International Journal of Asian Education and Psychology (IJAEP)
Vol.1, No.2, 2025: 1-14

The Psychological Impact of Floods on Mental Health and Well-being: A Sociological Investigation in District Hyderabad, Sindh Pakistan

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A R T I C L E I N F O

Keywords: Floods, Mental Health, PTSD, Well-being, Pakistan

Received : 2 February
Revised : 23 March
Accepted: 25 April

A B S T R A C T

This study investigates the psychological impact of the 2022 floods in Hyderabad, Sindh, Pakistan, employing a cross-sectional design with 500 flood-affected adults selected through stratified random sampling. Using validated scales (PHQ-9, GAD-7, PCL-5) and Likert-based questionnaires, we assessed mental health symptoms, coping mechanisms, and socioeconomic impacts. Results revealed alarming rates of depression (68%), anxiety (62%), and PTSD (55%), with women exhibiting significantly higher severity (depression: 4.5 vs. 3.9; anxiety: 4.3 vs. 3.7; PTSD: 4.1 vs. 3.5; $p < 0.05$). While religious practices (64%) and social support (50%) were primary coping strategies, only 8% accessed professional counseling despite 72% expressing need. Socioeconomic devastation—property damage (82%), income loss (75%)—exacerbated distress, with inadequate government recovery efforts (12% satisfaction). The study underscores the urgent need for integrated mental health interventions (CBT, trauma therapy) combined with gender-sensitive poverty alleviation, addressing systemic gaps in Pakistan's disaster response framework. These findings advocate for community-based, culturally adapted mental health services to break the poverty-mental illness cycle in flood-prone regions

INTRODUCTION

Floods rank among the most catastrophic natural disasters, inflicting severe damage on infrastructure, economies, and human lives (Khushi et al., 2024). While the immediate consequences—such as property destruction and displacement—are visible, the psychological toll on survivors is often overlooked (Bhutto et al., 2024). The sudden loss of homes, cherished belongings, and even family members creates deep emotional wounds, leaving individuals vulnerable to anxiety, depression, and post-traumatic stress disorder (PTSD). Recognizing these mental health repercussions is essential for designing effective recovery strategies and strengthening community resilience in the aftermath of such disasters (Bhutto et al., 2025). Unlike earthquakes or wildfires, floods frequently strike with minimal warning, catching population's off-guard and intensifying psychological distress. The prolonged aftermath—marked by water stagnation, disease risks, and slow rehabilitation—further compounds the suffering (Vighio, 2024). In the initial stages, survivors may exhibit acute stress reactions, including shock, disorientation, and emotional detachment (Khoso et al., 2024). Without timely intervention, these symptoms can escalate into chronic psychological disorders. Research consistently indicates that flood victims report significantly higher levels of depression, anxiety, and PTSD compared to unaffected individuals, with children, the elderly, and those with prior mental health issues facing the greatest risks (Chung et al., 2017). A pervasive challenge in the wake of flooding is the profound sense of grief and helplessness (Asim et al., 2022). For many, the disaster erases not just shelter but also livelihoods, particularly in agrarian communities where crops and livestock are primary income sources (Bei et al., 2013). The financial instability that follows exacerbates emotional distress, fostering feelings of despair (George et al., 2021; Ross, 2017). Compounding this issue, displacement into overcrowded relief camps or temporary housing often breeds insecurity and stress, as families grapple with disrupted routines and an uncertain future. The social fabric of communities also suffers during floods (Sultana, 2010). Tightly bonded neighborhoods may fracture as residents scatter to safer locations, depriving individuals of crucial emotional support networks (Haque, 2016). In temporary shelters, cramped living conditions and competition for scarce resources can heighten tensions, sometimes triggering domestic disputes or substance abuse as maladaptive coping mechanisms (Mustafa, 1998). Children, whose psychological development is especially sensitive to trauma, may experience learning difficulties, sleep disturbances, or behavioral regression due to the upheaval (Perry, 2003).

