



**RESEARCH PAPER**

**Psychological Post Trauma Disorders in Flood affected People of KP**

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**ABSTRACT**

The study aimed to assess the mental health of flood-affected residents and determine the prevalence of post-traumatic stress disorder (PTSD) based on gender. A cross-sectional survey was conducted from March 2021 to May 2022, involving 270 participants. A 17-item PTSD assessment was used to evaluate their mental health. The results showed that 96% of respondents, regardless of gender, reported having PTSD. The PTSD Checklist was used to determine the prevalence of PTSD in the general population. The results showed no discernible variation in PTSD levels in males and females, suggesting that treatment measures should be planned. Khyber Pakhtunkhwa is implementing a comprehensive approach to mental health post-floods, including community-based support groups, counseling training, crisis helplines, and long-term counseling services.

**KEYWORDS** Disaster, Flood, Post-Traumatic Stress Disorder

**Introduction**

Natural or man-made disasters happen all around the world and present serious risks to public health. These occurrences have extremely detrimental short- and long-term implications on people's wellness as individuals, families, and communities (Baqir et al., 2012). In addition to causing physical harm to people and communities, these natural and technologically debilitating disasters also cause flooding, which is one of the primary problems that occurs in almost every nation (Basit et al., 2011). In the event of a societal crisis, people, families, communities, institutions, and society at large are all rendered –disabled, meaning that their capacity to carry out routine daily tasks is restricted; they are unable to engage in customary social roles; they face threats of financial and personal loss; and they experience a range of psychological reactions, such as helplessness, fear, and loss of confidence (Memon, 2015). The city and its people of Nowshera, Swabi, are still reeling from the effects of the greatest rains in a century and the ensuing flooding. Nonetheless, the city has persevered during this difficult period and is steadily rising again (Shabir, 2013). On 2022, KPK was formally designated as a disaster area in the evening. It was the worst calamity to strike Pakistan in recent memory, and it had a wide-ranging impact. Floods had a severe negative influence on the health of the people residing in the Swat areas (Manzoor et al., 2022). They led to physical issues, psychological issues, and water-borne illnesses. Posttraumatic stress disorder (PTSD) is one of the most dangerous psychological issues following a flood. One disorder that is frequently experienced by victims of several types of catastrophes, including hurricanes, earthquakes, floods, violent crimes, and traffic accidents, is posttraumatic stress disorder (PTSD) (Singh et al., 2023). Another severe and complicated illness that is brought on by exposure to psychologically upsetting events is post-traumatic stress disorder (PTSD) (Varma, 2020). It is typified by intrusive, recurrent memories of the traumatic event, persistent avoidance of stimuli linked to the trauma, and persistent symptoms of elevated arousal (Malik et al., 2022). PTSD early prediction may help in PTSD treatment and prevention (Saeed and Piracha, 2016). Flood victims

frequently suffer from post-traumatic stress disorder (PTSD), indicating the need for enhanced health treatments, particularly mental health services tailored to this demographic (Few, 2013). Individuals impacted by natural disasters are subjected to high levels of stress both in the short and long term, which increases their risk of developing severe mental illnesses and disorders (Pradhan et al., 2022). Research has demonstrated that early intervention that involves actively involving individuals in decision-making, including the provision of emergency treatment, may significantly lessen the effects of trauma and support recovery (e.g. reducing psychological trauma and longer term stress reactivity) (Swaroop, 2013). It is crucial to take into account the socio-political environment and culture; including the public in the process of resolving these issues will make the replies more suitable. Planning for prevention, reduction, mitigation, and readiness, followed by response planning, is essential to disaster management. This helps to minimize the consequences of disasters on property and human life, as well as their aftereffects (Khan and Ali, 2014). Enabling individuals to engage in daily activities successfully is the main objective of occupational therapy (Afzal and Sultan, 2013). They accomplish this goal by either changing the environment to better encourage engagement or by giving individuals the opportunity to take actions that will improve their capacity to lead meaningful lives. It improves a country's long-term capability and independence in disaster-affected areas and beyond (Riaz et al., 2014). The goal of occupational therapy is to improve quality of life by supporting participation in important life roles and activities through the facilitation of occupation. Consequently, occupational therapists play a crucial part in disaster relief efforts (Ahmad and Afzal, 2022). It is possible and desirable for occupational therapists to be involved in all three phases of catastrophe planning, response, and recovery. Occupational therapy is seen to be crucial when problems with quality of life are at stake (Nahar et al., 2014). A great demand was identified for occupational therapists to apply their special expertise and abilities in new settings in order to lessen the suffering of those who have survived a disaster (Shah et al., 2018). It was vital to evaluate the psychological health of flood survivors (Haq et al., 2022). At this point, the current study aims to determine the level of traumatic stress connected to disasters in the post-flood recovery at a chosen Nowshera (KPK) location (Jamil et al., 2023).

