

SCREENING AND MANAGEMENT OF POSTTRAUMATIC STRESS DISORDER (PTSD) AMONG FLOOD VICTIMIZED INDIVIDUALS IN 2022: AN INTERVENTION STUDY

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ABSTRACT

Natural disasters, such as floods, can have devastating effects on the minds of affected populations. In Pakistan, frequent and devastating floods (2022) have resulted in significant challenges in managing the mental health problems of flood victims. This current study aims at screening and management of PTSD symptoms among flood victims in different villages of Rajanpur District. This study completed into two phases. In the first phase, quantitative research was carried out to comprehensively assess the PTSD symptoms of flood victims in different villages of Rajanpur district by using PSS-SR5 scale. The second phase of this study was aimed to heal the symptoms of PTSD by using exposure therapy. In this step, two groups were formed i.e., experimental group and control group. In this phase experimental research was carried to check the effectiveness of intervention. The results from the collected responses before and after therapy were analysed by using SPSS. The outcome results reported a healing effects of exposure therapy among flood victimized individuals by reducing the symptoms of PTSD. The results indicated equal level of PTSD among both genders. This also reported that the level of PTSD was significantly higher among the individuals living in separate family set up, unmarried individuals and having wealthy status. Furthermore, the results revealed a significant observed difference in the level of PTSD in experimental group as compared with control group.

Keywords: Posttraumatic Stress Disorder (PTSD), Flood , Exposure Therapy, Experimental Group, Control Group, Randomization.

INTRODUCTION

Floods have long-lasting consequences on the mental health of individuals, families, and communities. The destruction of homes, loss of livelihoods and displacement from familiar surroundings contribute to a sense of helplessness, grief, and anxiety among flood victims. The exposure to life-threatening situations, witnessing the suffering of loved ones, and the ongoing uncertainty of recovery can exacerbate the psychological burden they bear. Moreover, the lack of access to basic services, including mental healthcare, in rural and remote areas of Pakistan further complicates the mental health challenges faced by flood victims (Ali et al., 2018).

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The Natural disasters, such as floods, can cause widespread destruction and have a very bad impact on minds of the flood affected individuals due to their material loss such as homes, wealth, social isolation and deaths of their loved ones. The consequently, they suffer from mental illnesses and the most common are the symptoms of stress, depression, PTSD and psychotic symptoms. It has been observed that the symptoms of PTSD also linked with the onsets of flashbacks, nightmares and sleep disturbances (Ali, Gul, and Khan, 2018).

The screening and management of PTSD among flood victims in all over the world is crucial for several reasons. Firstly, mental health issues, if left unaddressed, can have long-term negative impacts on the affected individuals and their communities. Untreated mental health problems may lead to chronic conditions, reduced quality of life, impaired functioning, and increased risk of suicide. Secondly, adequate mental healthcare can promote resilience, aid in the recovery process, and enhance the overall well-being of flood victims. By implementing effective interventions and support systems, the burden of mental health disorders can be alleviated, and individuals can regain a sense of control and stability in their lives (Wang et al., 2014).

Pakistan is a country prone to natural disaster, and among them, floods have become a recurrent challenge. Flooding events have devastating consequences, leading to the displacement of millions of people, destruction of infrastructure, and loss of lives (Davidson, 2001). The aftermath of a flood disaster is often marked by significant psychological distress and disruption of daily routines, which can have long-lasting effects on the mental health of the affected population. This is an acknowledged fact that Pakistan has a long history of devastating floods. The country experiences flooding almost every year due to its location on the Indus River, which is one of the largest rivers in the world. The most severe floods in recent history occurred in 2010, 2011, and 2014 which had a significant impact on the population and infrastructure of the affected areas. These floods have caused extensive damage to homes, businesses, crops, and infrastructure, leading to the displacement of millions of people (Khurshid, and Ali, 2019).

Mental health problems, such as psychological distress and sleep disturbance, are common among flood victims in Pakistan. The experience of witnessing or being directly involved in a natural disaster can lead to a wide range of emotional responses, including fear, helplessness, grief, and post-traumatic stress symptoms (Cheng et al., 2014).