LITERATURE REVIEW

Nevertheless, adversity often reveals human resilience (Fine, 1991; Hill et al., 2024). Strong social networks, counseling services, and culturally sensitive mental health initiatives can significantly aid recovery (Merino, et al., 2024). Community-led efforts, such as collective mourning rituals or peer support groups, help restore a sense of normalcy (Ijiga et al., 2024). However, in many flood-prone regions, mental health resources remain scarce, leaving survivors without access to professional care. Effective disaster response must adopt a holistic approach, integrating immediate psychological first aid with long-term

therapeutic and economic support (Wang et al., 2024; Peng et al., 2024). Policymakers and healthcare providers must prioritize mental health in disaster preparedness plans to address the invisible scars left by floods. By examining these psychological impacts, this paper highlights vulnerable groups and proposes interventions to foster emotional recovery and sustainable resilience in affected populations.

METHODS

Research Design

This study adopted a quantitative, cross-sectional design to assess the psychological effects of floods on mental health in Hyderabad, Sindh. The research was conducted six months after the 2022 floods to capture medium-term psychological impacts rather than immediate post-disaster reactions. A survey-based approach was employed, utilizing structured questionnaires to collect data on mental health symptoms, coping mechanisms, and socioeconomic challenges. The study aimed to establish correlations between flood exposure and mental health outcomes while identifying vulnerable demographic groups.

Study Area

The research is descriptive in nature. The research was conducted in Hyderabad District, Sindh, a region severely affected by the 2022 monsoon floods. The area was selected due to its high vulnerability to flooding, significant displacement of populations, and limited access to mental health services. Data collection focused on 15 flood-hit union councils, ensuring representation from both urban and rural communities. The selection of study sites was based on government disaster reports and NDMA (National Disaster Management Authority) flood impact assessments.

Sampling Size and Population

The study targeted 500 adult participants (aged 18 and above) who experienced direct flood impacts, including property damage, livelihood loss, or displacement. The sample size was determined using 95% confidence level and 5% margin of error, assuming a 50% prevalence rate of mental health symptoms in flood-affected populations. A stratified random sampling technique was employed to ensure proportional representation from different flood severity zones (high, moderate, and low impact). Inclusion criteria required participants to have resided in flood-affected areas during the disaster, while exclusion criteria eliminated individuals with severe cognitive impairments or unwillingness to participate.

Quantitative Data Collection

The quantitative data was collected using well structured questionnaire as an instrument. Besides that, the Likert scale questionnaire was also obtained for getting the perception of local residents to achieve the objectives. The survey instruments were considered including key sections:

Socio-Demographic Information – Gender, age, education level, occupation, and household income.

Mental Health Symptoms Assessment

Depression: Adapted from PHQ-9 (Patient Health Questionnaire-9).

Anxiety: Based on GAD-7 (Generalized Anxiety Disorder-7).

PTSD Symptoms: Modified PCL-5 (PTSD Checklist for DSM-5).

Coping Mechanisms – Multiple-choice responses (e.g., religious practices, social support, substance use).

Socioeconomic Impact – Likert-scale questions on financial loss, food insecurity, and displacement.

Field Execution: Data was collected via door-to-door surveys between January and March 2023, ensuring diverse geographic coverage.

Data Analysis

The data was conducted on well structure questionnaire in local language and was analyzed using SPSS software for the numerical justification including, mean, frequency, percentage, Standard deviation, Standard error. While the analyzed data was interpreted accordingly.

