

Kudumbashree Members' Attitude, Skills and Knowledge of the Psychosocial Care of the Disaster Affected

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Abstract

This study is conducted in the context of concerns over global climate change and related disasters. The psychological after-effects of a disaster may persist for extended periods, sometimes even decades, because of the intensity and magnitude of loss associated with it. In a country like India, where there is a severe shortage of mental health professionals, providing psychosocial care to disaster-affected may be arduous. This emphasises the need for culturally sensitive and community-based psychosocial care to cater to the needs of different sectors of the community. Trained members in a community can play a crucial role in the psychosocial care of the disaster affected. This study was conducted among the members of Kudumbashree, the women empowerment programme by the Government of Kerala, with a membership of 43,93,579, with an aim of understanding their attitude, knowledge and skills in providing psychosocial care to the disaster affected. Findings indicate that Kudumbashree members have a favourable attitude, and possess skills and an average level of knowledge in providing psychosocial care to the disaster affected. The findings have policy implications in the identification, organisation and training of people within a community to provide effective psychosocial care.

Keywords: Climate Change, Disasters, Psychosocial Care, Kudumbashree

1. Introduction

Climate change is one of the most alarming crises humankind is facing. This issue is of paramount importance because it concerns the survival and existence of human beings on this planet. It has its own socio-political, psychosocial, emotional, and economic

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repercussions too. Climate change and related problems are not only the concerns of governments or developing nations; it is the concern of everyone. The Intergovernmental Panel on Climate Change (IPCC) states that "Climate change is a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period typically decades or longer" (IPCC, 2007). One of the significant after-effects of climate change is the increasing number of more intense disasters.

The last few decades have witnessed many deadly natural disasters that might have occurred due to the changing climate. The range of disasters varies from the deadliest tsunamis to hurricanes and cyclones in some parts of the globe, and heat waves and wildfires to increased rainfall and flooding in some other regions. (Cacciotti et al., 2021; Sauerborn & Ebi, 2012; Thomas et al., 2013; Van Aalst, 2006). Climate change is not only affecting individuals; societies are also tremendously impacted by climate change and related disasters, crises and emergencies (Arcaya et al., 2020; Collenteur, 2015; Davey et al., 2013; Di Baldassarre, 2014; Dubash, 2012; Duerden, 2004; Healey et al., 2011; Kron, 2015; Van Bavel, 2020).

All communities are susceptible to disasters, and it has a substantial impact on psychological well-being through direct and indirect linkages (Alexander, 2012; Bourque & Willox, 2014; Chen et al., 2020; Cianconi et al., 2020; Fatemi et al., 2017; Hayes et al., 2018; Palinkas & Wong, 2020; Simpson et al., 2011; Singh et al., 2014; Thomas et al., 2009; Wolkin et al., 2015). The psychological after-effects of a disaster may persist for more extended periods, sometimes even decades, because of the intensity and magnitude of various types of loss (Canino et al., 1990; Goldmann & Galea, 2014; Lindell & Prater, 2003; Morganstein & Ursano, 2020; Stanke et al., 2012). Most of the psychological, emotional and psychosocial problems that occur due to climate change and associated disasters are likely to proceed gradually (Chan & Wong, 2020; Clayton, 2019; Lawrance et al., 2021; Lorenzoni et al., 2020; Newnham et al., 2020; Paxson et al., 2012; Zhong et al., 2018). Moreover, the impact may vary by the social, historical, political and cultural contexts of the affected people and communities (Ahern et al., 2005; Fernandez et al., 2015; Gaillard et al., 2008; Galea et al., 2006; James & Paton, 2015; Kirmayer et al., 2010; Ozer et al., 2003; Perilla et al., 2002).

Previously it was widely thought that mental health after-effects of disasters are limited only to immediate trauma and Post-traumatic Stress Disorder (Friedman et al., 2007; Fullerton & Ursano, 2005; Norris, 2006; North et al., 2021; Raphael & Maguire, 2012; Roudini et al., 2017; Southwick et al., 2016; Vernberg et al., 2008; Yehuda, 2003). This led to a mismatch between the needs of the affected, the resources they have and the services provided to them (Augusterfer et al., 2020; Halpern & Vermeulen, 2017; Kagee, 2018; Keim, 2018; Khorram-Manesh, 2020). An alternative to resolve this reductionist tendency is to have a broader psychosocial support plan for the disaster affected. Fortunately, now almost all the governments and agencies working in the field of disaster mental health recognise the importance of psychosocial care (PSC) as an essential component of disaster management (Bulling & Abdel-Monem, 2012; Diaz et al., 2006; Diaz, 2018; Manzoor & Ali, 2018; Raphael & Maguire, 2012).

