



Self Efficacy Associated with Maternal Resilience in Managing the Impact of Annual Flood Disaster During The COVID-19 Pandemic

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Abstract

Background and Purpose: The flood disaster in Indonesia has increased over the last three years. The impact of the flood was felt by mothers in Sukorejo Village, both socially, environmentally, and psychologically. The results of the preliminary study found that mothers were less active in flood management because they felt helpless and unsure of their abilities. **Methods:** This research is a descriptive correlational study. The data collection technique is purposive sampling with 93 respondents. The dependent variable is maternal resilience, and the independent variable is self-efficacy. The instruments used were the Generally Self-Efficacy Scale (GSES) and the Connor-David Resilience Scale (CDRIS) questionnaires. The data obtained will be analyzed using the Spearman rank correlation test. **Results:** The mother's self-efficacy in Sukorejo Village is very high. The resilience of mothers in Sukorejo Village is low. There is a positive correlation between self-efficacy and maternal resilience in Sukorejo Village, Karangbinangun District, Lamongan Regency ($p < 0.005$; $r = 0.414$). **Conclusion:** The annual flood disaster in Sukorejo Village is due to the confidence factor. Mothers are not optimal at controlling negative emotions in themselves when dealing with the consequences of floods, even though they have good confidence in their abilities.

Keywords: - Floods; resilience; self efficacy; women empowerment.

Introduction

Flood disasters in Indonesia have increased over the last three years. Based on a preliminary study conducted by interview method with officials of Sukorejo Village, Karangbinangun Sub-district, in March 2021, it was found that Sukorejo Village often experiences repeated flooding every year. The impact that is felt by the community, especially mothers, is high water logging that interferes with transportation between villages, hampers the teaching and learning process, and disrupts daily activities. Most of the mothers in Sukorejo Village feel unsure and powerless to manage the impact of the flood disaster, so they do not play an active role and often feel worried if there is a flood in their area.

The prevalence of floods has increased significantly every year, as can be seen in Figure 1. Indonesia's Disaster Information Data, under the supervision of the National Agency for Disaster Management (BNPB), noted that in 2021, East Java province ranked first in the province that experienced the most flooding disasters in Indonesia, which amounted to 105 disasters, followed by Java. West, namely 101 disasters, and Central Java, 66 disasters.

Based on the results of the literature study, it was found that 5 of 9 studies (56%) showed that community resilience to disasters was classified as a high category. The community's resilience to pandemic conditions, based on 3 out of 5 studies (60%), is in the medium category.