RESULTS

Table 1. Demographic Characteristics of the Respondents

Variable	Category	Frequency (n=500)	Percentage (%)
Gender	Male	280	56%
	Female	220	44%
Age Group	18–30	190	38%
	31–45	180	36%
	46–60	100	20%
	60+	30	6%
Education	No formal	120	24%
	Primary	150	30%
	Secondary	130	26%
	Tertiary	100	20%
Occupation	Farmers	250	50%
	Daily wage	120	24%
	Employed	80	16%
	Unemployed	50	10%

The table-1 shows the demographic breakdown of the study's 500 participants reveals a predominantly male sample (56%), with the majority falling within the 18-45 age range (74%). Educational attainment shows a varied distribution, with 30% having primary education and 20% holding tertiary qualifications, while 24% reported no formal education. Occupationally, half of the respondents were farmers, reflecting the agricultural nature of the flood-affected region, followed by daily wage earners (24%), employed individuals (16%), and a smaller unemployed segment (10%). This profile highlights a working-age population with significant exposure to flood-related livelihood disruptions, particularly in agriculture and informal labor sectors, while also indicating educational disparities that may influence vulnerability and recovery capacity. The gender imbalance and concentration of younger adults suggest these groups may bear disproportionate mental health impacts from disaster exposure.

Table 2. Prevalence of Mental Health Symptoms Post-Flood (n=500)

Symptom Statement	Mean (1-5)	% Agree (4-5)	Min	Max	SD	SE
1. "I feel persistent sadness/depression."	4.2	68%	1	5	0.85	0.04
2. "I experience excessive worry/anxiety."	4.0	62%	1	5	0.92	0.04
3. "I have flashbacks/nightmares about the flood."	3.8	55%	1	5	1.08	0.05
4. "My sleep quality has deteriorated."	3.9	60%	1	5	1.12	0.05
5. "I avoid places reminding me of the flood."	3.6	48%	1	5	1.21	0.05
6. "I struggle to concentrate daily."	3.7	52%	1	5	1.15	0.05
7. "I feel irritable/angry frequently."	3.9	58%	1	5	1.07	0.05
8. "I've lost interest in activities I enjoyed."	4.1	65%	1	5	0.98	0.04

Symptom Statement	Mean (1-5)	% Agree (4-5)	Min	Max	SD	SE
9. "I feel physically exhausted without reason."	3.8	53%	1	5	1.10	0.05
10. "I have thoughts of self-harm."	2.9	18%	1	5	1.45	0.06

The data in table-2 reveals significant psychological distress among flood-affected individuals, with depression ("persistent sadness") showing the highest severity (Mean=4.2/5, 68% agreement). Anxiety symptoms followed closely (Mean=4.0, 62% agreement), while PTSD indicators like flashbacks (Mean=3.8, 55%) and avoidance behaviors (Mean=3.6, 48%) were moderately prevalent. Sleep disturbances (Mean=3.9, 60%) and irritability (Mean=3.9, 58%) were common, alongside anhedonia ("lost interest in activities," Mean=4.1, 65%), suggesting widespread emotional numbing. While self-harm ideation was less frequent (Mean=2.9, 18%), its presence remains clinically concerning. Standard deviations (0.85–1.45) reflect varied symptom intensity across respondents, with depression showing the most consistency (SD=0.85) and self-harm thoughts the most variability (SD=1.45). The low standard errors (0.04–0.06) indicate precise mean estimates, confirming the reliability of these findings. Collectively, these results demonstrate that floods trigger multifaceted mental health challenges, with mood disorders being most acute but PTSD and somatic symptoms also requiring intervention.

Table 3. Coping Mechanisms Adopted (Multiple Responses Allowed)

Strategy	Frequency	Percentage (%)
Religious Practices	320	64%
Social Support	250	50%
Substance Use (Tobacco/Alcohol)	90	18%
Professional Counseling	40	8%

The data on coping mechanisms reveals that flood-affected individuals primarily relied on religious practices (64%) and social support (50%) as their main strategies for dealing with psychological distress, highlighting the cultural and communal reliance on faith and interpersonal networks during crises. A smaller but notable proportion turned to substance use (18%), suggesting maladaptive coping among some survivors, likely due to limited access to healthier alternatives or heightened stress. Alarmingly, only 8% sought

professional counseling, underscoring a critical gap in mental health service utilization—possibly due to stigma, lack of awareness, or scarce resources as shown in table-3. These findings emphasize the need for community-based mental health interventions that integrate cultural and religious coping strengths while addressing barriers to professional care and reducing harmful coping behaviors like substance use.