According to the National Disaster Management Authority's (NDMA) National Disaster Management Guideline of India for Psychosocial Support and Mental Health Services (PSSMH) in Disasters,

Psychosocial support in the context of disasters refers to “comprehensive interventions aimed at addressing a wide range of psychosocial and mental health problems arising in the aftermath of disasters. These interventions help individuals, families and groups to build human capacities, restore social cohesion and infrastructure along with maintaining their independence, dignity and cultural integrity. Psychosocial support helps in reducing the level of actual and perceived stress and in preventing adverse psychological and social consequences amongst disaster-affected communities” (NDMA, 2009).

In a country like India, where there is a severe shortage of mental health professionals to cater to common mental health challenges, providing effective psychosocial care to disaster-affected individuals may be arduous. This emphasises the need for culturally sensitive and community-based psychosocial care to cater to the needs of different sectors and vulnerable groups of the community. Trained members in a community can play crucial roles during the recovery, rehabilitation, and reconstruction phases of a disaster. If adequately organised, the community resources can be mobilised effectively to provide psychosocial care during and after a disaster (Aldrich, 2012; Eisenman et al.,

2007; Mathbor, 2007; Tierney, 2014). Since the community members may know each other and have a good connection with the families of the affected people, they can provide essential psychosocial care to the affected individuals in the unfortunate event of a disaster. Since they are from the same community, cultural differences, a significant concern and drawback of psychosocial care by outside experts, may not occur. Several studies identified the vital role a community could play in the provision of psychosocial care (e.g., Amaratunga & O'Sullivan, 2006; Bhadra, 2017; Gailits et al., 2019; Gray et al., 2020; Hechanova & Waelde, 2017; Nahar et al., 2014; O'Hanlon & Budosan, 2015; Pfefferbaum & Klomp, 2013; Rao, 2006; Reyes, 2006; Satapathy & Bhadra, 2009; Weissbecker et al., 2019; Wessells, 2009; WHO, 1992).

This study is conducted in the context of the 2018 and 2019 floods in Kerala, one of the southernmost states in India. Kerala experienced heavy rainfall from 1st June to 19th August 2018, resulting in flooding and/or landslides in almost all the districts of the state. As per the report of the Kerala State Disaster Management Authority (KSDMA),

Flooding has affected hundreds of villages, destroyed several roads, and thousands of homes have been damaged. 1,259 out of 1,664 villages spread across its 14 districts were affected. The devastating floods and landslides affected 5.4 million people, displaced 1.4 million, and took 433 lives (268 men, 98 women and 67 children). Several relief camps were opened to save the people from the vagaries of the flood (KSDMA, 2018).

Interviews at relief camps revealed that families in Kerala were paying an enormous non-quantifiable emotional price in the aftermath of the floods. Emotional trauma was visible in the form of shock, psychosocial damage, distress, trauma, and insecurity from the loss of home, livelihood, assets, possessions, and most importantly, the death of close friends and relatives (Ravi et al., 2019). Volunteers and workers from different community-based organisations and groups like Kudumbashree were actively involved in public health interventions. They visited the disaster-affected houses and relief camps and gave psychosocial support to those in need. Even though they had not undergone any training, or had minimal training in psychosocial care, they could easily connect with the affected individuals since most of these volunteers were from the affected community.

Kudumbashree is the poverty eradication and women empowerment programme implemented by the Government of Kerala. It has a three-tier structure for its women's community network with Neighbourhood Groups (NHGs) as primary level units, Area Development Societies (ADS) at the ward level, and Community Development Societies (CDS) at the local government level. It is arguably one of the largest women's networks in the world. The Kudumbashree network has 2,91,507 NHGs affiliated with 19,489 ADSs and 1064 CDSs with a total membership of 43,93,579 women.

