

PREVALENCE OF POST TRAUMATIC STRESS DISORDER IN FLOOD AFFECTED POPULATION OF BANDA SHEIKH ISMAIL, DISTRICT NOWSHERA

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ABSTRACT

Objective: The main objective of the study was to assess the psychological status of flood affected population and the level of mental health with Post Traumatic Stress Disorder (PTSD) measures and to investigate the level of PTSD on gender basis.

Methodology: A cross-sectional survey of flood affected people of Banda Sheikh Ismail was conducted from November 2010 to January 2011. The respondents were asked about their experience of the disaster, how they perceive it. The main outcome measures were description of demographic factors, PTSD and their risk factors. Their mental health was assessed by using 17 items PTSD Scale. Data analysis was done using SPSS 17.

Results: Of 87 survey respondents 51% were males 48% were females. 40% were illiterate but irrespective of the gender or education status all had same degree of PTSD. 90.8% respondents were reported to have moderate PTSD level and 9.2% had severe PTSD level. Age, gender and education level did not have any correlation with PTSD development. The earnings lost and development of PTSD shows a positive and highly significant relation ($p < 0.015$). The duration spent in the floods and how the affected person perceives the severity of flood had a positive correlation with PTSD development.

Conclusion: The present findings indicate that any person who has witnessed a disastrous event like flood is at risk for development of PTSD. The need to provide specialized post disaster mental health services to groups with significant levels of PTSD after a disaster of such high intensity.

Key Words: Post Traumatic Stress Disorder (PTSD), Depression, Flood.

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INTRODUCTION

Flood is one of the most common and severe forms of natural disaster¹. It can result in direct economic and property losses, physical injuries, deaths, and psychological injuries¹. Floods occur frequently in Pakistan. A severe flood that struck Pakistan in 2010 left hundreds of thousands of residents homeless and destroyed many infrastructural and agricultural projects. A majority of people starts experiencing mental stress, depression, anxiety and especially flood phobia¹. Such disaster left unforgettable and most horrifying impacts on their minds which results in psychological disorder known as Post Traumatic Stress Disorder (PTSD)¹. Post traumatic stress disorder (PTSD) is a common disorder among vic-

tims of various disasters such as road traffic accidents, violent crimes, hurricanes, earthquakes and floods². PTSD is also a severe and complex disorder precipitated by exposure to psychologically distressing events.

It is characterized by persistent intrusive memories about the traumatic event, persistent avoidance of stimuli associated with the trauma and persistent symptoms of increased arousal². These disorders occur due to effect of witnessing destructions of life and property. It can affect anyone at any age and occur as a result of natural or man-made disaster like flood, fire, war, imprisonment, rape etc^{1,2}.

Eden et al described Symptoms of PTSD in three main categories³. Firstly, repeated "reliving" or flashback

episodes or recurrent disturbing memories of the event, which disturbs day-to-day activity and also physical reactions to situations that remind of the traumatic event. Secondly, avoidance and Emotional "numbing" or detachment feelings that is lack of interest in normal activities with less expression of moods. Thirdly, Arousal and difficulty focusing along with exaggerated response, irritability or outbursts of anger and sleeping troubles³.

The PTSD symptoms are also common in victims of other disasters e.g. in earthquake survivor^{4,5}. Older people appear more vulnerable to develop PTSD and depression^{6, 7}. Significant increases in depression and anxiety is associated with higher levels of pre-flood depressive symptoms and lower socioeconomic groups⁸.

Age, gender, education, type of flood, severity of flood, flood experience, and the mental status before floods, were identified as predisposing factors⁹. Also higher levels of familial social support predicted lower levels of individual PTSD symptoms and vice versa¹⁰.

Earthquake survivors in NWFP of Pakistan (Balakot, Mansehra) indicated PTSD and co-morbid depression, 26% and PTSD alone 37%^{11, 12}. Traumatic grief, acute stress disorder and dissociation, personality disorders, depressive disorders and other anxiety disorders all have significant associations with PTSD¹³.

METHODOLOGY

It was a Descriptive cross sectional study conducted in village Banda Sheikh Ismail, District Nowshera, Khyber Pakhtoonkhwa, between November 2010 and January 2011 (Figure 1). These included usually middle to lower class population whose main source of income is agriculture. Most of the residents were illiterate. The village was totally affected by floods. At the time of the floods the village residents were shifted to nearby government schools for almost 2 weeks before they could return to their homes. The crops were totally destroyed by the heavy rainfall and flood.

The Data was collected using predesigned questionnaire. The questionnaire consisted of two parts, the first part consists of demographic details and the second part consisted of the standard questionnaire known as post-traumatic stress scale. The scale is divided into

three categories depending on the severity level that is mild, moderate, and severe. The questionnaire was translated into Urdu and Pashto and then retranslated to English for convenience of use. Pilot study was done prior to carrying out the study in the village.

