

Psychiatric Morbidity and Work and Social Adjustment Among Earthquake Survivors Extricated from under the Rubble

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ABSTRACT

Objectives: This cross-sectional study examined psychiatric co-morbidity and work and social adjustment after a natural disaster among survivors who were extricated from under the rubble. **Materials and Methods:** Individuals ($N=40$) belonging to district Muzaffarabad, a severely earthquake affected area on 8th October 2005, were interviewed. The examination included the MINI International Neuropsychiatric Interview for DSM-IV Axis I disorders, Work and Social Adjustment Scale, and questions covering background characteristics and disaster exposure. **Results:** The most prevalent disorders were posttraumatic stress disorder (32.5%), major depressive disorder (17.5%), dysthymia (15.0%), agoraphobia (25.0%), and panic disorder (20.0%). Moreover, 77% of the respondents have been diagnosed with at least one psychiatric disorder. Work and social adjustment was found to have an inverse relationship with the psychiatric co-morbidity. **Conclusion:** Small sample size and lack of comparison group from non-earthquake struck areas may limit the generalizability of the psychiatric disorders. Psychiatric disorders other than PTSD, especially depressive and anxiety disorders, are of clinical importance when considering long-term mental health effect of disasters.

Key words: Depression, posttraumatic stress disorder, psychiatric comorbidity, work and social adjustment

INTRODUCTION

Disasters are traumatic events. A trauma is an event that is not within the normal range of the common experience. It is perceived as overwhelming physically and/or emotionally and may involve a perceived threat to the individual or a loved one.^[1] Highly traumatic and stressful events usually produce a range of cognitive, emotional, behavioral responses that

influence the eventual outcome. The most commonly observed psychiatric disorder after a natural disaster is posttraumatic stress disorder (PTSD).^[2,3] However, depressive disorders,^[4,5] somatization,^[6] specific phobia, agoraphobia, social anxiety,^[7] and psychotic disorders^[8] are commonly observed among the survivors. In a study with elderly population, after a natural disaster, the estimated prevalence rates of probable PTSD, anxiety, and depression were found to be 26.3%, 42.9% and 35.2%, respectively.^[9] The prevalence of psychiatric disorders reported by earthquake survivors in Western countries is as high as 85% for acute stress symptoms, 14-87% for PTSD, and 27-85% for psychiatric morbidity.^[10,11]

Many depressive and anxiety disorders lead to considerable impairment of social and occupational functioning.^[12] Most of the studies evaluating post-disaster psychiatric morbidity at the population

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level have not included measures of functional impairment. A survey of the general population has shown that impairment caused by PTSD is comparable to the impairment observed in major depression.^[13] Occupational dysfunctioning, absenteeism, and reduced productivity and performance on the job is associated with depression and PTSD.^[14-16] Moreover, PTSD symptom severity has been found to be associated with unemployment and work disability even after controlling for the effects of co-morbid disorders.^[14,17]

The objectives of the present study are to investigate the prevalence of psychiatric disorders and work and social adjustment among those individuals who had witnessed 8th October 2005 earthquake and were extricated from under the rubble/debris. We expected that there would be high prevalence of psychiatric disorders among these highly traumatized survivors. Higher the prevalence of psychiatric disorders, lower will be the work and social adjustment.

MATERIALS AND METHODS

Measures

The MINI International Neuropsychiatry Interview,^[18] a short structured diagnostic interview developed by psychiatrists and clinicians in the United States and France for the major Axis I psychiatric disorders in DSM-IV and ICD-10, was used to assess the psychiatric disorders. Functionality was assessed using the Work and Social Adjustment Scale (WSAS).^[19]

Sample

Participants were 40 individuals from Muzaffarabad (20 men and 20 women). Inclusion criteria of the sample included those individuals who had some rubble experience and were rescued from under the rubble in 8th October 2005 earthquake. The respondents were selected by using snowball sampling technique. Participants' age ranged from 17 to 55 years, with the average age being 37.7 years (SD =9.46). Among all participants, 77.5% were married with children, 20% were unmarried, and 2.5% were widows. 52.5% of participants were self-employed or owners of small shops and restaurants and 47.5% were unemployed.

Procedure

The respondents were approached individually. Demographic information was collected before taking the interview from the participants of the study. It included name, gender, age, place of living, etc. Participants were assured that the information they gave would be kept confidential and would be used only for the research purpose. A short interview was first conducted with individual participants to establish the initial rapport and to explain the purpose of the

study. Participants were assured of the confidentiality of their responses and were informed that they could withdraw from the study at any time.

RESULTS

Prevalence of psychiatric co-morbidity and its relationship with work and social adjustment was investigated. About 91% of participants self-reported to have suffered from personal injuries as a result of the earthquake. About 89% of all participants reported personal or family property being damaged or destroyed, and 66% needed to relocate to temporary shelters following this disaster. About 67.4% of participants also reported family members or friends missing, injured, or killed.

The results in Table 1 show that the most prevalent disorders in the population were PTSD (32.5%), depressive disorders (both major depression and dysthymia), panic anxiety, social phobia, and agoraphobia.

Table 2 shows that 32.5% of population had no disorder, 30% had at least one disorder, 15% had at least two disorders, 17% had three, and 15% had the four psychiatric disorders.