Since Kudumbashree members are from the same community/neighbourhood and are well-connected and informed about the people in the community, they have a crucial role in providing culturally sensitive psychosocial care to disaster survivors. During a disaster, they act as frontline workers, visit families and communities, especially women, the elderly, and children affected, and ensure their well-being. They have proven it through their multifaceted efforts during and after Kerala's 2018 and 2019 floods. During the 2018 and 2019 floods, some Kudumbashree members were trained to provide psychosocial care to people with symptoms of withdrawal and isolation after the trauma due to loss incurred in the floods. Also, the community counsellors of Kudumbashree made timely interventions in the flood-affected districts during the 2018 floods. Their primary role was to provide mental health services to different populations and help them recover from the trauma. They visited rehabilitation camps and houses of the affected and provided individual and group counselling. Community counsellors of Kudumbashree offered counselling to 39,444 persons during and after the disaster (Kudumbashree, 2021).

Since Kudumbashree members are not well-trained mental health professionals, their attitude towards psychosocial care, knowledge about psychosocial care and the skills to provide psychosocial care have a significant impact on the quality and effectiveness of the psychosocial care services they provide. Thus, this study aimed to identify Kudumbashree members' attitudes towards, knowledge about, and skills to provide psychosocial care for the disaster affected.

2. Materials and Methods

2.1. Objectives

1. To identify the nature and extent of Kudumbashree members' attitude towards

knowledge about and skills to provide psychosocial care to disaster-affected individuals and communities.

2. To find out whether trained and untrained Kudumbashree members differ in their attitude towards, attitude towards knowledge about and skills to provide psychosocial care to disaster-affected.

2.2. Hypotheses

1. Kudumbashree members will have a favourable attitude towards the psychosocial care of the disaster affected.
2. Kudumbashree members will have a high level of knowledge about the psychosocial care of the disaster affected.
3. Kudumbashree members will be highly skilled in providing psychosocial care to the disaster affected.
4. There will be no significant difference in the attitude of trained and untrained Kudumbashree members towards the psychosocial care of the disaster affected.
5. There will be no significant difference in the knowledge of trained and untrained Kudumbashree members' knowledge about psychosocial care of the disaster affected.
6. There will be no significant difference in the skills of trained and untrained Kudumbashree members to provide psychosocial care to the disaster affected.

3. Research Design

Since the study investigated the Kudumbashree members' attitude towards, knowledge about and skills to provide psychosocial care to the disaster affected, a descriptive cross-sectional design is chosen as the research design.

3.1. Sample

449 Kudumbashree members with an average age of 41, randomly selected through multistage sampling, from 60 panchayats of the five flood-affected districts of Kerala: Pathanamthitta, Alappuzha, Kottayam, Idukki and Ernakulam, constituted the sample

of the study. Out of the 449 respondents, 86 got basic psychosocial care training, 277 were affected by a disaster, and 204 stayed in a relief camp due to a disaster. Randomly selected 600 Kudumbashree members were approached for data collection, out of which 498 responded proactively (response rate is 0.83) and gave their consent to participate in the study. Among the 498 respondents, 49 were removed because of incomplete data, incomplete responses to the items in the survey instrument, multiple answers to the items and lack of reliability of responses.

3.2. Method of Data Collection

Since the study aimed to identify the nature and extent of attitude, knowledge and skills of the Kudumbashree members about the psychosocial care of the disaster affected, an offline in-person face-to-face survey method was used to collect data.

3.2.1. Instruments for Data Collection

This study employed a specially developed survey instrument to collect data from the respondents about their attitude toward, knowledge about and skills for the psychosocial care of the disaster affected. The survey instrument has five parts: Part-I to elicit socio-demographic details of the respondents; Part-II to understand the respondent's experience and exposure to various aspects of disasters and psychosocial care; Part –III to identify the attitude of the respondent towards the psychosocial care of the disaster affected; Part-IV to understand the respondent's knowledge about psychosocial care and Part-V to identify the skills of the respondent to provide psychosocial care.

3.2.2. The Procedure of Data Collection

During their visit to the selected Panchayats, the investigator met the Chairpersons of the Kudumbashree Community Development Society (CDS) to get the details of the Area Development Society (ADS) and Neighbourhood Groups (NHGs). After randomly selecting the ADS and NHGs in the panchayats, the field investigator directly met the members of the ADS and NHGs after taking prior appointments. Usually, the NHGs have regular meetings on Saturdays and Sundays. The field investigator approached the NHG during their weekly meeting, explained the details of the investigation, and answered their queries. Once they had given their consent to participate in the study, the survey instrument was given to them, and after completion, it was collected back.

During the monthly meeting of the ADS, with a prior appointment, the field investigator met them and explained the details of the study. After obtaining the consent, data were collected from them.