2IC Network, which is a local NGO, providing relief in the affected areas of Banda Sheikh Ismail, helped in data collection. The researcher along with the 3 trained interviewers, working at the local Centre for 2IC Network at Banda Sheikh Ismail, carried out face-to-face interviews using a questionnaire to obtain demographic data, to ascertain PTSD, and to measure personality and psychological characteristics. The interviewers were all graduate students working as volunteers' for the 2IC Network. The interviewers received on-site supervision from the researcher.

The village elders were given information about the PTSD, chances of its occurrence in the area and further strategies to help, before the start of the study. Informed consent was taken from each respondent before starting the interview or questionnaire. Ethical approval from the Institute of Research and ethical board, PGMI HMC Peshawar was taken before the start of the study.

All interviews were conducted in the Hujra (house) of the local Nazim (head of the village). All those who were direct victims of the flood and willing to participate were included in the study. All those who lived in the village but were not there during the flood and those who had past history of use of antidepressants drugs or history of mental illness, were excluded from the study. The sampling was done by selecting houses through a systematic random sampling method until the desired sample (of 94) was achieved. Every member in the house was requested to come to the house of Nazim. A total of 94 people were interviewed out of which 5 refused to give complete information. Interviews lasted for about 20 minutes.

RESULTS

The results compiled from the study showed that 40.23% of the respondents were between ages 7-17, 37.93% of the respondents were between ages 18-39, 19.54% of the respondents were between ages 40-59, 2.30% of respondents were aged 60 and above (Table

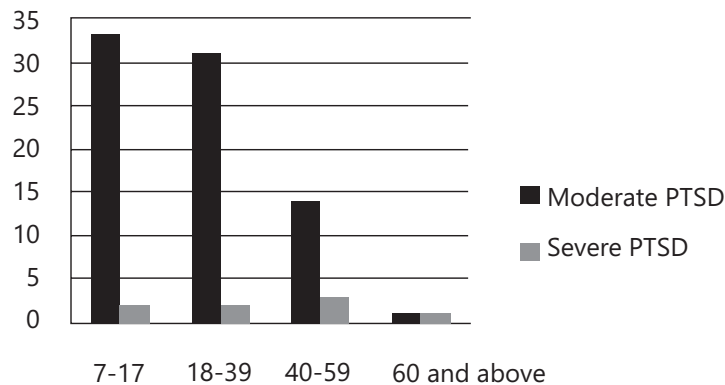
Table 1: Age of Respondents

Age in years	Frequency	Percent
7-17	35	40.2
18-39	33	37.9
40-59	17	19.5
60 and above	2	2.3
Total	87	100.0

Figure 1: Map of Banda Sheikh Ismail, District Nowshera



Figure 2: PTSD in different age groups



1).The mean age of the respondents was 28.21.The mean age for males were 30 and for females was 26.19.

The gender distribution showed that 48.28% of the respondents were male and 51.72% of the respondents were female. 40.23% of the respondents were illiterate.62.07% of the respondents were Single. All the participants of the study were direct victims of flood in July 2010.

The respondents who had experienced physical injury during the flood were 14.94%. 29.89% of the respondents were exposed to flood for 24 hours, 8.05% of the respondents were exposed to flood for 48 hours, 57.47% of the respondents were exposed to flood for 72 hours and 4.60% of the respondents were exposed to flood for more than 72 hours.

The PTSD analysis scale was used to analyze the level of stress among the affected people. 90.80% of the respondents had Moderate PTSD and 9.20% of the respondents had Severe PTSD. Age was indirectly proportional to PTSD, as respondents aged 7-17 showed

highest level of PTSD as compared to other age groups as shown in Figure 2.

Gender and education level both had an insignificant relation with PTSD. However, marital status and PTSD had a positive correlation between each other shown by chi square test (0.001).

Those who have lost more earning have more chances to develop PTSD than those who have lost fewer earnings. The Chi-square test results for correlation between the earnings lost and development of PTSD shows a positive and significant relation between both (0.015) [Figure 3].

The respondents who described the magnitude of flood as severe had highest levels of PTSD and the chi square value determined a significant relationship (0.021) [Figure 4].

The respondents who spent more time in flood were suffering from severe PTSD levels and the chi square value determines a highly significant correlation between the time exposed to flood and level of PTSD (0.000).