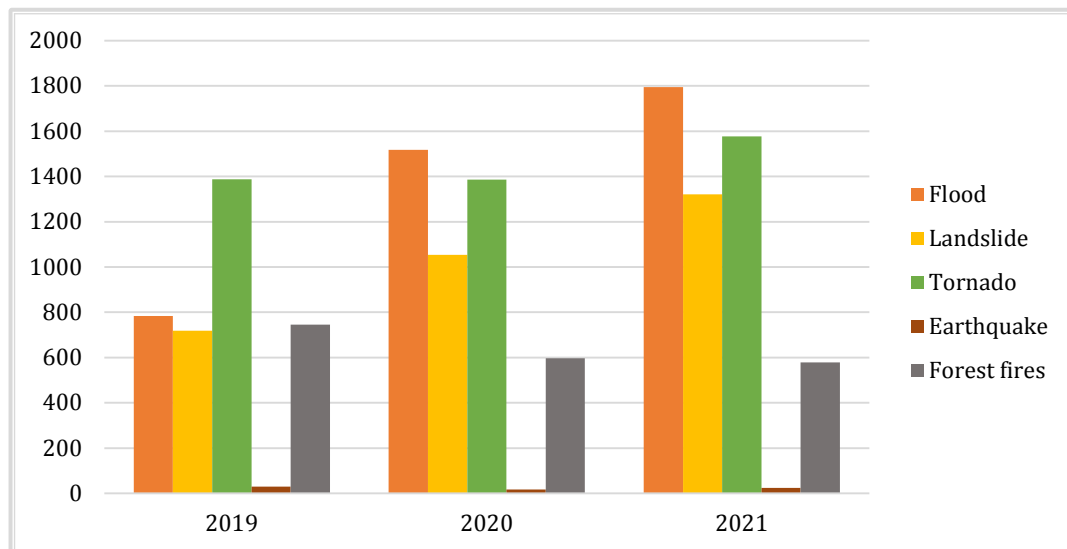


Figure 1. Trends in Disaster Events in Indonesia in 2019-2021

Lamongan Regency has geographical, geological, and demographic conditions that are prone to disasters, one of which is flooding (Nabilah et al., 2021). The flood caused various environmental, physical, and psychological impacts (Brigita & Sihalohe, 2018). Efforts to handle flooding in a pandemic situation require the application of strict health protocols so as not to cause new problems and suppress the spread of the COVID-19 virus (General Guideline for facing the Covis 19. 2020). Such conditions affect the psychological condition of the mother as an individual who plays an important role in the family. Individual vulnerability will increase if they live in disaster-prone areas (United Nation Economic and Social Council Asia-Pacific [UNESCAP] 2017). Self efficacy is one of the psychological factors that affect the level of individual resilience, where good emotional conditions and experiences will increase the individual's ability to deal with various problems (Khunwishit et al., 2018).

This research was conducted based on the theory of personal resilience by Ivan Robertson and Cary Cooper. Resilience consists of four components: comfort (confidence), purpose (purposefulness), adaptability (adaptability), and social support (social support) (Robertson & Cooper, 2013). The confidence component can be formed when individuals have high self-efficacy in managing disaster impacts (Mariam et al., 2021). The experience of mothers in Sukorejo Village in dealing with floods certainly increases the skills of mothers in managing the impact of the annual flood disaster. Good skills will support the process of adaptation (adaptability) so as to form good resistance to difficult situations. This study aims to analyze the relationship between self-efficacy and maternal resilience in managing the impact of the annual flood disaster during the COVID-19 pandemic.

Material and Methods

This research is part of the Research Program of the Academic College of Nursing, Faculty of Nursing, Universitas Airlangga in 2021 with the title "The Model of Maternal Resilience in Managing the Impact of Annual Floods during the COVID-19 Pandemic Based on Family-Centered Empowerment and Family Resilience Models as Efforts to Strengthen Disaster Resilient Villages." This study uses a quantitative research design that uses a descriptive correlational method with a cross-sectional approach. The population in this study were mothers in Sukorejo Village, Karangbinangun District, Lamongan Regency, East Java, who were selected using the purposive sampling technique and obtained 93 respondents who met the inclusion and exclusion criteria.

The instruments in this study used questionnaires, namely demographic data, self-efficacy questionnaires adapted from the GSES questionnaire by Ralf Schwarzer, and maternal resilience questionnaires adapted from the CDRIS questionnaire by Professor Jonathan Davidson. The questionnaire used has obtained permission from the owner of the questionnaire and has been tested for validity and reliability. The data collection process was assisted by enumerators from Sukorejo Village, namely the Family Welfare Programme (PKK) mobilizing team, by providing explanations to respondents regarding the explanation of the contents of the questionnaire, filling out informed consent, and filling out the questionnaire. The results of filling out the questionnaire will then be

processed and analyzed using the Spearman-Rho correlation test. If the probability (Sig.) Spearman rank > 0.05, then H1 is accepted, and vice versa, if the probability (Sig.) Spearman rank < 0.05, then H1 is rejected.

Results

Table 1 Respondent Demographic Data by Category

	Category	n	%
Age	Early adulthood (26-35 years)	46	49.5
	Late adulthood (36-45 year)	47	50.5
Marital Status	Unmarried	0	0
	Married	92	98.9
	Divorce	1	1.1
Occupations	Civil Servants	1	1.1
	Private	5	5.4
	Self-employed	8	8.6
	Housewife	77	82.8
	Teacher	2	2.2
Education	JHS	1	1.1
	SHS	21	22.6
	Undergraduate	59	63.4
	Master	12	12.9

The demographic data of the respondents in this study can be seen in Table 1. The age of most of the respondents, namely 36–45 years, was 47 (50.5%). The marital status of most of the respondents is married; as many as 92 respondents (98.9%). The occupations owned by mothers in Sukorejo Village are housewives, according to as many as 77 respondents (82.8%). The education taken by most of the respondents was undergraduate by as many as 59 people (63.4%).

Mother's self-efficacy is divided into 4 categories, namely very low, low, high, and very high. The mother's self-efficacy in Sukorejo Village in managing the impact of the flood disaster was mostly very high, with a total of 81 people (87.1%). However, there are still mothers who have high self-efficacy with a total of 9 people (9.7%) and low self-efficacy with a total of 3 people (3.2%).