4. Results

Table 1 : Kudumbashree Members' Attitude Towards, Knowledge about and Skills to Provide Psychosocial Support to the Disaster Affected

Variable	n	M	SD	Nature of Attitude/ Knowledge/Skill
Attitude	449	55.03	10.10	Favourable
Knowledge	449	13.12	2.39	Average
Skills	449	69.87	13.31	High

Attitude scale: Less than 28-Highly Unfavourable; 28-45 – Unfavourable; 46-54 – 55-72 –Favourable; More than 72- Highly Favourable

Knowledge scale: Below 9 – Poor; 9-14- Average; above 14- Good

Skills scale: Less than 28-Very Low; 28-45 – Low; 46-54 – Average; 55-72 – High; More than 72-Very High

Table 2 : The difference in Attitude, Knowledge and Skills of Trained and Untrained Kudumbashree Members to Provide Psychosocial Care

Variable	Trained	N	Mean	SD	df	t
Attitude	No	363	54.67	9.83	447	1.51
	Yes	86	56.50	11.09		
Knowledge	No	363	13.17	2.40	447	0.97
	Yes	86	12.90	2.38		
Skills	No	363	68.93	13.58	447	3.09**
	Yes	86	73.83	11.33		

** Significant at 0.01 level

5. Discussion

One of the major findings of the study was that the overall attitude of the Kudumbashree members towards psychosocial care of the disaster affected is favourable. This may be due to their general humanitarian concern, increased awareness about PSC, more exposure to print and visual media, their own experiences during a disaster and/or the training they received as part of their routine job. This is a promising finding since a favourable attitude of the Kudumbashree members is important in providing PSC during and after a disaster. Since they have a favourable attitude, it is expected that they will show interest in various activities related to the PSC, and they may have a genuine interest and involvement in getting trained for the PSC of the disaster-affected. In general, all these may contribute to the enhancement of the quality of the PSC provided by the Kudumbashree members and thereby increase its effectiveness. Moreover, the availability of Kudumbashree members with a favourable attitude may help the local authorities to create a well-equipped team who can respond rapidly in case of an unfortunate event of a disaster. Furthermore, this will make the community more resilient.

It was also found that Kudumbashree members have only an average level of knowledge about the PSC of the disaster affected. This suggests the need for further knowledge enhancement programmes, maybe in the form of workshops or other forms of training. This also reveals that some lacuna exists in the awareness and knowledge-imparting programmes. More detailed and in-depth investigations are required to identify the reasons behind this. The effectiveness of the training provided to the Kudumbashree members must be investigated thoroughly.

Another important finding of the study was that Kudumbashree members are highly skilled in providing psychosocial care. This is yet another positive finding in terms of PSC. Usually, most training programmes related to PSC focus on imparting skills to the trainees. Here the Kudumbashree members reported that they possess a high level of skills to provide PSC. Since the Kudumbashree members are from the same community and know the culture, language, and local dialect, and have a very good connection with individuals and families in that community, they may have better skills to provide PSC. The fact that even without undergoing any of the training programmes related to PSC, many of the respondents reported being highly skilled, is something

noteworthy. Almost all of the Kudumbashree members are, in one way or another, engaged in providing services to the people of their community. This might have helped the Kudumbashree members to develop effective skills to provide PSC. However, this finding has to be considered carefully. Kudumbashree members' responses to the skill subtest might be biased by their inaccurate perception of their own ability. Sometimes the tendency to project oneself as good in front of others (social desirability) may play in an unconscious level and alter our subjective evaluations and judgement. Further exploration by experts is required to cross-validate this finding.

Findings illustrate that there is no significant difference in the attitude and knowledge of Kudumbashree members who have got training in PSC and those who have not undergone any training in PSC. However, there is a significant difference in the skills to provide PSC. The trained group have a better skill set than the untrained group. Absence of significant difference in the attitude and knowledge of those who have undergone training and those who have not undergone training questions the effectiveness of the PSC training they have undergone. This finding is an eye-opener as it points out that mere conduction of the training programmes in PSC is not enough; assessing its efficacy is also important.

5.1. Implications

Government and other agencies conducting training in PSC may consider the findings of the study to take necessary steps to revise and modify the existing training programmes to enhance their effectiveness, develop a sophisticated assessment plan to assess the effectiveness of the training programme, and modify the modality of conducting the training. Also, the training module has to give due importance to the attitude and knowledge parts along with the skill-related aspects. It is better to complete the training programmes of PSC in homogeneous groups of optimum numbers. This may facilitate more involvement and interaction of the participants during and after the programmes. Also, after the training, networks of groups can be formed with a mentor in the group so that it will act as a discussion forum where members can clarify their doubts. The group may also serve as a platform for sharing updated and new information related to psychosocial care. This could further make it easy to coordinate the functioning of the Kudumbashree members during a crisis.