REVIEW OF LITERATURE

In the current era due to occurrences of frequent natural disaster the researchers are curious to know the relationship between natural disasters and the mental and physical health of individuals. Numerous researches have reported a significant links between psychological problems and exposure to disasters among various groups, including both direct victims and those involved in rescue efforts (Norris et al., 2005). Additionally, it has been established that disasters can have long-lasting effects on the psychological and physical well-being of survivors (Morgan et al., 2003). The 2022 floods in Pakistan have highlighted the country's high susceptibility to weather change, regardless of causal less than 1% of global greenhouse gas emissions (Iqbal et al., 2022). The disaster has had a significant impact on the population, with one-third of the country submerged, and an estimated 33 million people affected, with almost 8 million displaced (United Nations Office for the Coordination of Humanitarian Affairs [UNOCHA], 2022). The ongoing relief efforts by federal and provincial authorities, along with national and international partners, are unprecedented in scale, exceeding the damage caused by the 2010 floods (Iqbal et al., 2022).

Specific populations, including children, adolescents, adults, and the elderly, who already experience psychological problems such as low mood and fear, may be mostly vulnerable to the impacts of disasters. Furthermore, studies suggest that these impairments can persist for years (Warchal & Graham, 2011).

Overall, the link between natural disasters and mental and physical health outcomes has garnered considerable attention from researchers. Understanding the varied effects of disasters on different groups can inform the development of targeted interventions and support systems to mitigate the long-term consequences for affected individuals. Beyond the immediate trauma of physical injury and distress, disaster victims often experience a range of psychological issues, including fear, anxiety, heightened sensitivity,

and anger (Pynoos et al., 2020). However, the impact of disasters can vary among individuals based on factors such as age, gender, and geographical location. Research indicates that women are more likely than men to develop post-traumatic stress disorder (PTSD) in the aftermath of a disaster (Davidson, 2001). Moreover, individuals residing in areas prone to frequent disasters, such as floods, may exhibit greater psychological preparedness and resilience, resulting in less pronounced reactions following such events. Conversely, for those living in regions where floods are rare, the effects may be more significant.

Despite these challenges, the government remains committed to mobilizing all domestic resources possible and targeting them towards those most in need (Iqbal et al. 2022).

Bonanno et al. (2010) conducted a review of research on the psychological impact of disasters on individuals, families, and communities. They found that disasters can have serious psychological consequences, including posttraumatic stress disorder (PTSD), depression, and anxiety. The authors also explored factors that contribute to resilience in the face of disaster, such as social support, cognitive flexibility, and coping strategies. They argued that understanding the psychological costs and benefits of disasters is crucial for developing effective prevention and intervention programs. This article discusses the psychological impact of disasters on individuals, families, and communities. It presents a comprehensive review of the research on the consequences of disasters, including PTSD, depression, anxiety, and other mental health problems. The authors also explore the factors that contribute to resilience in the face of disaster, including social support, cognitive flexibility, and coping strategies. They argue that a better understanding of the psychological costs and benefits of disasters is necessary for developing effective prevention and intervention programs. The article provides a useful framework for understanding the long-term psychological impact of disasters on individuals and communities.

Bonanno et al. (2010) conducted a review of the literature on the consequences, risks, and resilience in individuals, families, and communities affected by disasters. They found that most people are resilient after a disaster, but a minority experience long-term negative consequences. They identified several factors that can promote resilience, such as social support, a sense of control, and cognitive flexibility. Kar et al. (2007) investigated the prevalence of post-traumatic stress disorder (PTSD) in children and adolescents one year after a super-cyclone in Orissa, India. They found that 37% of children had symptoms of PTSD and that children who experienced more severe trauma and had less social support were more likely to develop PTSD. Lowe et al. (2015) examined the influence of individual and community-level factors on psychological resilience after Hurricane Sandy. They found that factors such as social support, community connectedness, and coping strategies were associated with greater resilience. Norris et al. (2005) presented a conceptual framework for community resilience in the context of disasters. They identified four key capacities of resilient communities: economic, social, institutional, and infrastructural. They argued that developing these capacities can enhance a community's readiness for future disasters.