Mother's resilience has four categories, namely very low, low, high, and very high. Most mothers have low resilience, as many as 46 mothers (49.5%). A total of 18 mothers (19.4%) had very low resilience. However, 20 mothers (21.5%) had high resilience, and 9 other mothers (9.7%) had very high resilience.

Table 2 Relationship between Self efficacy with Mother's Resilience Levels

Self efficacy Level	Mother's Resilience Level								Total	
	Very Low		Low		High		Very High			
	f	%	f	%	f	%	f	%	f	%
Very Low	0	0%	0	0%	0	0%	0	0%	0	0%
Low	2	2.2%	1	1.1%	0	0%	0	0%	3	3.2%
High	6	6.5%	3	3.2%	0	0%	0	0%	9	9.7%
Very High	10	10.8%	42	45.2%	20	21.5%	9	9.7%	81	87.1%
Total	18	19.5%	46	49.5%	20	21.5%	9	9.7%		
Spearman rho		r=0.414				p=0.000				

The results of data analysis using Spearman's rho in Table 2. show that the value of $p = 0.000$ ($p < 0.005$) and the value of $r = 0.414$. The p value in the analysis result is less than 0.05, meaning that H1 is accepted. The results of the data analysis above show that there is a positive relationship between self-efficacy and maternal resilience. The value of the correlation coefficient (r) explains that there is a weak relationship and the direction of the correlation between the variables is positive, meaning that the higher the mother's self-efficacy, the greater the resilience of the mother. The results of the data analysis in Table 5.5 show that most of the mothers in Sukorejo Village have low resilience and very high self-efficacy, as many as 42 people (45.2%).

Discussion

The self-efficacy possessed by most of the mothers in Sukorejo Village, Karangbinangun District, belongs to a very high level of self-efficacy. This shows that mothers have good confidence in their abilities to manage the impact of the annual flood disaster during the COVID-19 pandemic.

Self-efficacy can be grown based on four things: the experience they have, the existence of social invitations, social examples, and physical and emotional conditions (Bandura 2010). The annual flood that occurs in Sukorejo Village, Karangbinangun District, increases the experience of the local community in dealing with disasters, especially floods. Good experience will increase individual confidence in carrying out disaster evacuation, so that the community has higher self-efficacy compared to people who are less experienced (Becker *et al.*, 2017). Good self-efficacy will form individuals who are ready to face disasters and make earlier decisions to evacuate (Newnham *et al.*, 2017). This is because the individual believes that the efforts they make can provide effective results and change.

The resilience possessed by mothers in Sukorejo Village, Karangbinangun District, is classified as a low level of resilience. This shows that mothers in Sukorejo Village still do not have good resilience to manage the impact of the annual flood disaster during the COVID-19 pandemic. This can be seen from the results of filling out the questionnaire, which show that mothers are still grateful for the disaster experienced and the impact felt due to the annual flood disaster. In addition, mothers also know how to seek help in an effort to overcome the effects of floods that arise. However, some mothers still feel unable and helpless to deal with the consequences of the flood disaster. This is one of the factors causing maternal resilience in Sukorejo Village to be categorized as low.

Individual resilience in dealing with disasters is influenced by various factors, one of which is culture, values, and knowledge (Khunwishit *et al.*, 2018). Adaptation strategies, experience, and knowledge will build resilience, persistence, and good flexibility in dealing with disasters. This is in line with research that has been carried out, where past disaster experiences affect the wrong perception of risk and reduce community sensitivity to disaster risk (Yusup & Ajar, 2018). The flood disaster experienced by the mother in Sukorejo Village for years has been considered a hereditary condition by the local community. Based on the results of the preliminary study, it was found that when the flood came, the local people tended to surrender and did not make more efforts because flooding had become a thing that was often faced. When the flood came, the local people actually took advantage of the flood conditions by taking the fish that rose to the mainland. This resulted in a lack of persistence by mothers in overcoming flood disasters, so that mothers in Sukorejo Village had a low level of resilience.

