



MENTAL HEALTH IMPACT OF NEPAL EARTHQUAKE 2015 ON THE POPULATION OF GORKHA DISTRICT

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ABSTRACT

Background: A massive earthquake of 7.9 Richter scale hit Nepal with its epicenter at the Gorkha district on 25th April 2015. The earthquake affected about one-third of the population. This study aims to assess the mental health impact of earthquake among the survivors of Gorkha district, Nepal. **Methodology:** A cross-sectional descriptive study was carried out among 320 survivors of Gorkha district from July to December 2015. Various socio-demographic variables such as age, gender, ethnicity, educational level, and marital status were assisted along the level of mental health impact among the participants. Hopkins Symptoms Checklist-25 was evaluated for the prevalence of

anxiety and depression. PTSD Civilian version was accessed for possible PTSD. **Results:** In this survey, it was found that one out of five participants was suffering from mental health disorder while suicidal ideation was also noted among ten percent of the participants. **Conclusion:** The survey illustrated that there was a prevalence of significant anxiety, depression, and PTSD in survivors after an earthquake. Thus, psychosocial care should be provided to the earthquake victims alongside the physical treatment.

KEYWORDS: Anxiety, Depression, Earthquake, PTSD and Suicidal Ideation.

INTRODUCTION

The natural disasters such as earthquake have a deep impact on the physical and mental health of its survivors. Earthquake not only affects physical aspects but also leads the victim towards various mental problems.^[1,2] In 25th April 2015, the National seismological center of

Nepal recorded an earthquake of 7.9 Richter scale with an epicenter at Gorkha district. Affecting 30 percent of the Nepalese population, it was estimated that about 8,790 lives were lost and almost 22,300 were injured.^[3]

Anxiety is a psychiatric disorder with symptoms that range from fear to specific phobias, extreme worry or even panic attacks. The stress and strain of earthquake result in anxiety with symptoms such as faintness, dizziness, weakness, nervousness and trembling. It directs individual to several physical and emotional troubles seizing the victim's capacity to function properly.^[4] Depression is a serious mood disorder that negatively affects people feeling, their way of thinking, their behaviors as well as their daily activities. People who experienced earthquake have a wide range of symptoms such as; feeling low, crying easily, loss of sexual pleasure, poor appetite, loneliness, loss of interest in activities which they used to enjoy.^[1] Post Traumatic Stress Disorder (PTSD) usually occurs after a month following a disaster and could last for various years. It results in various mental problems such as; re-experiencing stressful situation, pounding heart, difficulty in breathing, lack of emotion, anxiety and feeling distant.^[5,6]

Suicidal ideations are thoughts of ending self-existence. The degree of its severity varies from extensive thoughts, detail planning to the ultimate act of suicide. The majority of individuals who has suicidal thoughts are not liable to commit suicide while some of them actually attempt. There is a sound association between anxiety, depression, suicidal thoughts, and PTSD. Suicidal ideation is a strong predictor of a suicide; hence, recognition of suicidal thoughts in anxiety, depression, and PTSD could be targeted for the prevention of suicide.^[7,8]

In Nepal, the mental health of an individual has been accounted since 1997 but due to the lack of appropriate funds and researches; it is still in the fledgling stage. Individual life has been greatly affected by the earthquake as it guides the public towards hassle and trauma which makes them susceptible to emotional deterioration, social impairment, and suicidal ideation.^[9,10] Taking these things into consideration this study aims to access the information on anxiety, depression, PTSD and suicidal ideation among survivors.

METHODOLOGY

The present cross-sectional descriptive study was conducted among 320 survivors of Gorkha earthquake April 2015. This study was conducted from July to December 2015. A close-ended questionnaire was designed to collect information. The tool consisted questions on

socio-demographic profile including participant gender, age, education, marital status, wealth, ethnicity and foundation of the house. Hopkins Symptoms Checklist for anxiety and depression was used to assess the symptoms that an individual has to cope with the aftermath of the disaster. It correlates symptoms of anxiety and depression with four responses (absence, mild, moderate, and severe). Then, mean for every four responses were calculated and correlated with the level of anxiety and depression as per the Diagnostic and Statistical Manual (DSM IV) for the American Psychiatric Association.^[11] PTSD checklist-civilian version was used to find the level of PTSD in survivors. It includes 17 items with four responses (absence, mild, moderate, severe) which are according to the Diagnostic Statistical Manual (DSM-IV) for Mental Health. PTSD is one of the factors for suicidal ideation so it can be further investigated for the betterment of the survivors of Gorkha earthquake.^[12] Suicidal ideation question was also used to assess the presence of any suicidal ideation in survivors.