Table 4. Socioeconomic Impact Post-Flood

Impact	Mean Score (1-5)	% Severely Affected (4-5)
Loss of Income	4.5	75%
Property Damage	4.7	82%
Food Insecurity	4.0	60%
Displacement	3.9	55%

The data in table-4 reveals devastating socioeconomic consequences of the floods, with property damage emerging as the most severe impact (Mean=4.7/5, 82% severely affected), followed closely by income loss (Mean=4.5, 75%). These figures indicate near-universal livelihood disruption, particularly catastrophic for agrarian and daily-wage workers. Food insecurity (Mean=4.0, 60%) and displacement (Mean=3.9, 55%) further compounded crises, with over half the population experiencing hunger or homelessness. The extreme scores (all means ≥3.9) demonstrate systemic collapse of economic safety nets, where even "moderate" impacts like displacement still affected a majority. This socioeconomic devastation directly correlates with the previously reported mental health crisis, as financial instability exacerbates psychological distress. Urgent multi-sectoral interventions—from cash aid to housing rehabilitation—are needed to break this vicious cycle.

Table 5. Gender-Wise Mental Health Comparison

Symptom	Male (Mean)	Female (Mean)	p-value
Depression	3.9	4.5	<0.05
Anxiety	3.7	4.3	<0.01
PTSD	3.5	4.1	<0.05

The gender-wise comparison reveals in table-5 that women experienced significantly more severe mental health impacts than men following the floods, with higher mean scores for depression (4.5 vs 3.9), anxiety (4.3 vs 3.7), and PTSD symptoms (4.1 vs 3.5), all statistically significant ($p<0.05$). This disparity likely stems from women's increased vulnerability during disasters due to caregiving responsibilities, socioeconomic disadvantages, and greater exposure to trauma

while managing household survival. The pronounced difference in anxiety ($p<0.01$) particularly highlights how disaster-related uncertainties disproportionately affect women, who often bear primary responsibility for family welfare amid disrupted support systems. These findings emphasize the critical need for gender-responsive mental health services in post-disaster recovery, including targeted psychosocial support, trauma counseling, and economic relief programs specifically designed to address women's heightened risk of psychological distress in humanitarian crises.

Table 6. Access to Mental Health Services

Service	% **Who Accessed**
Government Clinics	15%
NGO Counseling	10%
None	75%

The data reveals a critical gap in mental health service access among flood-affected populations, with a staggering 75% of respondents reporting no access to any form of professional psychological support highlighted in table-6 . Only 15% utilized government clinics and a mere 10% received NGO counseling, highlighting severe systemic deficiencies in post-disaster mental healthcare infrastructure. This service desert likely stems from multiple barriers: geographic inaccessibility of facilities in rural flood zones, stigma surrounding mental health, limited awareness of available services, and insufficient resource allocation for psychosocial programs in disaster response. The near-total lack of professional support (affecting 3 in 4 survivors) directly correlates with the previously reported escalation of depression, anxiety, and maladaptive coping mechanisms, underscoring an urgent need for integrated, community-based mental health initiatives that bridge this service gap in future disaster recovery efforts.

Table 7. Likert-Scale Responses on Post-Flood Recovery Challenges (n=500)

Statement	Mean (1-5)	% Agree	Min	Max	SD	SE
1. "I feel hopeless about the future after the flood."	4.1	65%	1	5	0.89	0.04
2. "I have adequate emotional support from family/community."	2.8	25%	1	5	1.12	0.05
3. "Financial losses significantly worsened my mental health."	4.4	78%	2	5	0.76	0.03
4. "I experience frequent anxiety about future floods."	4.0	70%	1	5	0.92	0.04
5. "Sleep disturbances are common since the flood."	3.9	62%	1	5	1.05	0.05
6. "I feel my community has recovered well."	2.5	18%	1	5	1.18	0.05
7. "Government assistance has been sufficient."	2.1	12%	1	5	1.24	0.06
8. "I've used unhealthy coping methods (alcohol/drugs)."	3.2	28%	1	5	1.42	0.06
9. "Children in my family show behavioral changes."	3.7	55%	1	5	1.21	0.05
10. "I believe mental health services would help me."	4.3	72%	1	5	0.95	0.04

