tabuk District, Banjar Regency.

Keywords: Anxiety, Depression, Flood Disaster.



#### 1. Introduction

South Kalimantan Province is one of the flood-prone areas in Indonesia. Throughout 2021, there have been 22 floods recorded in Indonesia. Throughout 2021, there have been 22 flood disasters that have hit 13 regencies/cities in the region [1]. One of the village areas that is vulnerable to major flood conditions is Paku Alam Village, Sungai Tabuk District, Banjar Regency.

The magnitude of the impact of the floods that were caused almost paralyzed all activities of the local community, the number of roads that were submerged, the destruction of public facilities and residential areas and the emergence of health problems made people at the disaster site feel deep trauma. Every disaster event, the adverse impact caused by a critical, psychological incident is always needed and directed at efforts to minimize the impact that may arise from the disaster. In cases of mild critical incidents, a person may be able to recover quickly from the events experienced. However, in certain cases, disaster survivors are more likely to experience problems both physical and psychological, especially those involving loss, a person sometimes needs help to start his life again [2].

The psychological problems felt by the people of Paku Alam Village after the flood disaster are very complex, the sadness due to loss of property, fear, anxiety felt and lack of income during evacuation make the problem more complex and create a sense of psychological trauma that is so great. People who have experienced flood disasters in a certain period are commonly referred to as disaster survivors. Disaster survivors are at risk of experiencing physical, psychological disorders due to limited sources of social, personal and material support [2].

Although a person has both experienced similar catastrophic events, the response felt by each individual must be different. Some are in the heavy, light category and there are also people who do not experience any trauma at all, this depends on the capacity of each person in assessing and overcoming the stressors faced [2]. Efforts to promote mental health carried out by the government have not been optimal in reaching the community in Paku Alam Village, Tabuk River Kecematan, Banjar Regency. This is evidenced by the absence of mental health cadres in Paku Alam Village. Mental health services still focus on curative efforts, namely the provision of treatment and care in health services such as puskesmas or posyandu for the elderly and also referrals of patients who experience mental health problems.

Given the magnitude of the impact caused by the flood disaster, which is essentially a source of stress that leads to psychological problems, it is necessary to make a comprehensive effort in the implementation of disaster management both when a disaster is occurring or after the disaster ends. Efforts to promote mental health carried out by the government have not been optimal in reaching the community in Paku Alam Village, Tabuk River Kecematan, Banjar Regency. This is evidenced by the absence of mental health cadres in Paku Alam Village. Mental health services are still focused on curative efforts such as referral of patients experiencing mental health problems.

The objective that can be expected from this study is to find out a picture of the level of anxiety, stress and depression after the flood disaster in the people of Paku Alam Village, Sungai Tabuk District, Banjar Regency.

#### 2. Literature Review

Flooding is an event where land that is usually dry (not swampy areas) becomes inundated by water, this is caused by high rainfall and the topographical conditions of the area in the form of lowlands to sunken. In addition, the occurrence of flooding can be caused by runoff that overflows and exceeds the jetting capacity of drainage systems or river flow systems. The occurrence of flood disasters is also caused by the low infiltration ability of the soil, causing the soil to no longer be able to absorb water. Flooding can occur due to rising water levels due to above-normal rainfall, temperature changes, broken embankments/dams, rapid snowmelt, and obstruction of water flow in other places [3].

According to Kodoatie & Sugiyanto [4], "the factors causing floods can be classified into two categories, namely natural floods and floods by human actions. Naturally occurring flooding is influenced by rainfall, physiography, erosion and sedimentation, river capacity, drainage capacity and the influence of tide. Meanwhile, floods due to human activities are caused by human actions that cause environmental changes such as: changes in the condition of watersheds (DAS), residential areas around the banks, damage to land drainage, damage to flood control buildings, damage to forests (natural vegetation), and improper planning of flood control systems.

### 3. Methodology

The design of the study used descriptive. The sample of this study was taken with an accidental sampling technique of 86 people from Paku Alam Village, Sungai Tabuk District, Banjar Regency in 2022. This study used a DASS 21 questionnaire presented in the form of frequency distribution.

### 4. Finding and Discussion

## 4.1. Respondent Characterics

An overview of the characteristics of the respondents of Paku Alam Village, Sungai Tabuk District, Banjar Regency, obtained based on the results of the study is presented in Table 1.

