Psychiatric Disorders Among Tortured Bhutanese Refugees in Nepal

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Background: The impact of torture on the distribution of psychiatric disorders among refugees is unknown.

Methods: We surveyed a population-based sample of 418 tortured and 392 nontortured Bhutanese refugees living in camps in Nepal. Trained interviewers assessed International Classification of Diseases, 10th Revision (ICD-10) disorders through structured diagnostic psychiatric interviews.

Results: Except for male sex, history of torture was not associated with demographics. Tortured refugees, compared with nontortured refugees, were more likely to report 12-month ICD-10 posttraumatic stress disorder, persistent somatoform pain disorder, and dissociative (amnesia and conversion) disorders. In addition, tortured refugees were more likely to report lifetime posttraumatic stress disorder, persistent somatoform pain disorder, affective disorder, generalized anxiety disorder, and dissociative (amnesia and conversion) disorders. Tortured women, compared with tortured men, were more likely to report lifetime generalized anxiety disorder, persistent somatoform pain disorder, affective disorder, and dissociative (amnesia and conversion) disorders.

Conclusions: Among Bhutanese refugees, the survivors had higher lifetime and 12-month rates of ICD-10 psychiatric disorder. Men were more likely to report torture, but tortured women were more likely to report certain disorders. The results indicate the increased need for attention to the mental health of refugees, specifically posttraumatic stress disorder, persistent somatoform pain disorder, and dissociative (amnesia and conversion) disorders among those reporting torture.

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Since 1990, Nepal has received more than 100,000 Bhutanese refugees. These Nepali-speaking refugees are descendants from Nepali migrants who were invited to settle in Bhutan several generations ago. The refugees left Bhutan because of persecution and torture by the Bhutanese government’s security services. The autocratic government likely felt threatened by the country’s growing Nepali-speaking population and the launch of a democracy movement.1-3

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The literature on refugee mental health has been limited in that most studies of refugees have involved samples with participants who found refuge in the West.4-9 These studies have indicated that symptoms of posttraumatic stress disorder (PTSD), depression, and anxiety, as well as somatic complaints, are common.5,8,10-13 However, the results may not necessarily generalize to the more than 70%16 of the world’s refugees living in low-income countries, where refugees experience different problems with respect to hazards, deprivation,17 and acculturation.18,19 Representative data on mental disorder are rarely available. The only previous population-based study20 of adult refugees outside the West identified high levels of anxiety and depression among Cambodian refugees, which is consistent with refugee studies5,8 conducted in the West. More work needs to be conducted in sites where most of the world’s refugees live.5,6,9 Similarly, the study of the impact of torture on refugees has been limited because of lack of access to population-based samples. Obtaining access to representative samples of torture survivors has been difficult.21

In 1995, researchers conducted the only population-based survey of torture survivors thus far.22 Comparisons between 526 tortured and 526 matched nontortured Bhutanese refugees displaced in Nepal indicated torture as a risk factor for elevated levels of anxiety and depression symptoms and for PTSD. However, this
PARTICIPANTS AND METHODS

PARTICIPANTS

The sample frame consisted of 526 tortured and 526 non-tortured Bhutanese refugees who had previously been interviewed in 1995. The tortured refugees had been randomly sampled from a list, consisting of registered physically tortured Bhutanese refugees living among the 85,078 Bhutanese refugees in refugee camps in Nepal. The list had been created by the community-based Center for Victims of Torture, Nepal, between 1991 and 1994. In cooperation with political parties, human rights organizations, collaborating agencies, and a hut-to-hut survey, the center’s refugee staff identified and registered 2,331 Bhutanese refugees who reported a history of physical torture. Physical torture, consistent with the World Medical Association’s definition, was defined as deliberate, systematic, or wanton infliction of physical suffering by 1 or more persons acting alone or on the orders of any authority to yield information, to make a confession, or for any other reason. As the identification process included a hut-to-hut survey, it is likely that virtually all survivors of physical torture in the camps were included. Nevertheless, because of cultural stigma associated with rape, not all female torture survivors may have registered themselves. The non-tortured comparison participants were refugees living in the same camps and were neighbors of the tortured participants. Tortured and non-tortured refugees were matched on age and sex. Matching on sex was exact. Ten years’ difference was accepted as an age match. In 1995, the 2 groups had, on average, the same age (mean age, 41 years).