The data in table-7 reveals profound and multifaceted recovery challenges among flood survivors, with financial impacts emerging as the most severe concern (Mean=4.4, 78% agreement), closely tied to mental health deterioration. Widespread hopelessness (Mean=4.1, 65%) and flood-related anxiety (Mean=4.0, 70%) dominate emotional responses, while inadequate support systems are evident—only 25% feel adequately supported (Mean=2.8). Critically, 72% believe mental health services would help (Mean=4.3), contrasting sharply with poor perceived recovery at community (Mean=2.5, 18%) and governmental levels (Mean=2.1, 12%). Behavioral impacts are significant, with 55% reporting child behavioral changes and 28% resorting to substance use, while 62% experience sleep disruptions. The consistently low standard errors (0.03–0.06) validate the reliability of these distressing trends, painting a picture of a population grappling with compounding stressors and unmet recovery needs.

Table 8. Clinical Implications

Symptom Cluster	Affected Population	Recommended Action
Mood Disorders (Depression/Anhedonia)	65-68%	CBT, antidepressants
PTSD Symptoms	48-55%	Trauma-focused therapy
Sleep-Cognition Issues	52-60%	Sleep hygiene programs
Self-Harm Risk	18%	Emergency counseling

The clinical implications highlight critical intervention priorities for flood-affected populations, with mood disorders (depression/anhedonia) affecting 65-68% of survivors, necessitating CBT and antidepressant therapy as first-line treatments. PTSD symptoms (48-55% prevalence) call for trauma-focused therapies like EMDR or prolonged exposure to address flashbacks and avoidance behaviors. The widespread sleep-cognitive disturbances (52-60%) require targeted sleep hygiene programs alongside anxiety management, given their bidirectional relationship with mental health. Most urgently, the 18% with self-harm risk demand immediate crisis counseling and safety planning, as this high-risk subgroup reflects the most severe psychological distress as shown in table-8. These findings collectively underscore the need for tiered mental health interventions—from community-based CBT groups to specialized trauma therapy and emergency psychiatric services—to address the full spectrum of post-disaster psychopathology while prioritizing high-risk cases. The integration of these approaches with socioeconomic recovery efforts is essential, given the established link between financial stress and mental health deterioration in this population.

DISCUSSION

The findings of this study demonstrate the severe psychological consequences of flooding in Hyderabad, Sindh, with high rates of depression (68%), anxiety (62%), and PTSD (55%) among survivors, consistent with global research on disaster mental health impacts (Fernandez et al., 2022; Rezayat et al., 2020). Women showed significantly worse mental health outcomes than men (depression: 4.5 vs 3.9; anxiety: 4.3 vs 3.7; PTSD: 4.1 vs 3.5; $p<0.05$), reflecting their heightened vulnerability due to caregiving roles and socioeconomic disadvantages (Fernandez et al., 2015; Stanke et al., 2012). While most

respondents relied on religious practices (64%) and social support (50%) for coping, substantial gaps in mental healthcare access were evident, with only 8% receiving professional help despite 72% expressing need - a disparity exacerbated by stigma and resource limitations (Azad et al., 2019; WHO, 2021). The devastating socioeconomic impacts (82% property damage, 75% income loss) compounded psychological distress, creating a vicious cycle of poverty and mental illness (Rahman et al., 2023), while inadequate recovery efforts (only 12% found government assistance sufficient) mirrored critiques of Pakistan's disaster response systems (Mustafa, 2022). These findings underscore the urgent need for integrated interventions combining evidence-based treatments (CBT, trauma therapy) with poverty alleviation and gender-sensitive approaches, following successful models from other disaster-affected regions (Flores et al., 2024).

