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Post-Earthquake Psychiatric Morbidity

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Abstract
Background: *Over the past few decades, the incidence and magnitude of natural disasters including earthquakes has grown significantly, resulting in substantial economic damages and affecting or killing millions of people. Earthquakes and their consequences present a major global public health problem. This study aimed to evaluate the impact of a catastrophic earthquake and psychiatric morbidity.*
Methods: *Sample consists of 100 patients who were interviewed and ICD-10 was used to attain the diagnosis of various mental illnesses.*
Results: *Results demonstrated that post-earthquake increases the incidence of frequency and worry, fear about earthquake. Results showed that the occurrence of Post-Earthquake effect among mental illness was found higher in females (49%) than in males (41%). The predominant study population was between the age group of 21-30years (31%), Hindu religion (81%) and PTSD (39%).*
Conclusion: *These results indicate a need to develop an effective outreach strategy for dealing with post-earthquake effect among earthquake victims.*
Key Word: *Earthquake, Psychiatric Morbidity.*

INTRODUCTION

Over the past decade, Asia has been the continent frequently and severely affected by earthquakes [1]. From the 225,000 deaths caused by the 2004 Indian Ocean earthquake and tsunami [2], to 73,276 deaths by the 2005 Pakistan earthquake [3], 69,200 deaths by the 2008 China Sichuan earthquake [4], and 15,839 deaths by the 2011 Great East Japan earthquake [5], Asian countries suffered not only giant losses from the instantaneous and devastating blow of the disaster, but critical consequences from the longstanding post-earthquake adversities, e.g., the dysfunction of public health systems. As an essential component of public health, continuing attention should be paid to the mental health of the survivors because psychological impact may last for many years after the event [6, 7, 8, 9].

However, little research has examined the post-earthquake clinical and socio-demographic profile of psychiatric patients. This study was undertaken to find the post-earthquake effect and psychiatric co-morbidity and significance of clinical presentations.

OBJECTIVE

To Study the post-earthquake clinical and socio-demographic profile of psychiatric patients.

METHODOLOGY

Sample consists of 100 patients who attended the Psychiatry Out-Patient Department of psychiatry, IGIMS and were diagnosed to be suffering from mental illness. The patients and attendants were interviewed and the following study tools were used to attain the diagnosis of various mental illnesses.

1. ICD-10 classification of Mental and Behavioural disorders
2. Semi-structured pro forma to record socio-demographic details including age, sex, religion, region, socioeconomic status, family history of psychiatric illness, history of psychiatric illness and clinical diagnosis.

Research approach and design: Quantitative non-experimental descriptive research design.

Setting: IGIMS, Patna

Population: Patients attending Dept. of Psychiatry, IGIMS Patna

Sample & sample technique: Sample consists of 100 patients &non-probability purposive sampling technique was used to select the sample.

Inclusion criteria

- Patients who were above and equal to 10 years of age and who are willing to participate in the study.
- Patient who were suffering or diagnosed with mental illness.

Exclusion criteria

- Patients who were not willing to participate in the study.
- Patient who were above 60 years of age.

Duration of the study: 06 months after the Nepal earthquake.

Ethical consideration: verbal consent was obtained from patients to participate in the study. Plan of analysis: analysis and interpretation of data was done according to objective by using descriptive statistics.

RESULTS

Table 1: Sample characteristics of Post-Earthquake Clinical and Socio-Demographic Profile of Psychiatric Patients

N = 100

Characteristics	n	f
Age		
10- 20	18	18
21 -30	31	31
31-40	15	15
41-50	25	25
50-60	11	11
Sex		
Male	41	41
Female	49	49
Religion		
Hindu	81	81
Muslim	15	15
Others	4	4
Region		
Urban	64	64
Rural	36	36
Socioeconomic Status		
Higher	21	21
Middle	46	46
Lower	33	33
Family History of Psychiatry Illness		
Yes	39	39
No	61	61
History of Psychiatric Illness		
Yes	53	53
No	47	47
Clinical Diagnosis		
Acute Transient Psychotic Disorder	3	3
Depression	16	16
Generalised Anxiety Disorder	14	14
Manic Psychosis	9	9
Panic Disorder	12	12
Post-Traumatic Stress Disorder	39	39
Schizophrenia	7	7