No.	Characteristic	Category	f	%
1	Age	21-30 years	13	15,1
		31-40 years	35	40,7
		41-50 years	25	29,1
		51-60 years	13	15,1
2	Education	Low (Elementary/Junior High)	25	29,1
		Intermediate (High School)	54	62,8
		High (Undergraduate)	7	8,1
3	Work	Not Working	51	59,3
		Work	35	40,7
		Total	86	100

Table 1 Characteristics of Respondents

The results showed that of the 86 respondents, most of the respondents as many as 35 people (70.7%) were included in the age category of 31-40 years, most of them as many as 54 people (62.8%) were included in the Secondary education category (SMA) and most of the 51 people (59.3%) were included in the category of not working.

The results showed that out of 86 respondents, most of the respondent as many as 35 people (70.7%) were included in the age category of 31-40 years. Age is the key to understanding disasters [5]. This is in line with research conducted by Feist in [6] on psychology that the older one gets, the more mature a person's psychological condition is, and so the better the individual is in adapting to the anxiety depression and stress he experiences. Anxiety is also more often experienced by young people because of the lack of knowledge and experience in adapting to existing psychological pressures, a lot of knowledge and experience certainly makes a person more prepared to face something that happens in his life [7]. Research conducted by [8] also found results that young people are easier to get psychological pressure than parents, usually in young people the most worried thing is their future, especially at the age of 31-40 is the period of late adulthood which at this age is the time to think about family, this certainly adds to the burden by the individual because on the other hand thinking about himself he also thinks about the future of adulthood which at this age is the time to think about family, this certainly adds to the burden by the individual because on the other hand thinking about himself he also thinks about the future of his future Family.

Most of the 54 people (62.8%) are included in the Secondary education (SMA) category. This study is different from the results of the research of Rashidinejad et al [9], which found a difference in the level of anxiety seen from the level of education in Iranian earthquake victims. According to Pawatte et al [10] low educational status is very prone to experience anxiety compared to higher education. The higher the level of education a person is, the better he can overcome emotions so that the anxiety experienced by a person becomes reduced. Other sources also mention that higher levels of education can cushion the impact of disasters and improve recovery by accessing relevant resources

Most of the 51 people (59.3%) fall into the category of not working. According to previous research, housewives are a burden in a mother to do routine work at home, in addition to being a housewife, mothers also play a role in replacing husbands to help regulate the economy of her household. This can result in the many roles of housewives causing triggers for anxiety levels [11]. The number of roles that must be performed by a housewife, so that it becomes a stressor from various aspects in her role. Taylor et al [12] says that individuals who perform too many tasks in their lives are shown to have higher levels of stress. Repetti et al [13] says that physical and mental health in women is directly affected by their need to perform coping with multiple roles as a housewife, worker and parent of her children [13]. This is in a family so that it can suppress the emergence of stress and anxiety factors.

## 4.2. An Overview of the Level of Anxiety after the Flood Disaster in the Paku Alam Village Community, Sungai Tabuk District, Banjar Regency

An overview of the level of anxiety after the flood disaster in the community of Paku Alam Village, Sungai Tabuk District, obtained based on the results of the study is presented in Table 2.

No.	Anxiety Levels	F	%
1	Usual	56	65.1
2	Light	10	11.6
3	Keep	19	22.1
4	Heavy	1	1.2
5	Very Heavy	0	0.0
Total		86	100.0

Table 2 Frequency Distribution of Anxiety Levels

The results showed that as many as 56 people (65.1%) were normal, as many as 10 people (11.6%) experienced mild anxiety, as many as 19 people (22.1%) experienced moderate anxiety, and as many as 1 person (1.2%) experienced severe anxiety.

The results showed that as many as 56 people (65.1%) were normal, as many as 10 people (11.6%) experienced mild anxiety, as many as 19 people (22.1%) experienced moderate anxiety, and as many as 1 person (1.2%) experienced severe anxiety. The anxiety experienced by respondents was due to fears of further flooding or repeated floods because during the flood, they were anxious about the condition of their children and families, especially with matters related to health conditions, besides that the anxiety about the fear of damaged household furniture items and houses damaged by flooding and being submerged for a long time with flood water also made the community anxious. Anxiety can afflict everyone and can change their lives. Anxiety can occur in a short time or prolonged. Anxiety occurs is a normal reaction to situations that greatly suppress a person's life. It can appear alone or join other symptomatic symptoms of various emotional disorders [14].