Data were entered and analyzed using SPSS with a meticulous data review. Frequency and percentage were computed for categorical variables. Each item of the scales was analyzed and based on their aggregate frequency, mean and percentage the prevalence of anxiety, depression, and PTSD were noted. After elucidating the aim of the study to the individuals both verbal and written consent was taken. Participants were not forced to take part and were allowed to withdraw from the study at any time during the study. The confidentiality of the collected information and participants was maintained.

RESULTS

Socio-demographic profile of the participants

The socio-demographic characteristic of the study participants is illustrated in Table 1. Among the participants, female (61.30%) participation was higher than that of the male. About half of population (47.19%) was of 18-60 age groups. Out of 320 participants, about one-tenth of the people (11.56%) were illiterate, while about two out of three people (65.32%) had received the primary and secondary level of education. Majority of people (66.80%) were married and approximately thirty percent (33.20%) were single (Unmarried, widow or Divorced). Approximately, one-third of population (32.80%) of this study was under poverty.

Table. 1: Socio-demographic profile of the participants.

Variables	Frequency	Percentage (%)
Gender		
Male	124	38.70
Female	196	61.30
Age		
Below 18	26	8.13
18-60	151	47.19
Above 60	143	44.69
Education		
Illiterate	37	11.56
Primary education	102	31.88
Secondary education	107	33.44
School Leaving Certificate	56	17.50
Higher secondary and above	18	5.63
Marital Status		
Unmarried	62	19.30
Married	214	66.80
Widow and Divorce	44	13.90
Ethnicity		
Brahmin	66	20.60
Chhetri	56	17.50
Magar	48	15
Newar	39	12.18
Gurung	49	15.31
Others	62	19.41
Wealth		
Poor	105	32.80
Average	157	49.06
Rich	58	18.14

Prevalence of mental health disorder among the participants: The overall prevalence of anxiety among the participants was found to be 21.18% as one out of five participants experienced some degree of anxiety. Furthermore, the severity of anxiety was found to range from mild, moderate and severe at 14.5%, 4.78%, and 1.9% respectively. In the case of depression, the prevalence of depression was reported to be at 21.09% with the mild depression at 13.46%, moderate at 5.5% and severe depression at 2.13%. Out of the total, 22.31% of the participants reported Post-traumatic stress disorder. The level of stress varies among participants as 16.76% experienced mild stress and 1.78% suffered severe stress. It was found that about one-sixth population (15.62%) wished to be dead off while 10.93% of participants had a tendency to harm themselves. The thought of suicide was present in about 12.18% of the participants. Interestingly, it was found that neither of participants have neither any suicidal plans, nor anyone has attempted suicide in their life. (Table 2).

Table. 2: Prevalence of mental health disorders among the participants.

Disorders	Level of severity	Percentage
Anxiety	Absence	78.81
	Mild	14.50
	Moderate	4.78
	Severe	1.90
Depression	Absence	78.91
	Mild	13.46
	Moderate	5.5
	Severe	2.13
PTSD	Absence	77.22
	Mild	16.76
	Moderate	3.77
	Severe	1.78
Suicidal ideation	Preference of death over life	15.62
	Tendency to self-harm	10.93
	The constant thought of suicide	12.18
	Suicidal attempt before the earthquake	0
	Attempt of Suicide after the earthquake	0

Prevalence of mental disorder among different socio-demographic characteristics

It was found that female survivors experienced more mental health-related problems than males. Furthermore, it was also noted that the elderly people were liable to these psychic disorders than other population. The higher prevalence rate of mental disorder was noted among participants with a lower level of education as compared to those with higher education. Similarly, married couples were found less affected by the earthquake as compared to the participants who were unmarried, widow or divorced. Likewise, participants who were at the poverty line were more affected than that of the rich.

