

ORIGINAL RESEARCH ARTICLE

PSYCHIATRIC CASENESS IN THE PERSON EXPOSED TO CIVIL WAR IN NEPAL

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**ABSTRACT**

**Background:** Civil war carries an enormous impact on psychological health of the population, but poorly understood. The objective of this study was to study the relationship between war exposure and psychiatric caseness.

**Methods:** This cross-sectional study was conducted in Jaimuni municipality of Baglung district of Nepal in 220 participants. The participants scoring more than or equal to 3 in the General Health Questionnaire-12 was labelled as "psychiatric caseness". The participants were then interviewed regarding their civil war exposure.

**Results:** The prevalence of psychiatric caseness was 47.7% in the war exposed samples. War exposed samples were found to be suffering from psychiatric caseness (47.7%) more often than non-exposed samples (28.4%) and there was a statistical significance between exposure to war and psychiatric caseness ( $p=0.005$ ).

**Conclusions:** There is a relationship between psychiatric caseness and war exposure in a statistical significant way. Future mental health policy of Nepal should address the mental health problems of war exposed population.

**INTRODUCTION**

The Civil War in Nepal was an armed conflict fought from 1996 to 2006 and claimed 13,227 lives, 1007 disappearances, 785 disabilities, 150,000 internal displacements, and undocumented burden of mental health problems.<sup>1-4</sup> The mental health as a consequence of traumatic events such as civil war has been recognized as a serious public health challenges around the world.<sup>5-8</sup> The association between war and mental health disorders were also recognized in western literatures.<sup>8,9</sup>

The studies on the psychological impact of civil war were generally carried out in other parts of the world,<sup>8-12</sup> and the studies conducted inside Nepal are very limited.<sup>13-15</sup> The studies conducted in Nepal were focused mainly on war-widows,<sup>13</sup> childrens,<sup>14</sup> and in the displaced persons.<sup>15</sup> The study detecting psychiatric caseness due to the impact of civil war exposure on the general populations of Nepal was lacking.

The objective of this study was to study the relationship between exposure to civil war and psychiatric caseness.

**METHODS**

This cross-sectional study was conducted from December 2018 to July 2019 in the Jaimuni municipality of the Baglung district of Nepal. The ethical clearance was taken before the start of the study from the institutional review committee of the Manipal College of Medical Sciences, Pokhara. The declaration of Helsinki was followed in this study.<sup>16</sup> The sample size was calculated by using the formula  $4pq/d^2$  (where;  $p$ =prevalence, 14%<sup>17</sup>;  $q$ = 100- $p$ , 86%;  $d$ = margin of error, 5%). The sample size according to this formula was 193. By adding twenty seven more sample (14% as non response rate), the final sample size was calculated to be 220. The sample of 220 respondents with age 20 years and above and who had given informed consent were included in the study by convenient sampling method. The respondents with family history of mental illness, who had acute medical or surgical conditions and who had not given informed consent were excluded. Face-to-face interview was done in a confidential environment.

The "psychiatric caseness" for the current study was detected in the respondents by interviewing with General Health Questionnaire-12 (GHQ-12). The GHQ-12 provides a distress score based on 12 questions relating to the symptoms of depression

and anxiety.<sup>18</sup> This questionnaire was well validated internationally<sup>19,20</sup> and the Nepali version of GHQ-12 have also been validated.<sup>21</sup> The operational definition of “psychiatric caseness” was defined in the present study as score equal to or more than 3 in GHQ-12 by “binary scoring” methods (0-0-1-1). The Cronbach’s alphas for internal consistency of the GHQ-12 were 0.88 in Nepal.

The operational definition of war exposure was similar to that used in prior studies.<sup>22-24</sup> Participants were considered exposed if they had directly experienced civil war. Participants were defined as not being exposed if they didn’t experienced civil war directly. Interviewer had to read the following statement to the participants: “I’m going to read descriptions of various kinds of violence and things related to violence done by the police, army, or other political groups that you may have directly experienced or witnessed. Do not give answer for things you have seen on television, radio, the news, or in the movies. Rely on real-life experiences only, as best as you can remember. For each description, let me know ‘yes’ if the event did happen to you or ‘no’ if the event did not happen to you.” This incorporated dimensions of trauma was as set out by Green (threat to life/limb; severe physical harm/injury; receipt of intentional harm/injury; exposure to the grotesque; violent/sudden loss of a loved one; witnessing/learning of violence to a loved one; causing death/severe harm to another).<sup>22-24</sup>

The statistical methods used in the present study were percentage, chi-square test and odds ratio. The statistical significance level for the present study was p value less than 0.05. The data was analyzed using Epi-info 7 version.

## RESULTS

Table 1 showed the frequency of psychiatric caseness of the war exposed respondents. Maximum prevalence of psychiatric caseness was observed in the participant’s age more than 50 years and in the male genders.