Anxiety is a subjective feeling of disturbing mental tension as a general reaction to the inability to overcome a problem or the absence of a sense of security. These erratic feelings are generally unpleasant which will later cause or be accompanied by physiological and psychological changes [15].

Research in Japan after the leak of the Fukushima nuclear reactor and a major earthquake in Eastern Japan showed an increase in respondents' anxiety levels due to the cause of these two disasters [16]. Even post-earthquake Nepalese studies showed the highest score Four months after the earthquake in Nepal, one in three adults experienced symptoms of depression and a deplorable level of anger [17] Another study follows two San Bernardino National wildfires east of Los Angeles, California. There was a high level of anxiety in the two conditions during the fire [18].

This shows that the results of this study are in line with previous studies that disasters can increase anxiety. Moreover, the flood disaster in Paku Alam Village, Sungai Tabuk District, Banjar Regency, ordered the largest and heaviest respondent in the history of floods, had never happened like this before. Meanwhile, according to Zakiah Darajat, the cause of high anxiety is anxiety caused by danger that threatens him and fear [15].

Regarding the flood in Paku Alam Village, Sungai Tabuk District, Banjar Regency, according to respondents, the atmosphere at that time was very tense, dark because of the overflow of water when the sun had set. The power went out, the water was getting higher and higher at night, almost two meters high. The floodwater current carries thick mud as happened in Paku Alam Village, Sungai Tabuk District, Banjar Regency. This condition makes the atmosphere very scary for the community.

According to Laura [19] one type of anxiety due to natural disasters is post traumatic stress disorder or PTSD. PTSD is an anxiety disorder that develops into traumatic, one of which is due to natural disasters such as floods, tornadoes, earthquakes etc. Disasters can also have the most common mental health consequences are depression, anxiety, post-traumatic stress disorder, somatic symptoms that cannot be explained medically [20].

Natural disasters cause considerable stress because they have to adapt to a drastically changing physical environment that can cause emotional trauma. Faced with loss of life, body injuries and destruction of property [21], in the study of the level of mental health with the earthquake, the highest results of depression were obtained, followed by an increase in anxiety [17].

## 4.3. An Overview of the Level of Stress after the Flood Disaster in the Paku Alam Village Community, Sungai Tabuk District, Banjar Regency

An overview of the level of stress after the flood disaster in the community of Paku Alam Village, Sungai Tabuk District, obtained based on the results of the study presented in Table 3.

No.	Stress Levels	F	%
1	Usual	76	88.4
2	Light	9	10.5
3	Keep	0	0.0
4	Heavy	1	1.2
5	Very Heavy	0	0.0
Total		86	100.0

Table 3 Frequency Distribution of Stress Levels

The results showed that as many as 76 people (88.4%) were normal, as many as 9 people (10.5%) experienced mild stress, and as many as 1 person (1.2%) experienced severe stress.

The results showed that as many as 76 people (88.4%) were normal, as many as 9 people (10.5%) experienced mild stress, and as many as 1 person (1.2%) experienced severe stress. Respondents who experienced stress were caused by having to think about the condition of their households when they were affected by the flood disaster because all access to reach health facilities, household needs and their access to work which was constrained by the flood disaster made them have a high burden of mind coupled with difficult economic conditions.

Stress is a psychological impact in disasters [22]. When floods or other natural disasters occur, a person may experience a lot of stress and feel very sad, which can lead to mental disorders. Stress events will increase the hormone cortisol, and affect life. So it results in psychological impairments such as depression physical complaints and others. When we experience a lot of stress in our lives, it can cause changes in the balance of chemicals in our body that can affect our mental health and make us feel bad [23].

Suwarningsih [24] stated that post-traumatic stress disorder will usually appear after a month or a year after a disaster with the characteristic of always feeling hunted by fears related to the disasters she experiences such as fear of being separated from her parents or family for eternity and often experiencing disturbances in sleeping with nightmares, screaming, and bedwetting. [1] The accumulation of psychosocial trauma can be in the form of physical reactions or psychic symptoms such as nausea, moodiness, quietness, nightmares, anxiety, feeling threatened, and loss of life expectancy. Flood disasters result in impacts that can harm people's lives which can be in the form of not only physical losses but also psychological losses, namely disruption of mental conditions due to loss of property and family due to disasters (Nurjannah, et al, 2012), so that it requires special

attention in the form of efforts or anticipatory activities so as not to cause an impact on the next life of the community [1].