6. Conclusion

This study was one of its kind to identify the attitude, knowledge and skills to provide effective psychosocial care for the disaster affected. The findings underline the importance of developing community-based trained teams to provide psychosocial care during a disaster. Also, the findings indicate the need to reframe the existing training programmes in psychosocial care for the disaster affected by the inclusion of attitude and knowledge components. In addition, the findings indicate the need to develop effective assessment strategies to evaluate the training programmes for the psychosocial care of the disaster affected.

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References

1. Ahern, M., Kovats, R. S., Wilkinson, P., Few, R., & Matthies, E. (2005). Global health impacts of floods: epidemiologic evidence. *Epidemiologic Reviews*, 27(1), 36-46.
2. Aldrich, D. P. (2012). *Building resilience: social capital in post-disaster recovery*. University of Chicago Press, Chicago, Illinois
3. Alexander, D. (2012). Models of social vulnerability to disasters. *RCCS Annual Review. A selection from the Portuguese journal Revista Crítica de Ciências Sociais*, (4).
4. Amaratunga, C. A., & O'Sullivan, T. L. (2006). In the path of disasters: Psychosocial issues for preparedness, response, and recovery. *Prehospital and Disaster Medicine*, 21(3), 149-153.
5. Arcaya, M., Raker, E. J., & Waters, M. C. (2020). The social consequences of disasters: individual and community change. *Annual Review of Sociology*, 46, 671-691.
6. Augusterfer, E. F., O'Neal, C. R., Martin, S. W., Sheikh, T. L., & Mollica, R. F. (2020). The Role of Telemental Health, Tele-consultation, and Tele-supervision in Post-disaster and Low-resource Settings. *Current Psychiatry Reports*, 22(12), 1-10.
7. Bhadra, S. (2017). Women in disasters and conflicts in India: Interventions in view of the millennium development goals. *International Journal of Disaster Risk Science*, 8(2), 196-207.
8. Bourque, E., & Cunsolo Willox, A. (2014). Climate change: the next challenge for public mental health?. *International Review of Psychiatry*, 26(4), 415-422.
9. Bulling, D., & Abdel Monem, T. (2012). Disaster mental health. In A. Jamieson & A. Moenssens (Eds.) *Wiley Encyclopedia of Forensic Science* (pp. 760-764). New York: John Wiley.
10. Cacciotti, R., Kaiser, A., Sardella, A., De Nuntiis, P., Drdacky, M., Hanus, C., & Bonazza, A. (2021). Climate-Change-Induced Disasters and Cultural Heritage: Optimizing Management Strategies in Central Europe. *Climate Risk Management*, 100301.
11. Canino, G., Bravo, M., Rubio-Stipec, M., & Woodbury, M. (1990). The impact of disaster on mental health: prospective and retrospective analyses. *International Journal of Mental Health*, 19(1), 51-69.
12. Chan, E. Y. Y., & Wong, C. S. (2020). Public health prevention hierarchy in disaster context. *Public health and disasters-health emergency and disaster risk management in Asia*. Tokyo: Springer, 7-17.
13. Chen, S., Bagrodia, R., Pfeffer, C. C., Meli, L., & Bonanno, G. A. (2020). Anxiety and resilience in the face of natural disasters associated with climate change: a review and methodological critique. *Journal of Anxiety Disorders*, 102297.