Figure 3: Relationship between earnings lost and PTSD

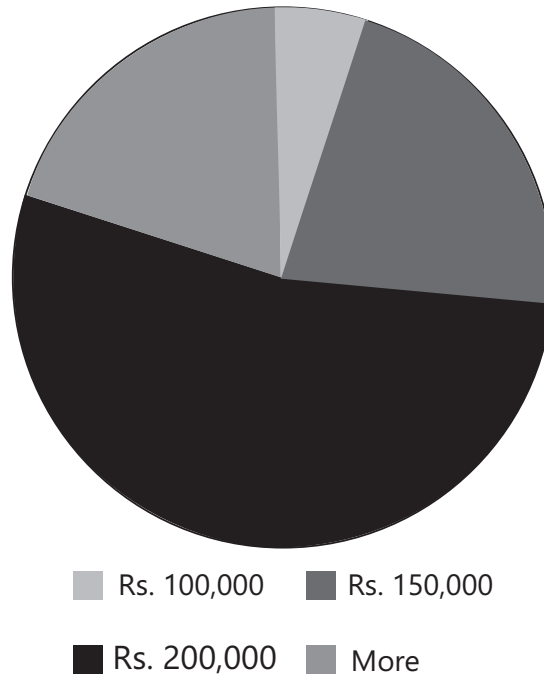
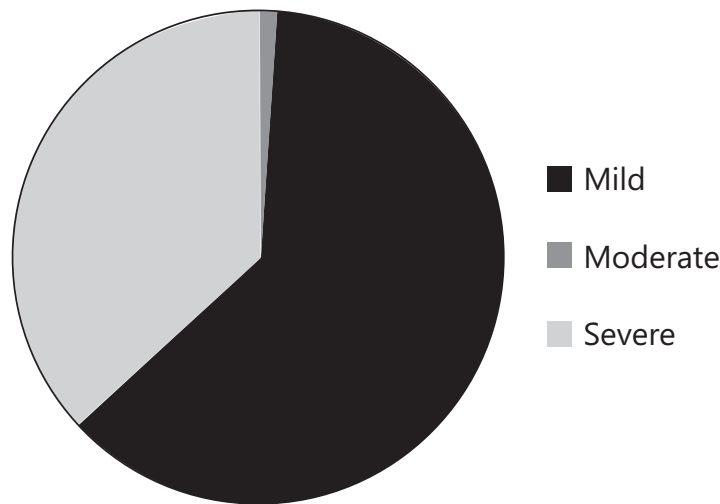


Figure 4: Relationship Between How One Perceive The Trauma And Devepoment Of Ptsd



DISCUSSION

According to the results of this study it is evident that any person who has witnessed a disastrous event like flood is at risk for development of some degree of PTSD. Previous studies done on the subject claimed that the females are more vulnerable to develop PTSD¹² than males but according to the result of this study there is no difference in the development of PTSD in male and female population. Also 93% and 94% PTSD was reported in female in a study done in NWFP after 2005 earthquake¹².

Those who have lost earnings of 100,000 or more are at greater vulnerability to develop PTSD than those with less earnings lost as our study results declared. This is also evident from another study done in Balochistan^{11, 12}. Most of the respondents who perceived the event as moderate or severe have greater PTSD than those perceiving it as mild.

The results of this study showed that the respondents who were students of primary and secondary school both showed vulnerability to PTSD of same level. This comes in contrast to the study done in Chi Chi, Taiwan,

in which the primary school students experienced more PTSD as compared to the secondary school students¹³. Also the study done after Hurricane Hugo showed that primary students have high levels of PTSD than secondary school students¹⁴.

The results of the current study showed no difference in vulnerability to PTSD in those who had low education level or high education levels. Every person who experienced trauma is at the same risk level of PTSD development, this comes in contrast to a study done in Italy in 2002¹⁵. According to that study those who had high levels of education had lower PTSD level as compared to illiterate^{15, 16}.

Similarly, the study done in Italy showed that physical injury has a positive impact on the development of PTSD. Results of that study showed that PTSD was 62% in those with physical injury and 46% in those without physical injury^{17, 18}. Also the results of the study done in NWFP showed that 37% of PTSD was present in those with physical injury¹¹, but the results of the current study showed that physical injury has no relationship with the development of PTSD.

Death of a relative does not seem to have any effect on the development of PTSD as shown from the results of the current study. This come in contrast to the study done in Iran after Bam earthquake, which illustrated higher incidence and symptoms of PTSD in those who have lost a near dear one (67%)¹⁹. Also the study done in Mansehra showed that 23% of PTSD symptoms in those who have lost a close family member^{11, 20}.

CONCLUSION

The present findings indicates that any person who has witnessed a disastrous event like flood is at risk for development of PTSD the need to provide specialized post disaster mental health services to groups with significant levels of PTSD after a disaster of such high intensity.

RECOMENDATIONS

This study demonstrated the need of conducting large-scale post disaster mental health screening for planning intervention strategies. It is essential that the longitudinal studies are conducted in floods hit areas of Pakistan. The researchers need to reeducate and retrain themselves to understand the complexities of PTSD. During the interim and stressful periods of natural disaster; survivors require not only material and medical relief but also psychological support to reduce the psychological trauma resulting from the event. The PTSD should be considered a major issue and be kept in mind when designing strategies for disaster affected population. Strategies should be made to include psychodynamic psychotherapy along with other therapies

in our clinical medicine being provided in the disaster affected areas. Psychotherapists and doctors should be educated about the threats and risks involved in PTSD. Proper counseling, psychotherapy treatments, focus group discussions should be planned for the adults and adolescent male and female population so as to overcome the fear and disturbance created by PTSD in the lives of common people.

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CONTRIBUTORS

RS conceived the idea, planned and wrote the manuscript of the study. SURK helped in the data analysis and write up of the manuscript. Both the authors contributed significantly to the research that resulted in the submitted manuscript.