



# A Literature Review on the Role of Social Determinants in Post-Disaster Public Health

Zul Adhayani Arda<sup>1</sup>, Chitra Dewi<sup>2</sup>, Andi Rizky Amaliah<sup>2</sup>, Nur Juliana<sup>3</sup>, SKM Kartini<sup>4</sup>, Nur Hamdani Nur<sup>4\*</sup>

<sup>1</sup>Public Health Study Program, Faculty of Public Health, University of Gorontalo, Gorontalo, Indonesia; <sup>2</sup>Department of Public Health, Makassar College of Health Sciences, Makassar, Indonesia; <sup>3</sup>Health Promotion Study Program, Karya Persada Muna Polytechnic, Sulawesi Tenggara, Indonesia; <sup>4</sup>Public Health Study Program, Faculty of Public Health, Pancasila University, Makassar, Indonesia

## Abstract

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**\*Correspondence:** Nur Hamdani Nur, Public Health Study Program, Faculty of Public Health, Pancasila University, Makassar, Indonesia. E-mail: [hamdani82nur@gmail.com](mailto:hamdani82nur@gmail.com)  
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**BACKGROUND:** Social determinants are closely related to public health disparities, and they affect health both directly and indirectly. Furthermore, social and economic conditions are often associated with a natural disaster that impacts people's health.

**AIM:** This study aims to identify the role of Social Determinants in Post-Disaster Public Health.

**METHODS:** This study used the Pubmed database, Science direct, and Proquest through the keywords “*Determinan Sosial; Kesehatan Masyarakat; Pascabencana* (Social Determinants; Public Health; Post-Disaster).” Furthermore, the studies found are open access, not a type of review and were filtered over the last 5 years. The Pubmed databases found 1308 studies, which were screened based on inclusion and exclusion criteria to obtain a total of seven studies for review.

**RESULTS:** The role of social support shows a significant effect on a person's stress symptoms. Moreover, environmental factors play an important role in post-disaster public health. Therefore, policies and countermeasures in disaster recovery need to continuously focus on health issues and social relations in the long term.

**CONCLUSION:** Social determinants have an important role in post-disaster public health.

## Introduction

Factors that are socially determined in the community are referred to as social determinants [1]. They include several variables belonging to social factors, such as cultural, political, economic, educational, behavioral, and biological, that affect the health status of individuals or communities [2]. Health social determinants are factors that contribute to health disparities among group of people and have direct and indirect effect on health, therefore, it is a measure of public health status [3].

Social and economic conditions such as socioeconomic events [4] and natural disaster can impact a person's health [5]. Disasters often occur unexpectedly and disrupt the normal conditions of the community, causing death, trauma, and damage to infrastructure [6]. Every year, disasters affect millions of people worldwide [6]. On average, at least one disaster occurs daily worldwide due to climate change and increasing population density; therefore, the frequency and impact of disasters remain at high levels [6].

Natural disasters have an impact on the physical condition of victims and the environment and affect psychological conditions such as fear, suicide, and public health problems [6]. For example, when these psychological problems do not get adequate and proper treatment, the victims experience severe mental disorders [7], hence, it becomes a concern. Furthermore, several studies stated that disaster vulnerability factors and health determinants are in harmony by presenting opportunities for a common goal of identifying and managing public health risks [8], [9], [10]. Therefore, this study aims to identify the role of Social Determinants in Post-Disaster Public Health.

## Methodology

This study used Pubmed to conduct an electronic database search, and screening was carried out from 2016 to 2021. The keywords used in the Pubmed database are *Determinan Sosial* which

means Social Determinants, *Kesehatan Masyarakat* for Public Health, and *Pasca Bencana* for Post Disaster, and 1308 relevant studies were found. However, 439 were excluded because of their irrelevance to the aim of the study. Furthermore, screening was carried out to find duplicate studies entered into the reference management software (Mendeley), and it was found that 96 were the same. The remaining 773 studies were then screened based on the inclusion and exclusion criteria determined by the author, namely: Open Access Articles, Research Articles, Quantitative Studies, and seven articles were obtained. PRISMA Flowchart can be seen in Figure 1.

### Finding

Based on Figure 1 (PRISMA flow chart), it obtained five articles that fulfill the criteria of this study. Therefore, the article can be seen in the following table:

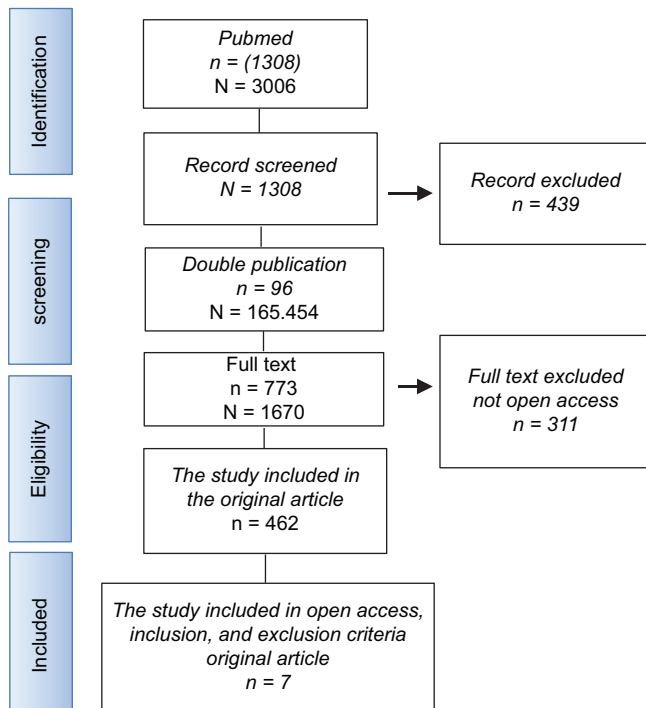


Figure 1: Flow chart PRISMA

Social determinants of health or social determinants of health are non-medical factors that affect health. These factors include conditions of daily living and work and do not include individual risk factors that influence risk or susceptibility to illness or injury. The results of the 7 selected studies highlighted several important points of social determinants (Table 1). The role of social support shows a significant effect on a person's stress symptoms. Furthermore, social factors such as the environment play an important role in post-disaster public health. Therefore, policies and countermeasures in disaster recovery need to continuously focus on health issues and social relations in the long term. Protective social determinants such as gender, age, ethnicity, social support, and socioeconomic status for

mental health and resilience in disaster survivors are also of great concern to the government. The results of this study are used to develop public health policies and practices in dealing with problems in post-disaster areas.

