Original Article

Prevalence of Depression in Earthquake 2005 Affected Areas of Muzaffarabad City (Azad Kashmir)

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ABSTRACT

Objective: The present study sought to assess prevalence of depression among earthquake survivors, to evaluate its severity and impact on life of survivals, and to identify and suggest future interventions and long term psychological rehabilitation services in the aftermath of disasters.

Study Design: Descriptive / cross-sectional study

Place and Duration of Study: This study was conducted in the most damaged area of Muzaffarabad city, ward 12, with a population of 3,020 people of more than 18 years of age. The total number of subjects was 430 and the study period was from 4th February 2012 till 4th October 2012.

Materials and Methods: Data was collected by cluster sampling using the systematic random sampling technique. ICD-10 Criteria for Depressive Illness was applied the participants for diagnosing Depression. The patients diagnosed as suffering from depressive illness were then assessed for the severity of depression using the Urdu translation of Beck Depression Inventory. Data was then analyzed using SPSS 10.0.

Results: Study findings revealed that among participants (n=430), mean age was 36 years (SD=12.44); males were 61.2%, females were 38.8%. Findings showed that frequency of depression was 32 % (mild-11.2%, moderate-11.6%, severe-8.8%) after using the BDI scale.

Conclusion: The survivors of 2005 earthquake suffer from depression three times higher than the normal population. These findings lend further support in order to facilitate in planning long term in terms of psychological rehabilitation services and other interventions for the affected population improving their quality of life.

Key Words: Depression, Earthquake, AJK

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INTRODUCTION

Natural disasters adversely affect the lives of large populations, while disrupting their social network, which results in an enormous economic burden; consequently, they constitute a major traumatic experience with evolving traumatic psychopathology, Disasters are traumatic , sudden, dangerous and life threatening events, these are overwhelming because these test the capability of the community and individuals to cope with a massive disruption. Survivors of natural disasters, and those of acts of rape, violence, war and terrorism always have enormous experience with some psychological damage to individuals and small or even large groups of human beings. Natural disasters, catastrophes, floods, and acts of terrorism result in psychological consequences, such as post-traumatic stress disorder, depression, anxiety, and chronic physical disorders.[1] The physical injuries exhibits their effects immediately after the event, but the effects of psychological trauma may persist longer after the event.

Indian population faced major life threatening events in the last few decades, for example Bhopal gas tragedy in 1984, Uttar-Kashi earthquake in 1991, Latur earthquake in 1993, 2001 in Gujarat, 2004 the great Tsunami, and the Kashmir earthquake in 2005.[2]

In Marmara earthquake in Turkey after three and half year following percentage of psychiatric consequences were observed including 22.2% PTSD and 30.8% depression diagnoses in adolescent population.[4] In October 29, 1999 a super-cyclone with speed of 260 to 300 Km/hr hit Orissa, India that continued for 72 hours from. Over 15 million people were affected ; causalities were round about 10,000 persons ; with massive loss to properties and livelihood.[3, 4,5]

Increases in depressive symptoms as a consequence of a disaster, greater impacts were observed among the population with the lowest incomes and among residents living in small rural areas.[6] Acute disaster stress (physical injury, life threatening situations, property damage, loss of loved ones) may produce prolonged psychological distress (PTSD, depression,

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anxiety, anger ,fear, phobia, somatization and hostility). The main effects of loss, though limited in strength, were completely explained by victim's higher financial, marital, filial, and physical stress.[7]

Unfortunately, societies are subjected to various disasters, events such as volcanic eruptions, hurricanes and floods, landslides, earthquakes, due to the failure of engineering structures, social unrest, national and global economic downturns, regional power blackouts, diseases and epidemics, etc.[8]

Hence there is a growing and urgent need to grasp the intermittent dynamics of disasters in order to improve our understanding of the negative effects imposed by such occurrences. Keeping in view this background and the paucity of research in this area, the current study was designed to determine the frequency of depression in Earthquake 2005 affected areas of Muzaffarabad Azad Kashmir, 7 years after the earthquake, in order to evaluate the long term psychological burden on the affected population.

MATERIALS AND METHODS

This was a descriptive, cross-sectional study, which was carried out for a period of 8 months from 4th February 2012 till 4th October 2012, in the most damaged area of Muzaffarabad city, ward 12, with population of 3020 people of more than 18 years of age. The total sample size was 430 subjects. Data was collected by cluster sampling using the systematic random sampling technique, applying the formula K=N/n where N=total population and n=sample size, hence for the current study, k=3020/430=7.023 which was rounded off to 7, so after randomly selecting one subject every 7th individual following that was selected.