Of 1,052 refugees in our sampling frame, we were able to approach 946 (89.9%) between March 20, 1997, and July 31, 1997, the latest date we had permission to collect these data. Of 946 approached refugees, 879 (92.9%) were interviewed, 32 (3.4%) refused, 20 (2.1%) were away from camp, 4 (0.4%) were not found, 3 (0.3%) had died, and 6 (0.6%) were too disabled by mental or physical illness to attend the interview. Of 879 interviewed refugees, 20 interviews (2.3%) were not completed because of mental status problems or deafness. Moreover, 49 completed interviews (5.6%) were discarded because the interviewees had not been in the sample frame and had been approached and interviewed by mistake. The remaining 810 participants included 418 tortured and 392 nontortured refugees.

ASSESSMENT

The battery of instruments included specific phobias and affective, generalized anxiety, persistent somatoform pain, posttraumatic stress, and dissociative (amnesia and conversion) disorder modules of the Composite International Diagnostic Interview (CIDI). The CIDI assesses Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) and ICD-10 diagnoses. We report ICD-10 disorders because the ICD-10, in contrast to the DSM-IV, has been specifically developed for international use. For each disorder, the CIDI elicits the time of first and last occurrence, allowing for the determination of lifetime and 12-month disorder.

The CIDI covers ICD-10 dissociative amnesia, dissociative motor disorder, dissociative convulsions, and dissociative anesthesia and sensory loss. The latter 3 disorders are parallel to DSM-IV conversion disorder with motor symptom or deficit, conversion disorder with seizures or convulsions, and conversion disorder with sensory symptom or deficit, respectively. In contrast to DSM-IV, ICD-10 categorizes these 3 conversion disorders as dissociative disorders. The CIDI covers neither fugue nor dissociative identity disorder. The ICD-10 dissociative motor disorder pertains to loss of coordination of voluntary muscle movement, including paralysis, loss of voice, and the ability to stand unaided.

Clinical experience and narrative interviews had indicated the relevance of studying medically unexplained pain. The ICD-10 persistent somatoform pain disorder, as measured by the CIDI, pertains to serious, medically unexplained, physical pain causing a great deal of distress for at least 6 months. The CIDI affective disorders module covers ICD-10 mild, moderate, and severe depressive episodes and dysthymia. We did not include the CIDI mania module. We defined the scope of generalized anxiety disorder (GAD) to include worries related to daily refugee life, such as realistic concerns about well-being of family in the camps, lost property, well-being of relatives in Bhutan, and an uncertain future.

The CIDI PTSD module includes a checklist of traumatic events. The PTSD criteria were evaluated for the most stressful or upsetting event reported. We relaxed the ICD-10 criteria for PTSD to include those with a delayed onset, ie, onset of symptoms more than 6 months after the event.

The interview included 5 questions about separation experienced before age 13 years, covering death of mother, death of father, parental separation or divorce, living alone, and living with relatives other than parents. Early separation was operationalized as scoring positive on at least 1 of these 5 questions. The first section of the Harvard Trauma Questionnaire, a section designed to assess trauma among Southeast Asian refugees, measured the number of childhood traumatic events (range, 0-16) before age 13. Mental disease in the family was operationalized as the number of endorsements of 5 dichotomous questions (range, 0-5) covering mental disease in the family. On the basis of a brief medical investigation, the physician assessed the presence of significant current and past disease, including diabetes, hypertension, heart disease, head injury, meningitis, encephalitis, and history of thyroid functioning.

survey was limited in scope, focusing on few variables and on symptoms of disorders rather than on a range of diagnosed disorders. Because of the unique research opportunities inherent in this representative sample of torture survivors, we decided to further interview the participants to study a range of International Classification of Diseases, 10th Revision (ICD-10) disorders with correlates.