CONCLUSIONS AND RECOMMENDATIONS

This study highlights the profound and multifaceted psychological impacts of flooding on the affected population in Hyderabad, Sindh, Pakistan. The findings reveal alarmingly high rates of depression (68%), anxiety (62%), and PTSD (55%) among survivors, demonstrating that floods not only cause physical and economic damage but also leave deep psychological scars. Women were particularly vulnerable, exhibiting significantly higher levels of mental health distress compared to men, which underscores the need for gender-sensitive interventions that address their unique caregiving burdens and socioeconomic disadvantages. The reliance on religious practices (64%) and social support (50%) as primary coping mechanisms reflects cultural resilience, yet the low utilization of professional counseling (8%)—despite 72% expressing a need for such services—points to critical systemic gaps. Barriers such as stigma, limited awareness, and inadequate mental health infrastructure must be addressed through community-based programs that integrate culturally appropriate care. The devastating socioeconomic consequences, including property damage (82%) and income loss (75%), further exacerbated mental health challenges, creating a vicious cycle of poverty and psychological distress. The inadequacy of government recovery efforts (only 12% satisfaction) calls for stronger policy measures and integrated disaster response frameworks.

Recommendations

To address the severe psychological impacts of floods in Hyderabad, this study recommends integrating mental health services into disaster response plans, with a focus on accessible psychological first aid and long-term care. Gender-sensitive interventions should be prioritized to support women's unique vulnerabilities through counseling and economic empowerment. Community-based mental health programs, including mobile clinics and peer support networks, can bridge service gaps while respecting cultural contexts. Public awareness campaigns should combat stigma by promoting mental health literacy through local and religious channels. Economic rehabilitation initiatives, such as cash assistance and skills training, must accompany mental health support to disrupt the poverty-distress cycle. Finally, policy reforms should enhance government-NGO collaboration to strengthen mental health infrastructure and ensure accountability in post-disaster recovery efforts. These comprehensive

measures aim to build resilience and foster sustainable recovery in flood-affected communities.

FURTHER STUDY

This research still has limitations so that further research is needed related to the topic of The Psychological Impact of Floods on Mental Health and Well-being: A Sociological Investigation in order to perfect this research and increase insight for readers.

REFERENCES

Asim, M., Sathian, B., Van Teijlingen, E., Mekkodathil, A. A., Babu, M. R., Rajesh, E., ... & Banerjee, I. (2022). A survey of post-traumatic stress disorder, anxiety and depression among flood affected populations in Kerala, India. Nepal journal of epidemiology, 12(2), 1203.

Azad, A. K., et al. (2019). Gender disparities in post-flood mental health in Bangladesh. Disaster Medicine and Public Health Preparedness, 13(3), 456–463.

Bei, B., Bryant, C., Gilson, K. M., Koh, J., Gibson, P., Komiti, A., ... & Judd, F. (2013). A prospective study of the impact of floods on the mental and physical health of older adults. Aging & mental health, 17(8), 992-1002.

Bhutto, S., Vighio, K., Bhutto, N., & Alam, S. (2024). Comprehensive Analysis of Health Impacts Arising from Flood Disasters: Evidence from Pakistan's Vulnerable Regions. Journal of Economics, Management & Business Administration, 3(2), 52-64.

Bhutto, S., Vighio, K., & Bhutto, N. (2025). Climate Change and Gender-Based Violence: A Study of Flood-Affected Women in Rural Sindh, Pakistan. Zakariya Journal of Social Science, 4(1), 56-69.

Chung, M. C., Jalal, S., & Khan, N. U. (2017). Posttraumatic stress symptoms, co-morbid psychiatric symptoms and distorted cognitions among flood victims of different ages. Journal of mental health, 26(3), 204-211.

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.

Fine, S. B. (1991). Resilience and human adaptability: Who rises above adversity? The American journal of occupational therapy, 45(6), 493-503.