The floods that occurred in Pakistan from June to August 2022 were a catastrophic disaster affecting an estimated 33 million people, approximately one in seven Pakistanis, with almost 8 million people being displaced. As per an estimate the National Disaster Management Authority (NDMA), over 1,700 people lost their lives, with one-third of the casualties being children. The floods caused by torrential rains accelerated glacial melt, and landslides destroyed millions of homes and critical infrastructure, including entire villages (World Bank, 2022). The devastating impact of the floods also pushed between 8.4 and 9.1 million people into poverty, according to initial estimates, leading to an increase of 3.7 to 4.0 percentage points in the national poverty rate (World Bank, 2022). Moreover, out of the 25 poorest districts in Pakistan, 19 were affected by the floods, exacerbating the already challenging socio-economic conditions in these areas (World Bank, 2022). Natural disasters like floods have an impact on people's mental health. In Pakistan, floods are a recurrent phenomenon and can lead to a range of mental health issues. The purpose of this literature review is to examine the screening and management of mental health problems, specifically, PTSD in flood victims of Pakistan.

THEORETICAL FRAMEWORK

The theoretical framework for the screening and management of mental health problems among flood-victimized individuals is based on the bio-psychosocial model of health and illness. This model recognizes

that health and illness are influenced by a complex interplay of biological, psychological, and social factors and that the integration of these factors is necessary for understanding and addressing health problems. These factors include access to mental health services, cultural beliefs about mental health, and the social support available to the individual. In many low- and middle-income countries, access to mental health services is limited, and cultural beliefs about mental health can stigmatize those seeking treatment. This can make it difficult for flood victims to receive the necessary mental health support and treatment to manage their mental health problems.

Significance of the Study

Screening and management of mental health problems, such as symptoms of PTSD and sleep disturbance, among flood victims in Pakistan is essential to support their recovery and improve their overall well-being. Effective screening and management can identify those in need of treatment and provide them with appropriate support and interventions. Early identification and management of mental health problems can reduce the risk of long-term negative consequences and improve the chances of a successful recovery. The results of this study provide significant evidence to different EGO's, disaster management authorities and clinicians about the effectiveness of this intervention and led a message that we can reduce the mental loss of flood affected individuals by using this effective intervention.

METHODS

Problem Statement of the Study

Psychological distress, including depression, anxiety, and post-traumatic stress symptoms, is a prevalent issue among flood victims. The experience of witnessing or being directly involved in a natural disaster can evoke a range of emotional responses, leading to long-lasting psychological challenges. Without proper screening and management, these distress symptoms can worsen, affecting individuals' ability to function and cope effectively with the challenges they face. Sleep disturbance is another critical problem faced by flood victims. The trauma of the flood event, coupled with ongoing stressors and displacement, disrupts sleep patterns, and hampers restful sleep. Sleep disturbance not only impacts the overall well-being of flood victims but also diminishes their ability to cope with the demanding circumstances they are confronted with during the recovery process. Hence, keeping in view the necessity to provide intervention in flood affected this study was carried out to assess and manage the symptoms of PTSD among flood victimized individuals in different villages or mouzas in Rajanpur district.

Objectives of the Study

1. To assess the prevalence of Posttraumatic Stress Disorder (PTSD) among flood victims in Rajanpur District (Pre-testing).
2. To check the effectiveness of exposure therapy in reducing the PTSD symptoms among flood victimized (post-testing).
3. To analyse the data as per different demographic variables of the study participants.

Hypotheses of the Study

1. The symptoms of PTSD would be significantly severe among flood victimized individuals.
2. The sessions of exposure therapy will significantly reduce the symptoms of PTSD among flood victimized individuals in experimental group.
3. There will be a significant observe difference in control group as compared with experimental group.
4. There will be no any observed change in the level of PTSD symptoms among the participants of control group who receive no any treatment.
5. The level of PTSD will be significantly differing according to the demographic characteristics of the research participants.