Those subjects were selected who fulfilled the inclusion criterion, survivors of 2005 Earthquake aged 18 to 70 years, excluding those who refused to give informed consent and those with severe cognitive impairment.

Written permission from local administration Deputy Commissioner Office Muzaffarabad city was taken. Data collection was done in most damaged areas of Muzaffarabad city. For the conduction of study by a group of researchers including myself, a psychologist, nursing assistant, social worker and NGO staff, from Muzaffarabad city who were trained prior to study for data collection. Informed written consent was taken from all the participants who met the selection criteria. Proforma was administered to the study participants (n=430) and all the relevant socio-demographic details such as age, gender, educational status were obtained. ICD-10 criteria for Depressive illness was applied to the participants for diagnosing Depression. The patients suffering from depressive illness then were assessed for the severity of depression using the Urdu translation of Beck Depressive Inventory. Scores above 9 were considered significant. Confidentiality of the participant's identity and personal information was maintained throughout the study. All the collected data was entered in the computer and analyzed in the statistical package for social sciences (SPSS version 10.0) and results interpreted accordingly.

RESULTS

The mean age of the participants was 36 years (S.D±12.44), with an age range of 18-69 years. The gender distribution revealed that 263 (61.2%) were males whereas 167 (38.8%) were females. Among the participants, depression was present in 137(32%), with 48(11.2%) having mild depression, 50(11.6%) moderate depression and 38(8.8%) severe depression.

These frequency of Depression has been illustrated in Table 1, while the frequencies of different grades of severity of depression in Figure 1, as shown below:

Table No.1: Showing the frequency of depression amongst the participants

Presence of depression	Frequency	Percentage
Depression	137	32%
No Depression	293	68%

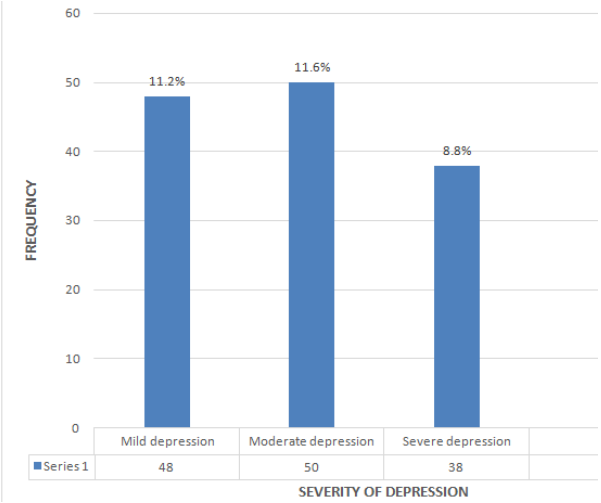

Figure No.1: Showing The Different Grades Of Severity Of Depression

DISCUSSION

This study found frequency of depression among 430 participants with significant numbers of 137 had depression which makes percentage of 32% while 293 participants had no depression constitute 68% of total participants. Similarly depression was also gauged in terms of severity mild, moderate, and severe form, the results revealed 48 participants had mild depression (11.2%), 50 had moderate depression (11.6%) and 38 participants had severe form of depression (8.8%).

This study finding correlates well with other published national and international studies. A study done by Rakesh Kumar Chadda[2] in occupied Kashmir the

effected patients were evaluated 5–6 weeks after major earthquake. Prevalence of depressive disorders was 21.8% high as compared to PTSD 3.3% seen in patients. High prevalence of depression in males could be related to the life burden, material responsibilities ,and planning rehabilitation, which traditionally is within male's responsibility in a typical Asian society.

In 1988 earthquake in Armenia,[9] states that depression is a major public health problem with other manifestations of psychiatric morbidity, including PTSD. When adult participants were studied half of them were identified as fulfilling the criteria for major depression in the 2 years following the disaster. This observation concluded that the risk of depression is proportional to the amount of loss that the person has sustained during a life threatening event, is an important finding that could be incorporated in the development of any effective preventive strategy. The more severe the condition—the stronger was the relationship of depression with loss Persons with higher levels of loss should be specially targeted for remedial and preventive action. The study findings that the risk of depression was higher high in loss of family members as well as materialistic loss.