14. Cianconi, P., Betrò, S., & Janiri, L. (2020). The impact of climate change on mental health: a systematic descriptive review. *Frontiers in psychiatry*, 11, 74.
15. Clayton, S. (2019). Psychology and climate change. *Current Biology*, 29(19), R992-R995.
16. Collenteur, R. A., De Moel, H., Jongman, B., & Di Baldassarre, G. (2015). The failed-levee effect: Do societies learn from flood disasters?. *Natural Hazards*, 76(1), 373-388.
17. Davey, C. M., Devictor, V., Jonzén, N., Lindström, Å., & Smith, H. G. (2013). Impact of climate change on communities: revealing species' contribution. *Journal of Animal Ecology*, 82(3), 551-561
18. Di Baldassarre, G., Kemerink, J. S., Kooy, M., & Brandimarte, L. (2014). Floods and societies: The spatial distribution of water related disaster risk and its dynamics. *Wiley Interdisciplinary Reviews: Water*, 1(2), 133-139.
19. Diaz, J. O. P. (2018). Historical Overview of Recent Policy Statements, Guidance, and Agreements Pertaining to Mental Health and Psychosocial Support. In *Disaster Recovery* (pp. 35-44). Apple Academic Press.
20. Diaz, J. O. P., Murthy, R. S., & Lakshminarayana, R. (2006). *Advances in disaster mental health and psychological support*. New Delhi: Voluntary Health Association of India.
21. Dubash, N. (Ed.). (2012). *Handbook of climate change and India: development, politics and governance*. Routledge.
22. Duerden, F. (2004). Translating climate change impacts at the community level. *Arctic*, 204-212.
23. Eisenman, D. P., Cordasco, K., Asch, S., Golden, J., & Glik, D. (2007). Disaster Planning and Risk Communication with Vulnerable Communities: Lessons from Hurricane Katrina. *American Journal of Public Health*, 97(Supplement_1), S109-S115. <https://doi.org/10.2105/ajph.2005.084335>
24. Fatemi, F., Ardalan, A., Aguirre, B., Mansouri, N., & Mohammadfam, I. (2017). Social vulnerability indicators in disasters: Findings from a systematic review. *International journal of disaster risk reduction*, 22, 219-227.
25. Fernandez, A., Black, J., Jones, M., Wilson, L., Salvador-Carulla, L., Astell-Burt, T., & Black, D. (2015). Flooding and mental health: a systematic mapping review. *PloS one*, 10(4), e0119929.
26. Fullerton, C. S., & Ursano, R. J. (2005). Psychological and psychopathological consequences of disasters.
27. Gailits, N., Mathias, K., Nouvet, E., Pillai, P., & Schwartz, L. (2019). Women's freedom of movement and participation in psychosocial support groups: qualitative study in northern India. *BMC public health*, 19(1), 1-13.
28. Gaillard, J.-C., Clavé, E., Vibert, O., Azhari, Dedi, Denain, J.-C., Efendi, Y., Grancher, D., Liamzon, C. C., Sari, D. R., & Setiawan, R. (2008). Ethnic groups' response to the 26 December 2004 earthquake and tsunami in Aceh, Indonesia. *Natural Hazards*, 47(1), 17-38. <https://doi.org/10.1007/s11069-007-9193-3>
29. Galea, S., Hadley, C., & Rudenstine, S. (2006). Social context and the health consequences of disaster. Kirmayer, L. J., Kienzler, H., Afana, A. H., & Pedersen, D. (2010). Trauma and disasters in social and cultural context.
30. Goldmann, E., & Galea, S. (2014). Mental health consequences of disasters. *Annual review of public health*, 35, 169-183.
31. Gray, B., Hanna, E., & Reifels, L. (2020). The Integration of Mental Health and Psychosocial Support and Disaster Risk Reduction: A mapping and Review. *International journal of environmental research and public health*, 17(6), 1900. <https://doi.org/10.3390/ijerph17061900>
32. Halpern, J., & Vermeulen, K. (2017). *Disaster mental health interventions: Core principles and practices*. Routledge.
33. Hayes, K., Blashki, G., Wiseman, J., Burke, S., & Reifels, L. (2018). Climate change and mental health: Risks, impacts and priority actions. *International journal of mental health systems*, 12(1), 1-12.
34. Healey, G. K., Magner, K. M., Ritter, R., Kamookak, R., Aningmiuq, A., Issaluk, B., Mackenzie, K., Allardyce, L., Stockdale, A. & Moffit, P. (2011). Community perspectives on the impact of climate change on health in Nunavut, Canada. *Arctic*, 89-97.
35. Hechanova, R., & Waelde, L. (2017). The influence of culture on disaster mental health and psychosocial support interventions in Southeast Asia. *Mental health, religion & culture*, 20(1), 31-44. Hechanova
36. IPCC. (2007). *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, Pachauri, R.K & Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.
37. James, H., & Paton, D. (2015). Social capital and the cultural contexts of disaster recovery outcomes in Myanmar and Taiwan. *Global Change, Peace & Security*, 27(2), 207-228.
38. Kagee, A. (2018). Psychosocial humanitarian interventions in the global South: the potential contributions of social work and community psychology. *Social Work*, 54(3), 275-282.
39. Keim, M. (2018). Defining disaster-related health risk: A primer for prevention. *Prehospital and disaster medicine*, 33(3), 308-316.
40. Khorram-Manesh, A. (2020). Flexible surge capacity–public health, public education, and disaster management. *Health promotion perspectives*, 10(3), 175.
41. Kirmayer, L. J., Kienzler, H., Afana, A. H., & Pedersen, D. (2010). Trauma and disasters in social and cultural context.
42. Kron, W. (2015). Flood disasters—a global perspective. *Water Policy*, 17(S1), 6-24.
43. KSDMA. (2018). *Kerala Floods—2018*. Kerala State Disaster Management Authority, Government of Kerala. <https://sdma.kerala.gov.in/wp-content/uploads/2019/08/Memorandum2-Floods-2018.pdf>