Participants of the Study

The participants of this study were the flood victimized individuals living in different flood affected areas of South Punjab, Pakistan (different villages of Rajanpur District). In this study both male and female with different demographic areas will be included.

Sample Collection and Sample Size

In this study the total sample was (N=207) flood affected individuals. The sample size was calculated by using G. Power online sample calculator.

Design of the Study

This study was mixed method in nature. During the first phase of this study the screening of mental health problems particularly PTSD symptoms were screened out among the flood affected individuals (pre-testing and quantitative) while during the second phase 8 sessions of exposure therapy was applied to reduce the PTSD symptoms of the flood victimized(experimental design).

Procedure/Plan of the Study

The following steps were taken during this study.

1. Screening of PTSD symptoms among the flood victimized was done during the phase-I of this study.
2. During phase-II the individuals screened out with mild, moderate and severe symptoms were included.
3. All the willing participants were divided into two groups by using randomization process. i.e experimental group (n=30) or control group (n=30).
4. The participants in experimental group received 8 sessions of exposure therapy whereas the control group received no any treatment or therapy. They were engaged only.
5. After the completion of the therapy sessions the post-test was conducted to check the change due to therapy among the participants of the experimental group.

Mode of Exposure Therapy

Exposure therapy is a very effective intervention addressing multiple mental health issues like social anxiety, phobias and PTSD in particular. In this current study 8 sessions or graded exposure therapy were applied with the individuals screened out with PTSD symptoms. The following steps were taken.

1. A brief case history was taken and symptoms were identified by applying PTSD screening scale.
2. A brief introduction was given by the therapist to the client about exposure therapy.
3. A list of fears as reported by the client was prepared mutually by the client and therapist.
4. The hierarchy of fear exposure was ranked from least to moderate.
5. Exposure started with least triggering image, situation etc.
6. In this step the individual was exposed to the things he feared of avoid.
7. 8 sessions were completed.

Inclusion Criteria

- Age 18 years or older were included in the research.
- Have experienced a flood-related traumatic event
- With Self-reported symptoms of PTSD
- Able to provide informed consent for participation in the study

Exclusion Criteria

- Unable to provide informed consent for participation in the study were excluded.
- Less than age of 18 years.

Ethical Considerations

The following ethical steps were taken before conducting the study.

1. Informed consent was taken from the participants.
2. They were told that there is no harm and risk in this study and briefing about research design was given to the research participants.
3. They were assured that the responses will be kept as confidential and used only for research purpose.
4. They were also told a brief about the benefits of the exposure therapy.
5. Permission was taken from the authorities to conduct the sessions among the participants selected randomly in control group and in experimental group.

RESULTS

Table 1

Demographic variables information (N=207)

Demographic Variables	Frequency	Percentage
Gender		
Man	94	45.4
Women	113	54.6
S.E.S		
Low	85	41.1
Middle	118	57.0
Upper	4	1.9
Marital status		
Married	56	27.1
Unmarried	151	72.9
Living Style		
Joint Family	167	80.7
Separate Family	40	19.3
Education Level		
Primary	54	26.1
Middle	61	29.5
Matric	51	24.6
Intermediate	32	15.5
Graduation	9	4.3

Note: The table shows the participants demographic features.

Table 2

Comparison of overall respondents in case of level of PTSD for gender

Gender	N	Mean	S.D	T-Test score	P
Male	94	62.45	9.97	0.207	0.836
Female	113	62.17	9.36		

Note: A gender wise comparison of PTSD symptoms.

Table 3

Comparison of overall respondents in case of PTSD for Living Style

Living Style	N	Mean	S.D	T-Test score	P
Joint Family	167	61.79	9.84	-1.702	0.093
Separate Family	40	64.40	8.42		

Note: A comparison according to the living status.

Table 4

Comparison of overall respondents in case of level of PTSD for Marital Status

Marital Status	N	Mean	S.D	T-Test score	P
Married	56	60.30	9.56	-1.824	0.070
Unmarried	151	63.03	9.57		

Note: This table showing comparison among married and unmarried participants using T-test.

