Original Article

Psychiatric morbidity pattern in patient after earthquake at Tribhuvan University Teaching Hospital Nepal

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Abstract

Introduction: 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.The basic aim of this study is to evaluate sociodemographic characteristic and pattern of psychiatric morbidity in patient attending at Tribhuvan University Teaching Hospital after earthquake.

Methods: A cross sectional study was carried out on patients attending psychiatric OPD services of Tribhuvan University Teaching Hospital, Maharajgunj, Kathmandu, a tertiary care hospital, from April 2015 to mid Sep, 2015.

Results: Among 1057 cases who visited the outpatient services at Department of Psychiatry during first four and half months after major earthquake on 25th April 2015, 108 were directly related to earthquake. The most commonly diagnosed conditions were F 41.9 Anxiety Disorder Unspecified (15.7%), F43.2 Adjustment disorder (13.9 %), F 43.1 Post-traumatic stress disorder (8.3%) and Moderate depressive episode (7.4%). Two cases were referred with incidence of deliberate self harm.

Conclusion: This study has contributed in new knowledge regarding the psychological conditions aftermath of natural disasters in Nepal and also the need of research to determine the prevalence of post-disaster mental health conditions like posttraumatic stress disorder (PTSD), anxiety and depressive disorders, resilience and factors associated with the impact of event among the survivors.

Keyword: Earthquake, PTSD, Psychiatric morbidity

Introduction

Following a 7.8 magnitude of earthquake and its aftershocks in 2015, the priority areas were put on for preventing the after effects of the earthquake, including providing shelter to displaced populations, safe water and sanitation conditions, balanced nutrition, reducing vector breeding sites, removal and safe disposal of dead bodies and carcasses, access to healthcare services, vaccination, and health promotion[1] targeting for resilience at macro level. Every disaster provides momentum among the experts, academicians and the researchers for documentation and research work for future generation, including opportunities for mental health professionals to improve mental health literacy[2]. For instance, some major mental health studies in population in humanitarian settings were conducted in context of decade long armed conflict[3] as well as refugee issues in Nepal. In similar fashion, after 2015 earthquake and its several aftershocks, there has been studies on people in distress, not limiting only to public or disaster survivors, but also related to distress among the relief workers[4], among the students[5], tourists or travellers from abroad who experienced earthquake while in Nepal[6]. Jha & Shakya[7] reported challenges in training and recruiting volunteers while setting

up psychosocial intervention studies among disaster survivors who were suffering from PTSD symptoms, in context where Government of Nepal and NGOs provided various short-term mental health services to the victims of the 2015 earthquake in Nepal, but there was no plan or provision for long-term mental health problems.

The World Health Organization estimates that twelve months prevalence in mental health problems increase after emergency in comparison to normal conditions - increase of 1% for severe disorders, 5 to 10 % increment in mild or moderate mental disorder and large percentage prevalence for normal distress and psychological reactions[8]. Four months after the earthquake in April 2015, Kane et al conducted a representative cluster sample survey among 513 participants from three earthquake affected districts in Nepal[3]. They reported that one out of three adults experienced symptoms of depression and distressing levels of anger, one out of five were involved in hazardous drinking; one out of ten had suicidal thought. Though previous epidemiological studies have exaggerated PTSD symptoms, the authors reported less frequent occurrence of PTSD symptoms as well as functional impairment.

Besides these screenings done in community settings, there is lack of published research comparing psychological distress and mental health issues among earthquake survivors in hospital settings. During the emergencies, hospitals and local health facilities do get many referrals for medical conditions, and many patients coming for physical health issue do have comorbid psychological issues. Besides, there is increase in psychiatric patients with onset, relapse, and exacerbation of mental disorders[9], who are usually referred to psychiatry outpatient services. The current study aims to explore the trend of such psychiatric presentation at Tribhuvan University Teaching Hospital after earthquake. This data will be relevant for disaster preparedness issues for the future.

Methods

The Tribhuwan University Teaching hospital is situated in Kathmandu as a major tertiary care hospital of Nepal. After the earthquake in April 2015, the hospital started providing service on triage basis, 486 earthquake victims were admitted, and 532 major operations were performed[10]. Department of Psychiatry and Mental Health started 24 hour Psychological Help since the first week of disaster, targeting for general public, cases brought in through emergency, outpatient services as well as inpatient services.

A cross sectional study was carried out on patients attending psychiatric OPD. A self-designed semi structured proforma was developed to obtain the socio-demographic characteristics of the study population. It consisted of age, sex, place of residence, educational status, marital status, occupation and information about the illness. The final psychiatric diagnosis was made by a qualified Psychiatrist according to *The ICD-10 classification of mental and behavioural disorders*[11]. All study data were entered into an excel spreadsheet and were verified by study team. Data were analyzed using SPSS version 16 (Chicago, Illinois, USA). Descriptive analysis was performed, and frequencies and percentages were calculated.

Results

The case records show that 1057 cases in total were served at Department of Psychiatry and Mental Health at TUTH during the first four and half months after April Earthquake. Among them 108 (10.2%) cases were directly related to earthquake. The study is based on these 108 cases (see table 1 for demographic profile).

There was almost equal number of male and female; with mean age of 37 ± 19. Most of them were young adults (44%), followed by patients in middle adulthood. 11 % were children and adolescents, while 6 % were elderly. Regarding education, about 29% were illiterate, while others were educated. Most of them were employed (55%). Almost half of the participants were residing outside Kathmandu valley – with most from earthquake affected districts like Nuwakot (n=9), Sindhupalchowk (n=7) and Rasuwa (n=4).