A study in Greece 50 years after the earthquake',[10] in this study individuals with age (17–25 years) came out as the most vulnerable group for the development of psychiatric morbidity. As passing through there transitional period of there life which is important for their carrier and professional life, which the earthquake probably overturned. In addition, in most cases they faced the major depression and PTSD especially female population. Lower educational status and lower socio-economic status were found to have high prevalence of PTSD and depression among earthquake survivors, while lower education and loss of family members tend to have high prevalence of depression. Suicidal ideations and self harm ideas were present in 21.3% , where 34.5% population have co-morbid diagnosis of depression and PTSD..

The present study provides basic research tools to study traumatized persons. It will also help in raising awareness about the needs of traumatized persons who may continue having problems years after exposure to trauma. PTSD, depression, stress and anxiety are debilitating disorders the studies like the present one may urge a society think of polices and plans and evolve strategies to beef up their mental health services. Scientific research like the present one is imperative for effective intervention and rehabilitative measures for individuals who are victims

of disasters or have been traumatized as a result of grief, violence or some kind of abuse and a natural disaster.

CONCLUSION

In conclusion the findings from this study indicate that the survivors of 2005 earthquake suffer from psychological distress including depression three times higher than the normal population. The catastrophic earthquakes of the kind that occurred in Muzaffarabad city, AJK, have long-term psychological consequences, particularly in survivors with high levels of trauma exposure. These findings lend further support in order to facilitate in planning long term psychological rehabilitation services, post disaster mental health services and other interventions for the affected population in terms of improving their quality of life.

Limitations:

1. As sample (N=430) taken only from ward 12 of Muzaffarabad city having population of (103,487) thus creating a sample bias, which partly compromises the generalizability of study findings. Future studies should include larger sample sizes and more powerful designs.
2. The findings of the present study are based on those who continued living in the earthquake affected areas and not on those, who moved out of the area after the earthquake.
3. Past psychiatric illness or disorders of the participants not explored properly.
4. Risk factors, personality traits, post-disaster experiences, and social support could not be explored.
5. 7 years have elapsed since the earthquake. Some memories of the event may have been distorted and several other important traumatic life events could have happened that may have contributed to psychopathology

Author's Contribution:

Concept & Design of Study:	Shakeel Asif
Drafting:	Nisar Ahmed Khan
Data Analysis:	Farooq Ahmed Noor
Revisiting Critically:	Shakeel Asif, Nisar Ahmed Khan
Final Approval of version:	Shakeel Asif

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Norris FH, Friedman MJ, Watson PJ. 60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research. Psychiatr 2002; 65:240-60.
2. Chadda RK, Malhotra A, Kaw N, Singh J, Sethi H. Mental Health Problems following the 2005 Earthquake in Kashmir: Findings of Community-Run Clinics. Prehospital Disast Med 2007;22: 541–5.
3. Karakaya I, Agaoglu B, Coskun A, Sismanlar SG, Yildiz Oc O: The symptoms of PTSD, depression and anxiety in adolescent students three and a half years after the Marmara earthquake. Turk Psikiyatr Derg 2004;15:257-63.

4. Kar N, Bastia BK. Post-traumatic stress disorder, depression and generalised anxiety disorder in adolescents after a natural disaster: a study of comorbidity. Clin Pract Epidemiol Ment Health 2006;2:17.
5. Kar N, Jagadisha, Sharma P, Murali N, Mehrotra S. Mental health consequences of the trauma of super-cyclone 1999 in orissa. Ind J Psychiatr 2004; 46:228-37.
6. Ginexi EM, Weihs K, Simmens SJ, Hoyt DR. Natural disaster and depression: a prospective investigation of reactions to the 1993 midwest floods. Am J Community Psychol 2000;28: 495-518.
7. Grant SM, Hardin SB, Pesut DJ, Hardin T. Psychological evaluations, referrals, and follow-up of adolescents after their exposure to Hurricane Hugo. J Child Adolesc Psychiatr Nurs 1997;10: 7-16.
8. Sornette D. Predictability of catastrophic events: material rupture, earthquakes, turbulence, financial crashes, and human birth. Proc Natl Acad Sci US A 2002;99:2522–9.
9. Armenian HK, Morikawa M, Melkonian AK, Hovanesian A, Akiskal K, Akiskal HS. Risk Factors for Depression in the Survivors of the 1988 Earthquake in Armenia. J Urban Health 2002;79:373-82
10. Lazaratou H, Paparrigopoulos T, Galanos G, Psarros C, Dikeos D, Soldatos C. The psychological impact of a catastrophic earthquake: a retrospective study 50 years after the event. .J Nerv Ment Dis 2008;196:340-4.