Table 5

ANOVA results for level of PTSD according to Socio Economic Status

Socio Status	Economic	Mean score	S.D	Sum of Squares	d.f	F	Sig.
Lower Class		62.39	9.54	127.30	2	0.686	0.505
Middle Class		62.04	9.70				
Upper Class		67.75	9.47				

Note: In the above table, upper class individuals reported higher level of PTSD.

Table 6

Results for the level of PTSD according to Pre-test and Post-test data (n=30)

Groups	PSS-SR	Pre-Test		Post-Test	
		F	%	F	%
Control group	Normal	14	46.7	14	46.7
	Mild	16	53.3	16	53.3
	Moderate	0	0.0	0	0.0
	Severe	0	0.0	0	0.0
Experimental group	Normal	0	0.0	13	43.3
	Mild	13	43.3	16	53.3
	Moderate	17	56.7	1	3.3
	Severe	0	0.0	0	0.0

Note: This table compares the level of PTSD in both groups.

Table 7

Comparison of Experimental and Control group for pre-test and post-test for PSS-SR

Experimental Control Comparison	and Mean (S.D) Group	Pre-Test	Post-Test	Paired Sample Test	T- p
Control Group		24.67 (9.74)	24.60 (9.67)	1.00	0.326
Experimental Group		62.60 (8.81)	26.07 (9.77)	14.49	0.000**

Note: The above table showing the comparison for the Experimental and Control groups considering before experiment and after experiment.

Table 8

Repeated Measure analysis of variance for the level of PTSD among students

Source of variation	Sum of squares	Df	Mean square	F	Sig.
Within subject	9558.68	1	9558.68	42.53	.000
	13261.83	59	224.78		
Between subject	140836.01	1	140836.01	429.72	.000

Greenhouse-Geisser = 1.0

Note: The table shows the repeated measure analysis of variance for PTSD among people for a sample of n=60 individuals. The researcher used repeated measure analysis of variance for the collected because the data consists two stages i.e. pre-testing stage and post-testing stage. Analysis depicts there is

significant difference among the two stages under processing with the positive value of greenhouse-Geisser value 1.00.

DISCUSSION

This research was conducted not only to check the level of PTSD among flood affected individuals in different areas of Pakistan but also aimed to reduce these symptoms by using exposure therapy. For that different hypothesis were phrased. As the H1 was aimed to just know about the prevalence of PTSD among the individuals and it was hypothesized that these were higher among the flood affected individuals due to the devastating flood. The results of this hypothesis accepted and reported a higher level of PTSD symptoms among flood affected individuals. The reported results are same as the previous research revealed such as Qureshi et al (2014) reported a severe symptom of PTSD and psychological distress among the flood affected individuals. The H2, H3 & H4 was phrased to check the effectiveness of exposure therapy so it was supposed that this therapy will reduce the symptoms of PTSD. The results of this hypothesis also accepted and showed a lower rate of PTSD among the individuals in experimental groups those who received the treatment as compared to those in the control group those who do not receive any therapy. These results are also in accordance with the studies conducted in the past such as Zaidi and Choudhary (2021) reported healing effects of using CBT technique of graded exposure therapy among flood victimized. The H5 was phrased to observe the level of PTSD among flood affected individual's belongings to different demographic areas. The results of this hypothesis reported that both genders showed equal level of PTSD, this level was slightly high among the individuals living in separate families and was higher among upper class individuals. These findings are in line with the past studies such as Saleh et al (2015) reported that the severity of psychological distress was differ according the demographic features of the research participants involved in the study.

CONCLUSION

Based on the results, this concluded that the CBT technique of graded exposure therapy is proved as a significant intervention to reduce the symptoms of PTSD among flood affected individuals. The overall result of this experimental study showed a healing effect of this therapy among the participants of experimental group. Hence, there is a need to save the mental loss of the flood affected individuals by providing such type of interventions.

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