Negative correlation was found between the psychiatric illness and work and social functioning. Figure 1 show

Table 1: Frequencies and percentages of psychiatric disorders among the survivors extricated from under the rubble

Disorders	Frequencies
Depressive disorder	7 (17.5)
Dysthymia	6 (15.0)
Suicidality	7 (17.5)
Manic episode	4 (10.0)
Hypomanic episode	4 (10.0)
Panic disorder	8 (20.0)
Agoraphobia	10 (25.0)
Generalized anxiety disorder	6 (15.0)
Social phobia	8 (20.0)
Obsessive-compulsive disorder	3 (7.5)
Posttraumatic stress disorder	11 (32.5)
Psychotic disorder	4 (10.0)

(N=40)

Table 2: Percentages of psychiatric co-morbidities among male and female survivors

Frequency of disorders	Percentages
Survivors with no psychiatric disorder	22.5
Survivors with one disorder	30.0
Survivors with two disorders	15.0
Survivors with three disorders	17.5
Survivors with four disorders	15.0

(N=40)

that there is an inverse relationship of work and social adjustment and the psychiatric co-morbidity. As the numbers of disorders increase, the work and social adjustment decreases. The Figure also depicts that both the genders (i.e. males and females) had the same pattern.

DISCUSSION

The present study aimed at exploring the different psychiatric disorders and work and social adjustment among survivors extricated from under the debris. PTSD, depression, and anxiety disorder were found to be quite prevalent irrespective of gender. The findings showed that females were more likely to show PTSD symptoms than males. The reason could be that they are more predisposed to maintain negative attitudes toward life events than males,^[20] and gender differences are due to differences in expressed emotionality^[21] for the sexes, with women more likely than men to express feelings of fear. Another reason may be that in collectivistic cultures, both the genders share almost equal responsibilities of life because of strong binding among family members. So, the sufferings due to any trauma are equally disturbing for both husband and wife.^[22] It was also observed that as the co-morbidity increases, the functionality decreases [Figure 1]. Findings are consistent with the previous studies.^[15,16]

Another finding of the present study was that higher the prevalence of psychiatric disorders, lower was the work and social adjustment of the individuals who were living in the affected areas and had rubble experience. Results of the present study show that the experience of enormously traumatic events can lead to both

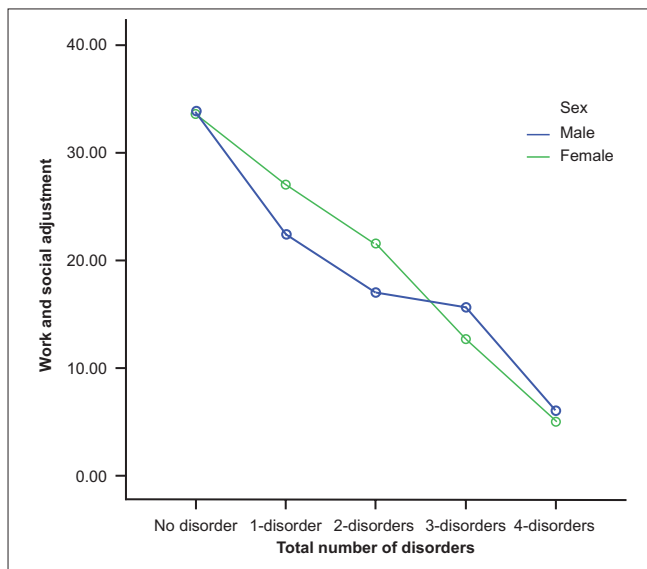


Figure 1: Relationship of psychiatric disorders on work and social adjustment

short- and long-term psychological and physical risks. This risk is exacerbated when the stressor is external and uncontrollable, such as the case of a natural disaster and effective interventions and rehabilitation measures are missing. Findings are in line with the past studies that were conducted on the subject of loss and trauma.

Implications

Though the present study provides experiential evidence to an otherwise well-understood phenomenon, it has important practical implications in a country where not many experiential studies have been conducted on traumatized or stressed persons exposed to natural disasters. The present study helps in raising awareness about the needs of traumatized persons who had rubble experience and may continue having problems 6 years after exposure to trauma. Psychiatric disorders are debilitating disorders. The studies like the present one may advocate a society think of policies and evolve strategies to improve their mental health services. The findings of the current study suggest the need for the specialized mental health services to the affected population, as the risk from disaster exposure continued to accumulate over time.

Limitations

There were no data on predisaster protective or vulnerability factors such as prior psychological adjustment, prior traumatic exposure, family history of psychopathology, and so on. It remained unclear to what extent post-disaster psychiatric morbidity or perceived positive changes were the results of the current event. It should be noted that the present sample approximated the population that resided and worked in the more affluent regions of Muzaffarabad. It is also possible that more severely affected survivors were still in hospitals or shelters, and some might have been relocated to other places. Thus, the present study might undermine the impact of the earthquake on post-disaster adjustment. Generalizability of the results could be improved by enlarging the sample size. The present study relied solely on self-reports of survivors, which were often subject to recall and social desirability biases. Snowball sampling technique was applied to carry out the research, which cannot yield much appropriate results as it is not a systematic way of sampling. We evaluated 12 Axis I DSM-IV disorders that are common in the general population, but we cannot rule out the presence of other psychiatric disorders or conditions that may influence the course of psychiatric morbidity post-disaster.

Suggestions

Future research should be conducted on a large sample so as to assure the high probability of the generalizability. The present study may be very helpful

in raising awareness among the lay persons about the effects of trauma and may prove to be a baseline for future researches. The study thus helps improve mental health services and broaden our information on the psychological impact of traumatic events. Specialized treatment programs should be organized for that significant post-disaster stress.

CONCLUSION

The mental health professional must take psychiatric disorders other than PTSD, especially depressive and anxiety disorders, into account when assessing the long-term effects of disaster. Interventions designed to diminish distress and endorse psychological adjustment can greatly reduce the psychological and physical costs associated with a natural disaster. Therefore, there is a need, particularly in a developing country like Pakistan, for a broader understanding of the adaptive processes that may facilitate renovation and rehabilitation of busted and traumatized human beings in the aftermath of natural disasters.

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