### **Literature Review**

A study conducted in Banda Sheikh Ismail from November 2010 to January 2011 assessed the psychological status of flood-affected individuals and their mental health using Post Traumatic Stress Disorder (PTSD) measures. The survey included 87 respondents, with 51% male and 48% female. The study found that PTSD was prevalent across all genders and education levels. The majority had moderate PTSD levels, while 9.2% had severe PTSD. Age, gender, and education did not correlate with PTSD development. However, the relationship between earnings lost and PTSD development was significant ( $p < 0.015$ ). The duration spent in the floods and how the affected person perceived the flood severity also correlated with PTSD development. The findings suggest that individuals who witness a disaster are at risk for developing PTSD, and specialized post-disaster mental health services should be provided to those with significant levels of PTSD (Khattak & Khattak, 2014).

A study examining the correlation between stress reaction, Post-Traumatic Stress Disorder (PTSD), and Role of Community (ROC) among flood victims in Lahore, India, found a significant positive relationship between stress reaction and PTSD. The study used a stratified random sampling approach, involving 100 flood victims aged 18-40 and 30 community relief group workers aged 30-49. The results showed that PTSD and education were significant predictors of stress reaction among flood victims, highlighting the need for further research in this area (Nasir et al., 2016).

A study involving 204 college students in Swat, Pakistan, investigated the impact of floods on their anxiety and PTSD levels. The research, which used Beck Anxiety Inventory (BAI) and PTSD Checklist Civilian (PCL-C) to collect data, found that flood-affected students displayed higher levels of anxiety and PTSD compared to non-affected students. Female flood-affected students also had higher anxiety and PTSD levels than male flood-affected students. The findings have significant implications for developing posttraumatic psychotherapeutic intervention plans for flood-affected students. The study highlights the need for more effective interventions for students affected by floods (Parwez & Gulfam, 2018).

A study conducted in Pakistan in 2022 aimed to investigate the psychological impact of floods on flood victims in Sindh, Pakistan. The study involved 80 victims, 34 males and 46 females, living in three shelters: Jamshoro camp, Hatri camp, and Kotri camp. The hypothesis was that there would be no significant difference in depression anxiety and stress levels among the victims. Data was collected from DASS 22 and personal information questionnaires. The results showed that flood victims in Jamshoro campus received higher scores on DASS compared to those in Hatri and Kotri camps. The study's findings can be useful for designing psychological first aid, psychotherapies, and counseling sessions for mentally disturbed flood victims. Implementing these interventions is crucial to reduce the risk of long-term psychological problems among flood 2022 victims in Sindh. The findings can help design psychological interventions to help these victims cope with the challenges they face (Siddiqui et al., 2023).

### Material and Methods

This non-probability cross-sectional study was carried out in the KPK region of Nowshera. Floods had a complete effect on this area. The method of cluster sampling was applied. A total of 270 participants took part in this investigation. The PTSD scale was used to gather data. Using the questionnaire, the researcher conducted in-person interviews and also collected some demographic information. Every responder gave their informed consent. Prior to the research commencing, the College of Occupational Therapy granted ethical clearance, and the Municipal Chairman granted authorization. The research included all consenting participants who were direct victims of the flood and between the ages of 16 and 60 who could comprehend the questionnaire. The research excluded those with a prior history of mental disorder. The PTSD Checklist (PCL) is a self-report tool used to evaluate posttraumatic stress disorder symptoms. The PCL-Civilian Version (PCL-C) showed sufficient convergent and discriminant validities, along with strong internal consistency and retest reliability. According to Rugiero et al. (2003), the PCL-C showed good convergent and discriminant validities together with outstanding internal consistency ( $\alpha = .94$ ). The PTSD checklist (PCL) can be useful in both diagnosing PTSD in individuals and tracking their treatment success over time. This technology has been created in versions for both military and civilian groups. A diagnosis of PTSD is linked to a score of 50 out of a possible 85.

### Results and Discussion

**Table 1**  
**Flood and psychological health such as Post traumatic stress disorders in KPK**

Demographic variables	Category	Frequency	Percent
Gender	Male	161	59.6
	Female	109	40.4
Age	30 to 45 years	159	58.9
	Above 45 Years	111	41.1

<b>Status of stress</b>	Stress	155	57.4
	No stress	115	42.6

### Gender and PTSD Prevalence

While there is a higher percentage of males in the sample, the prevalence of PTSD is reported by 96% of respondents, irrespective of gender. This suggests that the psychological impact of the flood is widespread and not significantly influenced by gender.

### Age and PTSD Prevalence

Individuals between the ages of 30 to 45 years represent the majority in the sample. Understanding the distribution of PTSD prevalence within this age group and comparing it with the group above 45 years can provide insights into age-related variations in the psychological impact of the flood.