Flood disasters cause various impacts, such as damage to infrastructure, loss of life, and changes in environmental conditions that affect individual psychological conditions (Pratama, 2018). Social support has an effect on maintaining mental health and individual well-being when facing stressors (Labrague & De los Santos, 2020). The results of other studies show that people who face the impact of natural disasters should be given psychological support so as not to experience psychiatric disorders such as anxiety, depression, post-traumatic stress disorder (PTSD), and others (Xi *et al.*, 2020). This is in line with the theory expressed by Cooper, that one aspect that can affect the level of individual resilience is social support (Cooper, 2019). Mothers in Sukorejo Village have good social relations, as can be seen from the results of filling out the questionnaire. In the environmental conditions affected by the flood disaster, the mother still maintains a good relationship with the surrounding residents. Social assistance in the form of support or assistance in the form of daily needs can assist the recovery process of individuals who have been affected by natural disasters (Wang & Xu, 2017). Therefore, social support can increase individual resilience in the face of disasters, so that their quality of life increases and they can recover from the slumped conditions caused by the disaster they experienced.

The results of the Spearman Rho correlation test that has been carried out show that there is a significant relationship between self-efficacy and maternal resilience in managing the impact of flood disasters. The relationship between the two variables based on the value of the correlation coefficient is included in the weak category. Meanwhile, the direction of the relationship between variables has a positive direction, meaning that the higher the self-efficacy, the higher the level of maternal resilience in managing the impact of the annual flood disaster during the COVID-19 pandemic.

Several other studies have also found similar results. In a study that used nurses as research respondents, it was found that there was a significant relationship between self-efficacy and nurse resilience (Mardlotillah, 2021). The relationship between the variables is categorized as weak, but the

direction of the correlation is positive. The higher the self-efficacy, the higher the level of resilience possessed by nurses. Other studies also support this opinion, where there is a positive correlation between self-efficacy and resilience, with the value of the correlation coefficient belonging to the medium category and the direction of the correlation being positive (Utami, 2017). Individuals with high self-efficacy tend to be better able to deal with work with a high level of difficulty, completing a job in a positive and productive way.

Self-efficacy affects an optimistic attitude, one's self-esteem, and the emergence of social support so as to form a resilient individual (Timalsina, 2022). Self-efficacy will motivate adults to carry out activities independently, support others with their beliefs, and be ready to face complex problems (Schunk 1991). The level of maternal efficacy in Sukorejo Village is categorized as very high. Mother has a strong belief and is able to withstand the difficulties that arise as a result of the flood disaster. Floods that occur over the years also increase the experience and ability of mothers to deal with floods, which has an impact on their self-efficacy. This creates a good social attitude among mothers in Sukorejo Village, which can be seen from the results of filling out the Maternal Resilience questionnaire. The social support aspect is the one that has the highest percentage compared to other aspects. Even in the worst conditions, mothers in Sukorejo Village still support each other and socialize with the surrounding environment so that they have a fairly good level of resilience to deal with the impact of flooding in their area.

The COVID-19 pandemic condition increases the psychological impact on society, such as anxiety, negative emotions, fatigue, helplessness, hopelessness, and stress, so it requires good resilience to be able to get through these conditions (Mukhtar, 2020). Parents, especially mothers who have an important role in the family, are urgently needed to help reduce the risk of flooding during the COVID-19 pandemic (Hastuti, 2016). This is one of the reasons why parents have a higher level of anxiety than their children. Self-efficacy affects the level of anxiety and individual resilience (Tsibidaki, 2021). A good level of self-efficacy can reduce the anxiety felt so as to form a resilient individual. Personal resilience theory explains that confidence is influenced by positive behavior and emotions, as well as individual beliefs (Ledesma 2014). The ability of mothers in Sukorejo Village to control positive and negative emotions is still not good, based on the results of filling out the questionnaire given. Most mothers still feel powerless to deal with the impact of the flood disaster. Therefore, the level of maternal resilience in Sukorejo Village belongs to the low category.

Conclusion

Mothers in Sukorejo Village have good confidence in their abilities to deal with the impact of the annual flood disaster during the COVID-19 pandemic. However, the mother's ability to control positive and negative emotions (confidence) is still lacking, so the level of the mother's resilience is classified as low category. The results of the bivariate analysis showed that there was a positive correlation between self-efficacy and maternal resilience in Sukorejo Village, Karangbinangun District, Lamongan Regency. However, the relationship between the variables is classified in the weak category. It is hoped that the mother can become a person who is more patient, sincere, and looks positively at all the difficulties and problems that arise due to the impact of the flood disaster. Thus forming individuals who are more resilient in dealing with the effects of floods that occur annually. In addition, community institutions can provide education regarding the importance of flood disaster management so that it does not cause serious and long-term impacts. Further researchers are advised to investigate further regarding the influence of cultural factors and values held by society on resilience.

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Conflict of Interest:

The authors declare no conflict of interest.

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