Flores, A. B., Sullivan, J. A., Yu, Y., & Friedrich, H. K. (2024). Health disparities in the aftermath of flood events: a review of physical and mental health outcomes with methodological considerations in the USA. Current environmental health reports, 11(2), 238-254.

George, D. R., Snyder, B., Van Scoy, L. J., Brignone, E., Sinoway, L., Sauder, C., ... & Kraschnewski, J. (2021). Perceptions of diseases of despair by members of

rural and urban high-prevalence communities: A qualitative study. JAMA Network Open, 4(7), e2118134-e2118134.

Haque, C. E. (2016). "We are more scared of the power elites than the floods": Adaptive capacity and resilience of wetland community to flash flood disasters in Bangladesh. International Journal of Disaster Risk Reduction, 19, 145-158.

Ijiga, A. C., Balogun, T. K., Ahmadu, E. O., Klu, E., Olola, T. M., & Addo, G. (2024). The role of the United States in shaping youth mental health advocacy and suicide prevention through foreign policy and media in conflict zones. Magna Scientia Advanced Research and Reviews, 12(01), 202-218.

Khoso, A. R., Jintu, G., Bhutto, S., Sheikh, M. J., & Narejo, K. V. A. A. (2024). Climate change and its impacts in rural areas of Pakistan: a Literature. Journal of Environmental Science and Economics, 3 (1), 18, 26.

Khushi, S. R., Khoso, A. R., Bhutto, S., & Narejo, A. A. (2024). The long-term health impacts of repeated flood events: A Review. Journal of Environmental and Energy Economics, 3(1), 11-19.

Merino, M., Tornero-Aguilera, J. F., Rubio-Zarapuz, A., Villanueva-Tobaldo, C. V., Martín-Rodríguez, A., & Clemente-Suárez, V. J. (2024, July). Body perceptions and psychological well-being: a review of the impact of social media and physical measurements on self-esteem and mental health with a focus on body image satisfaction and its relationship with cultural and gender factors. In Healthcare (Vol. 12, No. 14, p. 1396). MDPI.

Mustafa, D. (1998). Structural causes of vulnerability to flood hazard in Pakistan. Economic Geography, 74(3), 289-305.

Peng, M., Xiao, T., Carter, B., & Shearer, J. (2024). Evaluation of system based psychological first aid training on the mental health proficiency of emergency medical first responders to natural disasters in China: a cluster randomised controlled trial. BMJ open, 14(5), e078750.

Perry, B. D. (2003). Effects of traumatic events on children. The child trauma academy, 1-21.

Rahman, M. M., Shobuj, I. A., Hossain, M. T., & Tasnim, F. (2023). Impact of Disaster on mental health of women: A case study on 2022 flash flood in Bangladesh. International journal of disaster risk reduction, 96, 103935.

Rezayat, A. A., Sahebdel, S., Jafari, S., Kabirian, A., Rahnejat, A. M., Farahani, R. H., ... & Nour, M. G. (2020). Evaluating the prevalence of PTSD among children and adolescents after earthquakes and floods: a systematic review and meta-analysis. Psychiatric quarterly, 91, 1265-1290.

Ross, C. E. (2017). Social causes of psychological distress. Routledge.

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, e4f9f1fa9c3cae.

Sultana, F. (2010). Living in hazardous waterscapes: Gendered vulnerabilities and experiences of floods and disasters. Environmental Hazards, 9(1), 43-53.

Vighio, K. (2024). A Comprehensive Assessment of Migration Associated with Climate and Related Risks: A Literature Based Research in Pakistan. Journal of Economics, Management & Business Administration, 3(2), 1-12.

Wang, L., Norman, I., Edleston, V., Oyo, C., & Leamy, M. (2024). The effectiveness and implementation of psychological first aid as a therapeutic intervention after trauma: An integrative review. Trauma, Violence, & Abuse, 25(4), 2638-2656.

WHO (2021). Mental health in emergencies. World Health Organization