## Discussion

In principle, social determinants are a number of variables belonging to social factors, such as; cultural, political, economic, educational, biological, and behavioral factors that affect the health status of individuals or communities. When a disaster occurs, apart from damage to facilities, the environment, and access, public health is an important issue to consider in evacuation centers [18]. During a disaster, evacuation becomes a source of risk for health problems such as infectious diseases [19]. Also, there are more refugees in comparison to the number of sick people, therefore, a major challenge for public health workers is to condition the evacuation to create a healthy environment and atmosphere. During pre-disaster, public health workers need to understand and master the response map and the preparation of contingency plans. Also, they need to coordinate health services and form a public health rapid response team during a disaster.

Social support plays an important role in developing a person, including children, adolescents, adults, or the elderly [20]. Received social support creates a sense of calm, care, love, self-confidence, and competence [21]. Furthermore, social support also reduces stress and effectively overcomes psychological pressure during difficult times and stressful circumstances [22]. The effect of health social determinants on individual disaster risk is according to the type of determinant [23]. People perceive a strong correlation between low community relations and vulnerability to disaster risk [24]. Certain populations with low community relations are considered socially isolated, resulting in insufficient knowledge or awareness of disaster risks in their surroundings or preparing and responding to disasters [25].

Some of the factors that contribute to people's vulnerability to disaster include physical, social, economic, and environmental factors increase people's vulnerability to the impacts of hazards. They are also drivers of ill health and contributing factors to severe and unhealthy obesity [26]. For example, due to the effect of gender inequality on mental and physical health, women and gender are priority actions in social determinants of health [27]. Women are already identified as more vulnerable in disasters and they now account for about half of the global population. In addition, women care for the majority of the elderly, children, and the disabled,

**Table 1: Articles related to social determinants of post-disaster public health**

References	Title	Methods	Main findings
Bui <i>et al.</i> , 2021 [11]	The relationship between social support and posttraumatic stress symptoms among youth exposed to a natural disaster	Quantitative	Parental support, peer support, and symptoms of stress showed a statistically significant effect on social support. In addition, social support showed a statistically significant effect on stress symptoms. These findings support a social selection model in which stress symptoms weaken social support, especially in the first two post-disaster years
Nishihara <i>et al.</i> , 2018 [12]	Factors associated with social support in child-rearing among mothers in post-disaster communities	Quantitative	Factors related to social support in child care among mothers in post-disaster communities are associated with the mother herself and her family members and social and environmental factors such as getting to know each other before the disaster. Getting to know each other before a disaster promotes rich social support in child-rearing in post-disaster communities. When reconstructing a community after a change of residence after a disaster, pre-disaster relationships among community residents should be considered from the perspective of childcare support.
Sasaki <i>et al.</i> , 2019 [13]	Pre-disaster social support is protective for the onset of post-disaster depression: Prospective study from the Great East Japan Earthquake & Tsunami	Quantitative	Those who gave and received emotional and instrumental support before a disaster were significantly less likely to develop depressive symptoms after a disaster compared with those without support among those who experienced the damage but did not have support. Strengthening social assistance can help foster psychological resilience to disasters
Seto <i>et al.</i> , 2019 [14]	Post-disaster mental health and psychosocial support in the areas affected by the Great East Japan Earthquake: a qualitative study	Quantitative	The establishment of the system is to collect and share sufficient and relevant knowledge and coordinate the organization for post-disaster long-term post-disaster will be desirable.
Sun and Yan, 2019 [15]	The use of public health indicators to assess individual happiness in post-disaster recovery	Quantitative	Individuals' mental and physical health and environmental connectedness significantly correlate with their happiness. However, disaster-related variables from the community's evaluation of recovery achievement, concerns about the health effects of radiation, property loss in disasters, and victim experiences, do not affect happiness. The results indicate that policies and countermeasures in disaster recovery should continue to focus on health issues and social relations in the long term
Bui <i>et al.</i> , 2021 [16]	The impact of early social support on subsequent health recovery after a major disaster: A longitudinal analysis	Quantitative	Social support immediately after Katrina was positively associated with physical health and mental health. Other immigrants who were severely affected by a major disaster could benefit from programs that rapidly reconstruct social support systems
Mao and Agyapong, 2021 [17]	The Role of Social Determinants in Mental Health and Resilience After Disasters: Implications for Public Health Policy and Practice	Quantitative	Some of the most studied vulnerability and protective social determinants are explored, such as gender, age, ethnicity, social support, and socioeconomic status for mental health and resilience in those who survived the disaster. Other possible factors such as previous trauma, childhood abuse, family history of psychiatry, and later life stress explored by several studies are also discussed. Implications of this study are for public health policy and practice

and this role can hinder women's ability to escape and prevent harm to themselves in case of emergency.

## Conclusion

This study concludes that social determinants have an important role in public health in post-disaster. Therefore, further analysis is required to highlight this issue that targets disaster-prone areas from health social determinants.

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