# 4.4. An Overview of the Level of Depression After the Flood Disaster in the Paku Alam Village Community, Sungai Tabuk District, Banjar Regency

An overview of the level of depression after the flood disaster in the community of Paku Alam Village, Sungai Tabuk District, obtained based on the results of the study is presented in Table 4.

No.	Depression Rate	F	%
1			
1	Usual	73	84.9
2	Light	4	4.7
3	Keep	8	9.3
4	Heavy	1	1.2
5	Very Heavy	0	0.0
Total		86	100.0

Table 4 Frequency Distribution of Depression Rates

The results showed that as many as 73 people (84.9%) were normal, as many as 4 people (4.7%) had mild depression, as many as 8 people (9.3%) had moderate depression and as many as 1 person (1.2%) experienced severe depression.

The results showed that as many as 73 people (84.9%) were normal, as many as 4 people (4.7%) had mild depression, as many as 8 people (9.3%) had moderate depression and as many as 1 person (1.2%) experienced severe depression. Researchers said that the people of Paku Alam Village, Sungai Tabuk District, Banjar Regency, experienced trauma after the flood disaster, this was marked by the community feeling scared when there was rain at night, especially since the rain occurred at night on Thursday because the community said several major disasters occurred, namely at night on Thursday, even some residents also said some residents were anxious and afraid that the disaster would happen again, from this anxiety people often do not sleep in case of rain at night just in case for fear of the disaster repeating itself.

Depression is a common complaint that is often experienced by society. People who experience depression generally experience disorders that include emotional, motivational, functional, and behavioral as well as cognition characterized by excessive helplessness. In general, the causes of depressive disorders are divided into 3 factors, namely biological factors, genetic factors and psychosocial factors. How many theories explain the causes of depression, one of which is the Learned Helplessness theory. This theory says that depressive disorders arise as a result of painful events that a person cannot control. Such painful events are usually obtained from unpleasant and traumatic life experiences. Painful events can also be caused by natural disaster factors, one of which is flooding. One type of flood that often occurs is flash floods. The difference between flash floods and common floods is the intensity of time it takes for water to cover dry land.

Hatta [25] mentioned that when a traumatic event is experienced by a person, the individual will respond and overcome it with the recothering mechanism he has so that it does not have a negative impact on the future, but in certain people it is not resolved completely which will imprint wounds and pain, in a long enough period of time which then affects their behavior, these people are said to experience post-traumatic stress, in such circumstances a person has a high risk of experiencing mental health disorders such as phobias, panic, depression, anxiety, stress and obsessive-compulsive disorder [24].

Suwarningsih [26] mentioned that trauma can hit anyone who experiences an extraordinary event such as the death of a loved oran, wars and natural disasters such as floods, earthquakes and tsunamis. Post-traumatic disorders can be experienced immediately after the event occurs, it can also be experienced in a delayed manner until several years afterwards. Victims usually complain of tension, insomnia, anxiety, difficulty concentrating, depression and stress [1]

According to the theory a person experiencing a depressive disorder arises as a result of experiencing a terrible and uncontrollable event. Such events are usually derived from unpleasant and

traumatic past experiences such as flood disasters. The condition of a person experiencing depression is: uncontrollable emotions, unwanted urges to act, mindsets and cognition responses characterized by unprofessional impropriety [10].

According to the opinion of researchers, a person experiences a depressive disorder due to the loss of activities that are usually done that can change discomfort. After the flood disaster, the economic situation decreased due to infrastructure damage, difficulty in communication between residents in various flood disaster areas.

#### 5. Conclusion

The results showed that as many as 56 people (65.1%) were normal, as many as 10 people (11.6%) experienced mild anxiety, as many as 19 people (22.1%) experienced moderate anxiety, and as many as 1 person (1.2%) experienced severe anxiety. A total of 76 people (88.4%) were normal, as many as 9 people (10.5%) experienced mild stress, and as many as 1 person (1.2%) experienced severe stress. A total of 73 people (84.9%) were normal, as many as 4 people (4.7%) had mild depression, as many as 8 people (9.3%) had moderate depression and as many as 1 person (1.2%) had severe depression.

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