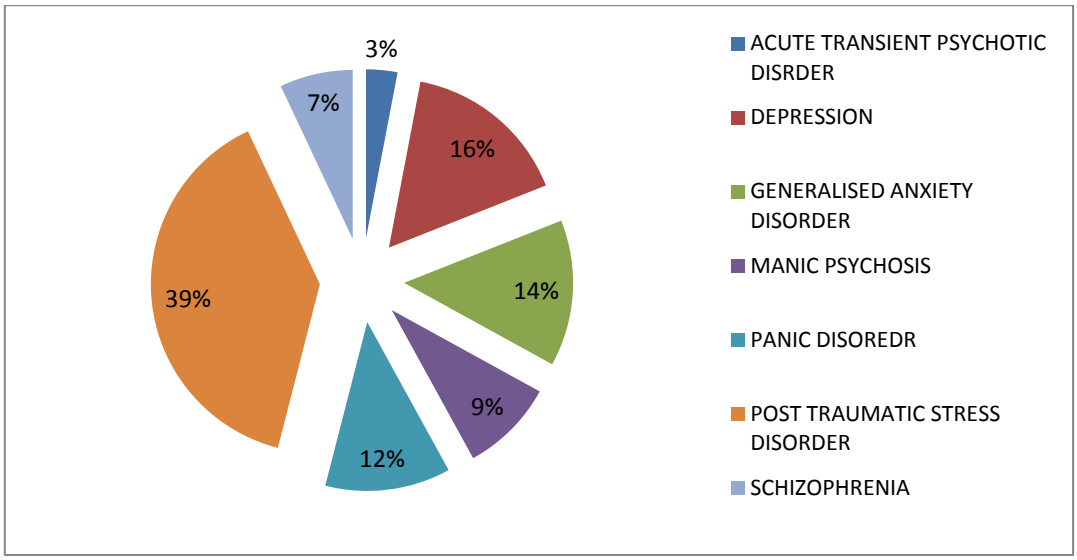
Table depicts that highest Post-Earthquake Effect Psychiatric Patients as regard to age was 21-30 years of age, as regard to sex female were affected

more as compare to male. Hindus and urban patients were most affected as regard to religion and residents respectively. Post-Earthquake Effect was higher among middle class family in comparison other criteria of class. 61 % of patients had no family history of psychiatric illness & 53 % of patients had history of psychiatric illness. Post-Traumatic Stress Disorder was highest among other post-earthquake mental illness.

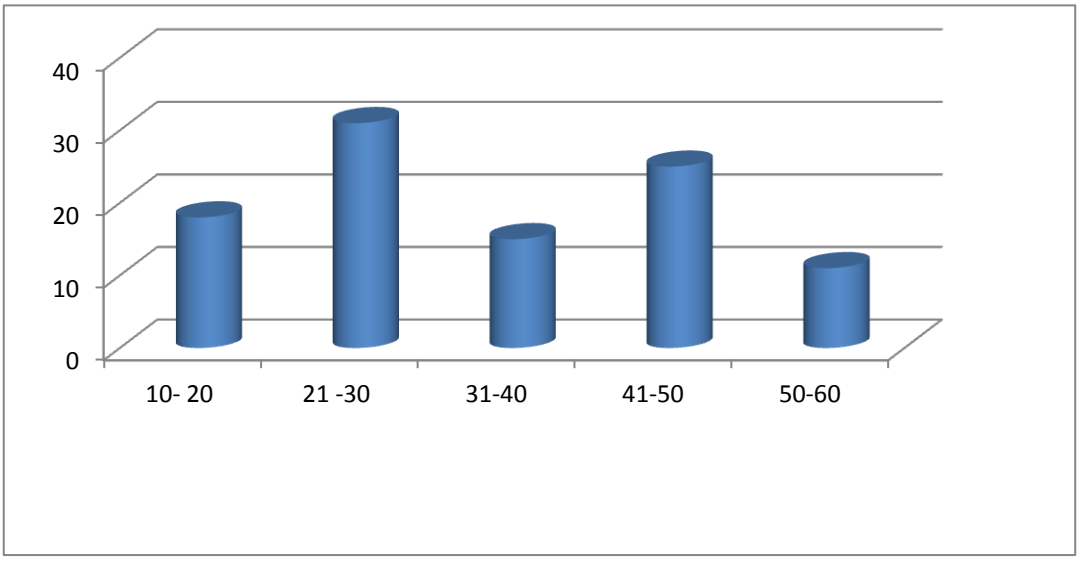
Some of common Experiences shared by patients were following:

- I feel that my head is spinning and I am going to fall.
- I am not able to sleep at night as I have thought that earthquake will knock.
- As I close my eyes some time I see that earth is getting up and down.

Graph 1: Post-earthquake Profile of Psychiatric Patients According To Clinical Diagnosis



Graph 2: -Post-earthquake Profile of Psychiatric Patients According To Age



DISCUSSION

Regarding age, sex, socio economic status and clinical diagnosis, Present study result was in accordance with study result of Sharma D [10]that majority of patients were in the age group of 15-30 years of age, female sex were more affected, majority of them earning less than 10000 Rs and occurrence of Anxiety, PTSD and Depression

among community respondents. However, it was incompatible with the study result of history of psychiatric illness.