The most commonly diagnosed conditions were Anxiety Disorder Unspecified (15.7%), Adjustment disorder (13.9 %), Post-traumatic stress disorder (8.3%) and Moderate depressive episode (7.4%). Two cases were referred with incidence of deliberate self harm. There were more females with Reaction to severe stress, unspecified, adjustment disorder, dissociative (conversion) disorder and headache issues, while there were more males with depressive episode and alcohol use disorder.

Table 1: Socio Demographic Profile (N=108; M=56; F=52)

Variable		Male (n)	Female (n)	Total (N)	%
Age	Children and adolescents	8	4	12	11
	Young adults	25	22	47	44
	Middle Adulthood	20	23	43	40
	Old age	3	3	6	6
Education	Illiterate	17	14	31	29
	Till Secondary level	19	19	38	35
	Higher Education	20	19	39	36
Occupation	Student	8	7	15	14
	Employed	26	33	59	55
	Unemployed	22	12	34	31
Residence	Kathmandu Valley	31	24	55	51
	Outside Kathmandu[a]	25	28	53	49

Note: [a] = Highest referrals from Nuwakot (n=9), Sindhupalchowk (n=7) and Rasuwa (n=4).

Table 2: Disorders diagnosed during visit at hospital

ICD 10 Code	ICD 10 Diagnosis	Male		Female		Total	
		N	%	N	%	N	%
F43.2	Adjustment Disorder	7	13.5	13	23.2	20	18.52
F41.9	Reaction to severe stress, unspecified	8	15.4	11	19.6	19	17.59
F10.3	Mental and Behavioral Disorder due to use of alcohol	10	19.2	2	3.6	12	11.11
F43.1	Post Traumatic Stress Disorder	4	7.7	5	8.9	9	8.33
F32.1	Depressive episode	6	11.5	3	5.4	9	8.33
F43.0	Acute Stress Reaction	4	7.7	4	7.1	8	7.41
F41.0	Panic Disorder	4	7.7	3	5.4	7	6.48
F20	Schizophrenia	3	5.8	2	3.6	5	4.63
F23.0	Acute and Transient Psychotic Disorder	2	3.8	3	5.4	5	4.63
F41.1	Generalized Anxiety Disorder	1	1.9	4	7.1	5	4.63
F45.1	Undifferentiated Somatoform Disorder	2	3.8	1	1.8	3	2.78
F44.5	Dissociative (conversion) Disorder	0	0.0	2	3.6	2	1.85
G44.2	Tension Type Headache	0	0.0	2	3.6	2	1.85
F 33	Recurrent Depressive Disorder	1	1.9	0	0.0	1	0.93
G43	Migraine Headache	0	0.0	1	1.8	1	0.93
	Total	**56**	**100**	**52**	**100**	**108**	**100**

Discussion

This study explored into trend of clinical presentation and associated clinical diagnosis at hospital among the survivors of earthquake 2015 in the context when there is paucity of hospital based post disaster studies on mental health. The retrospective study of the hospital records indicate almost equal number of male and female and almost equal participants from Kathmandu and outside Kathmandu. There is gender difference in coping with stressors. We found that most of the females were diagnosed either as adjustment disorder or reaction to severe stress, unspecified in comparison to male patients; while mental and behavioral disorder due to use of alcohol was mostly with males.

The most frequently diagnosed conditions were adjustment disorder and reaction to severe stress, unspecified, rather than PTSD or Acute Stress Reaction. In our case records, PTSD has been ranked at fourth among frequently diagnosed condition; and its occurrence in the hospital visiting population was only 8.3 %, which was slightly higher than report of 5.2 % in the community sample[3]. It was almost equally diagnosed among both men and women.

One hypothesis about clinicians' reluctance in specific stress related diagnosis is about acknowledgement that many presenting symptoms were taken as normal reaction to abnormal conditions during such disaster period where continuous aftershocks were present throughout months. Despite exaggerated reports focusing on Post traumatic Stress Disorder in media and literature after every disaster, we should acknowledge the psychological effects of shocks and traumas, but avoid exaggerating those effects in our diagnoses, mental health practices, and public policies[12].

Alcohol use disorder was third most frequently occurring condition (11.1%) in current study, with 19.2% males having this problem. Kane el al.[3] reported 20.4% for hazardous alcohol use and being male as risk factor. This might generate hypothesis on gender difference in use of alcohol as coping or it indicates prevalence of alcohol use disorder even prior to disaster.

About 9% cases were diagnosed as Depressive episode, which was relatively lower than community sample reported in community sample. Another striking difference is on effect of gender on depressive symptomatology. Kane and his colleagues reported that there were higher odds for females for meeting criteria for depression, while our study show higher frequency for males (male=6, female=3). Instead, females were diagnosed more as adjustment or other stress related disorders.

Further studies need to explore into complexities in assessing problems in disaster survivors. One important confusion which arose regarding use of criteria for time duration of trauma or significant stressor: for instance, there were multiple aftershocks of more than five Richter scale in first few months of major shock and this adds up confusion in use of time duration while making trauma related disorders. Another issue is about acknowledgement of normal psychological distress following disaster, which needs to be considered, prior to labeling distress of survivors. Mental health professionals need to come up discussing on the issue of over or under diagnosis, their implication on help they provide to survivors and natural course of resilience.

This study had several limitations. It is based on case records of clinicians. Since it was period of emergency and detailed records of case history or mental status exam was not possible. Hence analysis has been done on basis of limited demographic profile and note on clinical impression. Second, this study represents small sample, from a specific tertiary level hospital. Hence, generalizing the results to community or to primary care centers is not possible.

Conclusion

The study points out occurrence of psychological distress which could or could not be clinically labeled as 'disorder' among the survivors who were presented at a tertiary level hospital after earthquake. Adjustment disorder, Post-traumatic Stress disorder, other anxiety disorders, Alcohol use disorder and depressive episodes were most frequently diagnosed conditions.

Conflict of interest- None declared

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