We address 3 questions. First, is history of reporting torture associated with certain demographic correlates? Demographic correlates might indirectly affect the distribution of psychiatric disorders among tortured and nontortured refugees, by increasing the chances of exposure to torture. Depending on the reasons for torture, perpetrators of torture may target specific groups of people. Moreover, exposure to different traumatic events has been shown to be associated with certain individual characteristics, such as sex and ethnicity.

Second, what psychiatric disorders are likely sequelae of torture in this refugee population? Studies have shown that psychiatric disorders are common among tortured refugees, but the specific disorders and their prevalence vary depending on the context and severity of the torture.

Third, do torture survivors exhibit a unique profile of psychiatric disorders, as compared to nontortured refugees? This question is important because it may help identify high-risk groups for intervention and treatment. The profile of psychiatric disorders in torture survivors may differ from that in the general population, and interventions designed for torture survivors may need to be tailored to address their specific needs.
have indicated there are increased symptoms of disorder among tortured refugees but have not evaluated disorders as such. In the only previous controlled study of disorders among torture survivors, Basoglu and colleagues reported significantly more PTSD diagnoses among a selected sample of 55 tortured Turkish political activists than among the matched comparison group. The 2 groups did not differ in terms of prevalence of anxiety or affective disorders. However, pain and dissociative disorders were not assessed.
The organization had provided medical and psychosocial care to more than 1200 Bhutanese torture survivors for 6 years and had completed a narrative study, focus groups, a case-control survey, and a survey of local idioms of distress.22,30

**RESULTS**

Details on the torture have been previously published.22 In brief, the mean ± SD duration of torture was 21.4 ± 8.3 days (range, 1-1095 days). Ninety percent of physically tortured respondents also reported torture that did not involve the body. More than 50% reported severe beatings (97.1%), threats (89.0%), humiliations (79.2%), forced incongruent acts (66.3%), social isolation (54.3%), sleep deprivation (52.2%), or hygiene deprivation (51.9%).

Incongruent acts are acts that violate local religious norms (eg, eating beef).

**TORTURE STATUS**

The present data were collected a mean ± SD of 6.0 ± 0.9 years (range, 3-11 years) after the torture. Tortured and nontortured refugee groups were similar in terms of age, sex, marital status, employment status, years of schooling, early separation, childhood trauma, and mental illness in the family (Table 1). Tortured refugees had had somewhat higher family incomes in Bhutan. Nontortured refugees who had had better access to treatment facilities in the camps30 were less likely to suffer from current or past disease.

We performed logistic regression analysis on having a history of torture, with family income in Bhutan, religion, early separation, membership in a political or human rights organization in Bhutan, childhood trauma, and mental illness in the family as predictors. Age and sex were also entered but were not expected to be significant because the sample was drawn from groups matched on age and sex. The results revealed no significant predictors ($P > .05$). Among these nonsignificant predictors, family income in Bhutan ($P = .09$) was the most significant. Nevertheless, torture status among the Bhutanese is significantly associated with sex because 76.8% of the population-based sample frame of torture survivors were men ($\chi^2_{1}=151.2$, $P < .001$).22 In short, other than male sex, torture status was not associated with assessed demographics.

**PSYCHIATRIC DISORDERS**

Multivariate analyses of covariance indicated that torture status was associated with lifetime and 12-month disorder. The general profile of disorders was significantly affected not only by torture status ($F_{6,801}=88.5$, $P < .001$) but also by the combined covariates of age and sex ($F_{12,1602}=9.1$, $P < .001$). The analysis was repeated for 12-month disorders, with similar results ($F_{6,801}=44.6$, $P < .001$ and $F_{12,1602}=7.5$, $P < .001$; respectively).