Further present study result revealed the prevalence of anxiety over all was 67% (14+12+39) comparable results was obtain by Carter FA [11], which was significantly lower than the data acquired by Messiah A, et al.[12] is 36% (direct exposure) and 22% (indirect exposure)and 43.8% by Zhang Z et al [13] and J. C. Kane[14] depression (34.3%, 95% CI28.4–40.4) and anxiety (33.8%, 95% CI 27.6–40.6).

In relation to religion present study revealed that majority were Hindus which is supported by J. C. Kane [14] study result reveal that 82.3 % were Hindus.

CONCLUSION

After exposure to severe trauma, either an earthquake or violence, general population are at high risk of developing physical and mental health disorders. Clinical evaluation and therapeutic intervention must include specific attention to these reactions. Early mental health interventions are recommended to promote, prevent and cure mental health problems and its impact among general population after such exposure.

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Conflicts of interest: Nil

REFERENCES

1. Earthquakes caused the deadliest disasters in the past decade. http://www.unisdr.org/archive/12470
2. Centres for Diseases and Control: Rapid health response, assessment, and surveillance after a tsunami--Thailand, 2004–2005. MMWR Morb Mortal Wkly Rep. 2005, 54 (3): 61-64.
3. Sullivan KM, Hossain SM: Earthquake mortality in Pakistan. Disasters. 2010, 34 (1): 176-183. 10.1111/j.1467-7717.2009.01121. x.
4. Jia Z, Tian W, He X, Liu W, Jin C, Ding H: Mental health and quality of life survey among child survivors of the 2008 Sichuan earthquake. Qual Life Res. 2010, 19 (9): 1381-1391. 10.1007/s11136-010-9703-8.
5. Damage Situation and Police Countermeasures associated with. 2011,http://www.npa.go.jp/archive/keibi/biki/higaijokyo_e.pdf, Tohoku district,
6. Eksi A, Braun KL: Over-time changes in PTSD and depression among children surviving the 1999 Istanbul earthquake. Eur Child Adolesc Psychiatry. 2009, 18 (6): 384-391. 10.1007/s00787-009-0745-9.
7. Goenjian AK, Roussos A, Steinberg AM, Sotiropoulou C, Walling D, Kakaki M, Karagianni S: Longitudinal study of PTSD, depression, and quality of life among adolescents after the Parnitha earthquake. J Affect Disord. 2011,133,509-515.10.1016/j.jad.2011.04.053.
8. Goenjian AK, Walling D, Steinberg AM, Karayan I, Najarian LM, Pynoos R: A prospective study of posttraumatic stress and depressive reactions among treated and untreated adolescents 5 years after a catastrophic disaster. Am J Psychiatry. 2005, 162 (12): 2302-2308. 10.1176/appi.ajp.162.12.2302.
9. Goenjian AK, Walling D, Steinberg AM, Roussos A, Goenjian HA, Pynoos RS: Depression and PTSD symptoms among bereaved adolescents 6(1/2) years after the 1988 Spitak earthquake. J Affect Disord. 2009, 112 (1–3): 81-84.
10. Sharma D, Devi A, Kafle RC, Singh S. Mental Health Impact of April 2015 Earthquake of Nepal: A Community Based Cross-sectional Study. Int J Med Health Sci. Jan 2017, 6:1.
11. Carter FA, Bell CJ , Ali AN , McKenzie J , Wilkinson TJ. The impact of major earthquakes on the psychological functioning of medical students: a

Christchurch, New Zealand study. The New Zealand Medical Journal 2014; 127(1398):54-66.

12. Messiah A, Acuna JM, Castro G, Vega PR, Vaiva G, Shultz J, et al. Mental health impact of the 2010 Haiti earthquake on the Miami Haitian population: A random-sample survey. Disaster Health 2014; 2(3-4).
13. Zhang Z, Wang W, Shi Z, Wang L, Zhang J. Mental Health Problems among the Survivors in the Hard-Hit Areas of the Yushu Earthquake. PLoS ONE 2012;7(10): e46449. doi: 10.1371/journal.pone.0046449.
14. Kane JC, Luitel NP, Jordans MJD, Kohrt BA, Weissbecker I, Tol1 WA. Mental health and psychosocial problems in the aftermath of the Nepal earthquakes: findings from representative cluster sample survey. Epidemiology and Psychiatric Sciences, 2017; 1. Cambridge University Press, doi:10.1017/S2045796016001104