44. Kudumbashree. (2021)- An introduction. <https://www.kudumbashree.org/pages/171>
45. Lawrance, D. E., Thompson, R., Fontana, G., & Jennings, D. N. (2021). The impact of climate change on mental health and emotional wellbeing: current evidence and implications for policy and practice.
46. Lindell, M. K., & Prater, C. S. (2003). Assessing community impacts of natural disasters. *Natural hazards review*, 4(4), 176-185.
47. Lorenzoni, N., Stühlinger, V., Stummer, H., & Raich, M. (2020). Long-term impact of disasters on the public health system: a multi-case analysis. *International journal of environmental research and public health*, 17(17), 6251.
48. Manzoor, S., & Ali, M. (2018). Disaster and mental health: A need for multipronged approach. *Indian Journal of Health & Wellbeing*, 9(3).
49. Mathbor, G. (2007). Enhancement of community preparedness for natural disasters. *International Social Work* 50(3): 357–369.
50. Morganstein, J. C., & Ursano, R. J. (2020). Ecological disasters and mental health: causes, consequences, and interventions. *Frontiers in psychiatry*, 11, 1.
51. Nahar, N., Blomstedt, Y., Wu, B., Kandarina, I., Trisnantoro, L., & Kinsman, J. (2014). Increasing the provision of mental health care for vulnerable, disaster-affected people in Bangladesh. *BMC public health*, 14(1), 1-9.
52. National Disaster Management Authority. (2009). *National Disaster Management Guidelines: Psychosocial Support and Mental Health Services in Disasters- A publication of the National Disaster Management Authority, Government of India*. ISBN 978-93-80440-00-2, December 2009, New Delhi.
53. Newnham, E. A., Dzidic, P. L., Mergelsberg, E. L., Guragain, B., Chan, E. Y. Y., Kim, Y., Leaning, J., Kayano, R., Wright, M., Kaththiriarachchi, L., Kato, H., Osawa, T. & Gibbs, L. (2020). The Asia Pacific disaster mental health network: setting a mental health agenda for the region. *International journal of environmental research and public health*, 17(17), 6144.
54. Norris, F. H. (Ed.). (2006). *Methods for disaster mental health research*. Guilford Press.
55. North, C. S., Suris, A. M., & Pollio, D. E. (2021). A nosological exploration of PTSD and trauma in disaster mental health and implications for the COVID-19 pandemic. *Behavioral Sciences*, 11(1), 7.
56. O'Hanlon, K. P., & Budosan, B. (2015). Access to community-based mental healthcare and psychosocial support within a disaster context. *BJPsych international*, 12(2), 44-47.
57. Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. *Psychological Bulletin*, 129(1), 52.
58. Palinkas, L. A., & Wong, M. (2020). Global climate change and mental health. *Current opinion in psychology*, 32, 12-16.
59. Paxson, C., Fussell, E., Rhodes, J., & Waters, M. (2012). Five years later: Recovery from post-traumatic stress and psychological distress among low-income mothers affected by Hurricane Katrina. *Social science & medicine*, 74(2), 150-157.
60. Perilla, J. L., Norris, F. H., & Lavizzo, E. A. (2002). Ethnicity, culture, and disaster response: Identifying and explaining ethnic differences in PTSD six months after Hurricane Andrew. *Journal of social and clinical psychology*, 21(1), 20-45.
61. Pfefferbaum, R. L., & Klomp, R. W. (2013). Community resilience, disasters, and the public's health. *Community engagement, organization, and development for public health practice*, 275-298.
62. Rao, K. (2006). Psychosocial support in disaster-affected communities. *International Review of Psychiatry*, 18(6), 501-505.
63. Raphael, B., & Maguire, P. (2012). Disaster mental health research: Past, present, and future.
64. Ravi, A., Aakash, K. O., Adarsh, K., Thomas, G. M., & Jyothi, S. N. (2019). An Assessment Of Theenvironmentalandsocialimpacts Of Kerala Floods And Landslides In 2018 And 2019. *Turkish Journal of Physiotherapy and Rehabilitation*, 32, 3.
65. Reyes, G. (2006). Psychological First Am: Principles Of Community-Based Psychosocial Support. *Handbook of international disaster psychology: Practices and programs*, 2, 1
66. Roudini, J., Khankeh, H. R., & Witruk, E. (2017). Disaster mental health preparedness in the community: A systematic review study. *Health psychology open*, 4(1), 2055102917711307.
67. Satapathy, S., & Bhadra, S. (2009). Disaster psychosocial and mental health support in South & South-East Asian countries: A synthesis. *Journal of South Asian Disaster Studies*, 2(1), 21–45.
68. Sauerborn, R., & Ebi, K. (2012). Climate change and natural disasters—integrating science and practice to protect health. *Global Health Action*, 5(1), 19295.
69. Simpson, D. M., Weissbecker, I., & Sephton, S. E. (2011). Extreme weather-related events: Implications for mental health and well-being. *Climate change and human well-being*, 57-78.
70. Singh, S. R., Eghdami, M. R., & Singh, S. (2014). The concept of social vulnerability: A review from disasters perspectives. *International Journal of Interdisciplinary and Multidisciplinary Studies*, 1(6), 71-82.