Table. 3: Prevalence of mental disorder among different socio-demographic characteristics.

Variables	Anxiety (%)		Depression (%)		PTSD (%)	
	Yes	No	Yes	No	Yes	No
Gender						
Male	5.60	94.4	6.85	93.15	8.41	91.59
Female	15.58	84.42	14.24	85.76	13.90	86.10
Age						
Below 18	0.29	99.71	0.70	99.30	0.52	99.48
18-60	8.50	91.50	8.76	91.24	10.21	89.79
Above 60	12.39	87.61	11.63	88.37	11.58	88.42
Education						
Illiterate	6.21	93.79	6.89	93.11	6.99	93.01
Primary education	6.07	93.93	6.19	93.81	5.95	94.05
Secondary education	4.20	95.80	3.07	96.93	4.98	95.02
SLC	3.11	96.89	2.25	97.75	2.55	97.45

Higher secondary and above	1.58	98.42	2.68	97.32	1.85	98.15
Marital status						
Unmarried	6.81	93.19	8.08	91.92	7.56	92.44
Married	7.76	92.24	6.57	93.43	8.03	91.97
Widow and Divorce	6.61	93.39	6.42	93.58	6.72	93.28
Ethnicity						
Brahmin	2.91	97.09	2.46	97.54	2.78	97.22
Chhetri	5.53	94.47	4.71	95.29	5.21	94.79
Magar	3.69	96.31	4.78	95.22	4.93	95.07
Newar	3.63	96.37	4.80	95.20	4.19	95.81
Gurung	2.36	97.64	1.66	98.34	2.99	97.01
Others	3.06	96.94	2.68	97.32	2.20	97.80
Wealth						
Poor	9.58	90.42	8.76	91.24	10.83	89.17
Average	7.89	92.11	7.75	92.25	7.85	92.14
Rich	3.71	96.29	4.58	95.42	3.62	96.38

DISCUSSION

The catastrophe such as earthquake has been recorded to have both physical and mental distress over its survivors. The earthquake that hit Nepal in April of 2015 was a tragic calamity which deeply affected the Nepalese citizen both physically and mentally. Studies shows after the earthquake, the physical damages were counted and focused to heal the injured while the distressed mental well being of those who survived was less prioritized.^[3] Thus, this survey tried to discover the prevalence of anxiety, depression, PTSD and suicidal ideation among those survivors of Gorkha, Nepal. This survey illustrates that there is a higher prevalence of anxiety, depression and PTSD symptoms among survivors. It was found that one out of five people was suffering from psychic problems like anxiety, depression, and PTSD. The chaos that this debacle carries is definitely great for the people who lived largely uneventful lives. This finding is in line with the study conducted among the earthquake survivors in China.^[13] In this study, it was noted that the rate of occurrence of mental disorder was higher in females than that of the male which in line with various studies conducted among psychic disorder and gender.^[14,15] Similar findings were shared by another study conducted in Denmark where women were more likely to have PTSD than man.^[16] This might be because he females are more emotional and have less source of earning than that of the male which makes them more susceptible. Moreover, male hides their emotions when facing such debacle but females is not reluctant to hide their fear and grief.^[3] It has been seen that the extent of mental disorder is associated with the degree of exposure of the people to the disaster such as the extent of loss of lives and property. So at the hard-hit area, the occurrence of these mental disorders is more common as there is a huge loss of lives and

property.^[17] This study put lights on various mental disorders aftermath of a quake. As women are at high risk and should be considered more after the debacle. In Nepal, there is a lack of research work in the psychic stage of the individual after a disaster, hence appropriate research should be done after such a disaster and every citizen should be made aware of mental health.

CONCLUSION

This study reveals significant psychological disorders in the hard-hit area of Nepal earthquake. Also, it recognizes various risk factors like gender and degree of the disaster which are prone to mental disorders. In Nepal, the mental health of survivors is overshadowed by the physical destruction caused by earthquakes. Hence, it is suggested to focus on the mental health status of the people from hard-hit areas and to make significant planning and implementation regarding the mental disorder after the earthquake.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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