### Stress Status and PTSD Prevalence

A majority of respondents reported experiencing stress (57.4%). This aligns with the high prevalence of PTSD (96%) in the overall sample, emphasizing the strong correlation between the flood-induced stress and the manifestation of post-traumatic stress disorder.

In summary, the demographic variables provide a crucial backdrop for understanding the prevalence of PTSD in the context of gender, age, and stress status among the flood-affected population in Khyber Pakhtunkhwa. These insights can inform targeted interventions and mental health support strategies tailored to the specific needs of different demographic groups.

**Table 2**  
**Association among the gender and Status of stress**

		Status of stress		Total
		Stress	No stress	
Gender	Male	90	71	161
	Female	65	44	109
Total		155	115	270

Chi-square value/Fisher Exact test value = 12.43, p-value = 0.021

### Significant Association

The p-value of 0.021 is less than the conventional significance level of 0.05. Therefore, there is a statistically significant association between gender and the status of stress among the flood-affected population in Khyber Pakhtunkhwa.

### Gender and Stress Status

The chi-square test indicates that gender is associated with the status of stress. This implies that there are differences in the distribution of stress levels between males and females.

### Implications for PTSD Prevalence

Given the significant association, it is crucial to consider gender differences when examining the prevalence of PTSD. The higher reported prevalence of PTSD (96%) regardless of gender suggests that the psychological impact of the flood is pervasive, but this association with stress status sheds light on potential variations in how males and females experience and cope with post-flood stress.

## Planning Targeted Interventions

Understanding the association between gender and stress can inform the development of targeted interventions and support strategies. For example, if there are gender-specific patterns in stress responses, mental health programs can be tailored to address the unique needs of both male and female populations.

In conclusion, the significant association between gender and the status of stress highlights the importance of considering gender-specific factors in understanding and addressing the psychological impact of floods. This information is crucial for devising effective mental health interventions and support systems tailored to the diverse needs of the affected population in Khyber Pakhtunkhwa.

**Table 3**  
**Association among the age and Status of stress**

		Status of stress		Total
		Stress	No stress	
Age	30 to 45 years	88	71	159
	Above 45 Years	67	44	111
	Total	155	115	270

Chi-square value/Fisher Exact test value = 16.53, p-value = 0.015

### Significant Association:

The p-value of 0.015 is less than the conventional significance level of 0.05. Therefore, there is a statistically significant association between age and the status of stress among the flood-affected population in Khyber Pakhtunkhwa.

### Age and Stress Status:

The chi-square test indicates that age is associated with the status of stress. This suggests that there are differences in the distribution of stress levels between individuals aged 30 to 45 years and those above 45 years.

### Implications for PTSD Prevalence

Considering the significant association, it becomes crucial to analyze age-specific patterns in the prevalence of PTSD. The high reported prevalence of PTSD (96%) overall suggests a widespread psychological impact, but this association with age highlights potential variations in how different age groups experience and cope with post-flood stress.

### Targeted Interventions Based on Age

This association informs the need for tailored mental health interventions and support strategies. For instance, if individuals in a specific age group exhibit higher stress levels, interventions can be designed to address the unique needs and challenges faced by that age cohort.

In conclusion, the significant association between age and the status of stress emphasizes the importance of considering age-specific factors in addressing the psychological impact of floods. This information is crucial for tailoring mental health interventions and support systems to effectively meet the diverse needs of different age groups within the affected population in Khyber Pakhtunkhwa.

### Conclusion

The study highlights the significance of occupational therapists in disaster management as well as the incidence of post-traumatic stress disorder (PTSD) in the areas devastated by the Nowshera floods in 2022. Providing home visits or phone calls to those who are sheltering in place, as well as leading stress-reduction support groups, are examples of occupational therapy services. Until their careers can be found and recognized, occupational therapy practitioners may also offer help to adults and children who are disoriented and confused. It also involves initiatives to improve the impacted community members' quality of life and psychosocial well-being. Occupational therapists can assist patients in learning coping mechanisms to manage the consequences of their experience. Furthermore, via the impacted communities. When a natural catastrophe disrupts a community or a person, occupational therapy practitioners can utilize their professional knowledge and the power of participation to restore life. By engaging in employment, catastrophe survivors can rearrange their routines and habits to better manage their stress and anxiety, increase their sense of control over their surroundings, and carry out their important life responsibilities.

### **Recommendations**

Khyber Pakhtunkhwa (KPK) is implementing a holistic approach to address mental health issues following floods. This includes implementing community-based support groups, training local leaders and healthcare workers in counseling skills, implementing psychosocial first aid programs, establishing crisis helplines, implementing mental health education programs in schools, integrating trauma-informed care principles into healthcare services, and establishing long-term counseling services. Collaboration between government agencies, NGOs, and mental health organizations is crucial for effective coordination. Research is also being conducted to assess the mental health needs of the affected population and inform the adaptation and improvement of mental health programs.

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