71. Southwick, S. M., Satodiya, R., & Pietrzak, R. H. (2016). Disaster mental health and positive psychology: an afterward to the special issue. *Journal of clinical psychology*, 72(12), 1364-1368.
72. Stanke, C., Murray, V., Amlôt, R., Nurse, J., & Williams, R. (2012). The effects of flooding on mental health: Outcomes and recommendations from a review of the literature. *PLoS currents*, 4.
73. Thomas, D. S., Phillips, B. D., Fothergill, A., & Blinn-Pike, L. (2009). *Social vulnerability to disasters*. CRC Press.
74. Thomas, V., Albert, J. R., & Perez, R. (2013). Climate-related disasters in Asia and the Pacific. *Asian Development Bank Economics Working Paper Series*, (358).
75. Tierney, K. (2014). *The social roots of risk: Producing disasters, promoting resilience*. Palo Alto, CA: Stanford University Press.
76. Van Aalst, M. K. (2006). The impacts of climate change on the risk of natural disasters. *Disasters*, 30(1), 5-18.
77. Van Bavel, B., Curtis, D., Dijkman, J., Hannaford, M., De Keyser, M., Van Onacker, E., & Soens, T. (2020). *Disasters and history: the vulnerability and resilience of past societies* (p. 244). Cambridge University Press.
78. Vernberg, E. M., Steinberg, A. M., Jacobs, A. K., Brymer, M. J., Watson, P. J., Osofsky, J. D., ... & Ruzek, J. I. (2008). Innovations in disaster mental health: Psychological first aid. *Professional Psychology: Research and Practice*, 39(4), 381.
79. Weissbecker, I., Hanna, E., El Shazly, M., Gao, J., & Ventevogel, P. (2019). Integrative mental health and psychosocial support interventions for refugees in humanitarian crisis settings. In *An uncertain safety* (pp. 117-153). Springer, Cham.
80. Wessells, M. G. (2009). Do no harm: toward contextually appropriate psychosocial support in international emergencies. *American psychologist*, 64(8), 842.
81. Wolkin, A., Patterson, J. R., Harris, S., Soler, E., Burrer, S., McGeehin, M., & Greene, S. (2015). Reducing public health risk during disasters: identifying social vulnerabilities. *Journal of homeland security and emergency management*, 12(4), 809-822.
82. World Health Organization. (1992). *Psychosocial consequences of disasters: prevention and management* (No. WHO/MNH/PSF/91.3 Rev. 1). World Health Organization.
83. Yehuda, R. (2003). Changes in the concept of PTSD and trauma. *Psychiatric Times*, 20(4), 35-35.
84. Zhong, S., Yang, L., Toloo, S., Wang, Z., Tong, S., Sun, X., Crompton, D., FitzGerald, G., & Huang, C. (2018). The long-term physical and psychological health impacts of flooding: a systematic mapping. *Science of the total environment*, 626, 165-194.