**Table 1: Frequency of psychiatric caseness of the war exposed respondents.**

Socio-demographic variables		Frequency No. (%)
Age Group (In Years)	20-29	8 (42.1)
	30-39	9 (40.1)
	40-49	8 (40.0)
	50-59	13 (65.0)
	60-69	2 (66.7)
	>70	1 (50.0)
Gender	Female	16 (38.1)
	Male	25 (56.8)
<b>TOTAL</b>		<b>41 (47.7)</b>

Table 2 showed the relationship between exposure to civil war and psychiatric caseness. In the current sample, frequency rate of psychiatric caseness was higher among exposure to civil war

sample (47.7%) than among non-exposed samples (28.4%) and the finding was statistically significant ( $p=0.005$ ). Exposure to war increases the odds for psychiatric caseness by the factor of 2.30 (95% CI: 1.30-4.05). The prevalence of war exposure in the current sample of the population was 39.1%.

**Table 2: Relationship between exposure to civil war and psychiatric caseness.**

Exposure	Psychiatric Caseness		Total No. (%)	$\chi^2$	p-value
	Yes No. (%)	No No. (%)			
Yes	41 (47.7)	45 (52.3)	86 (100)	7.67	0.005
No	38 (28.4)	96 (71.6)	134 (100)		
<b>TOTAL</b>	<b>79 (35.9)</b>	<b>141 (64.1)</b>	<b>220 (100)</b>		

## DISCUSSION

This was a community based study done in a 220 respondents to test the association between civil war exposure and psychiatric caseness.

The overall prevalence of exposure to war in the current sample of the population was 39.1%. The frequency of exposure to violence differed between countries (Algeria 92%, Cambodia 81%, Ethiopia 79%, Pelestine 59%).<sup>10</sup> One systemic review and meta-analysis found population prevalence of 21% which was recorded in 84 survey comprising 42626 samples.<sup>25</sup> Over 80% of the population is in conflict situation or has experienced such a situation in the twenty two countries of the Eastern Mediterranean region.<sup>26</sup> Epidemiological survey which was done on the civilian population in Sri Lanka found that only 6% of the study population had not experienced any war stresses.<sup>11</sup> The low proportion of exposure to civil war in the current study might be due to the fact that this study was done after twelve years of ceasefire agreement between Government of Nepal and the armed rebel groups.

The prevalence rate of psychiatric caseness was higher among exposed (47.7%) than among non-exposed population (28.4%) in the present study. The cross-sectional study done in the 358 war-widows in Nepal found high prevalence of depression (53%) and anxiety (63%).<sup>13</sup> Another study done in Nepal found that diagnosis of PTSD, depression and anxiety were significantly more in the tortured group than in the nontortured group.<sup>27</sup> The study done in four countries during post conflict setting found high prevalence of post traumatic stress disorder (37.4% in Algeria, 28.4% in Cambodia, 15.8% in Ethiopia, and 17.8% in Gaza).<sup>10</sup> A systemic review and meta-analysis found the rates of reported PTSD and depression with large intersurvey variability (0%-99% and 3%-85.5% respectively). The unadjusted weighted prevalence rate reported across all survey for PTSD was 30.6% and for depression in one study was 30.8%.<sup>25</sup> A cross-sectional study conducted in Lebanon found that psychological distress was present in 42.1% of the sample com-

pared to 27.8% among the control groups.<sup>12</sup> The study done in Sri Lanka found psychosocial sequelae in 64% of the population samples.<sup>11</sup> According to World Health Organization (WHO), in the situation of armed conflicts through the world, “10% of the people who experienced traumatic events will have serious mental health problems and another 10% will develop behavior that will hinder their ability to function effectively”.<sup>5</sup> This variation in prevalence rates across survey could be explained both by methodological factors and substantive risk factors.<sup>25</sup> The study also found that participants who were exposed to civil war in Nepal have higher risk of psychiatric caseness than non-exposed samples (Odds Ratio: 2.30; 95% CI: 1.30-4.05). This study showed statistical significant association between war exposure and psychiatric caseness. One study found that the risk ratio of any common mental disorder was 1.48 (Cambodia), 1.78 (Algeria), 3.33 (Ethiopia) and 3.56 (Palestine).<sup>10</sup> This finding was also supported by another study too.<sup>14,28,29</sup>

The study has few limitations. The study was conducted almost after twelve years of ceasefire between government and rebel groups. Therefore, the history of exposure to civil conflict might be affected by recall error or bias in the present study.

The exposure to civil conflict was also self-reported by the respondents and could not be validated independently. The interviewer was also not blinded to the exposure status of the participants. Despite these limitations, the statistical significance between exposed sample and psychiatric caseness was noteworthy.

## CONCLUSION

There is a significant relationship between the war exposure and psychiatric caseness in the current sample. The finding of this study will help in future to take appropriate public health choice for the people exposed with civil war in Nepal. The patient screened for psychiatric caseness should be evaluated in details by formal diagnostic methods and should be treated.

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