Risk ratios showed that tortured refugees, compared with nontortured refugees, were more likely to have 12-month posttraumatic stress, dissociative, and persistent somatoform pain disorders (Table 2). In addition,

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**Table 1. Univariate Comparisons Between Tortured and Nontortured Bhutanese Refugees**

<table>
<thead>
<tr>
<th>Variable</th>
<th>No.</th>
<th>Tortured (n = 418)</th>
<th>Nontortured (n = 392)</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>810</td>
<td>324 (77.5)</td>
<td>292 (74.5)</td>
<td>1.0</td>
<td>1</td>
<td>.31</td>
</tr>
<tr>
<td>Female</td>
<td>94</td>
<td>94 (22.5)</td>
<td>100 (25.5)</td>
<td>1.0</td>
<td>1</td>
<td>.31</td>
</tr>
<tr>
<td>Religion</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>810</td>
<td>349 (83.5)</td>
<td>298 (76.0)</td>
<td>7.0</td>
<td>1</td>
<td>.008</td>
</tr>
<tr>
<td>Buddhist</td>
<td>48</td>
<td>48 (11.5)</td>
<td>73 (18.6)</td>
<td>8.1</td>
<td>1</td>
<td>.004</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>21 (5.0)</td>
<td>21 (5.4)</td>
<td>0.0</td>
<td>1</td>
<td>.83</td>
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<tr>
<td>Lives without spouse</td>
<td>810</td>
<td>42 (10.0)</td>
<td>45 (11.5)</td>
<td>0.4</td>
<td>1</td>
<td>.51</td>
</tr>
<tr>
<td>Unemployed</td>
<td>810</td>
<td>367 (92.6)</td>
<td>365 (93.1)</td>
<td>0.1</td>
<td>1</td>
<td>.77</td>
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<td>Current disease*</td>
<td>810</td>
<td>113 (27.0)</td>
<td>145 (37.0)</td>
<td>9.2</td>
<td>1</td>
<td>.002</td>
</tr>
<tr>
<td>Past disease*</td>
<td>810</td>
<td>107 (25.6)</td>
<td>120 (30.6)</td>
<td>2.5</td>
<td>1</td>
<td>.11</td>
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<tr>
<td>Separated from family at &lt;13 y of age</td>
<td>523</td>
<td>235 (75)</td>
<td>157 (76)</td>
<td>0.1</td>
<td>1</td>
<td>.92</td>
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</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>No.</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>t</th>
<th>df</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, y</td>
<td>810</td>
<td>44.5 (12.4)</td>
<td>44.1 (12.6)</td>
<td>0.5</td>
<td>808</td>
<td>.60</td>
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<tr>
<td>Family income in Bhutan (1 = low; 4 = very high)</td>
<td>810</td>
<td>2.3 (0.6)</td>
<td>2.2 (0.6)</td>
<td>2.4</td>
<td>808</td>
<td>.01</td>
</tr>
<tr>
<td>Schooling, y</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Men</td>
<td>616</td>
<td>2.1 (3.2)</td>
<td>1.9 (2.9)</td>
<td>0.7</td>
<td>614</td>
<td>.52</td>
</tr>
<tr>
<td>Women</td>
<td>194</td>
<td>0.2 (0.9)</td>
<td>0.4 (1.5)</td>
<td>−1.3†</td>
<td>164.9†</td>
<td>.21</td>
</tr>
<tr>
<td>Time since leaving Bhutan, y</td>
<td>810</td>
<td>5.4 (0.7)</td>
<td>5.5 (0.6)</td>
<td>−2.1</td>
<td>808</td>
<td>.02</td>
</tr>
<tr>
<td>No. of childhood traumatic events</td>
<td>523</td>
<td>1.3 (1.4)</td>
<td>1.4 (1.4)</td>
<td>−0.7</td>
<td>521</td>
<td>.48</td>
</tr>
<tr>
<td>Mental disease in family‡</td>
<td>523</td>
<td>0.1 (0.3)</td>
<td>0.1 (0.4)</td>
<td>0.2</td>
<td>521</td>
<td>.84</td>
</tr>
</tbody>
</table>

*Current and past diseases were operationalized as presence of, respectively, significant current and past disease, assessed during a brief medical investigation.
†t Test for equality of means with unequal variances because the variances of means differed.
‡Mental disease in the family was operationalized as the number of endorsements of 5 dichotomous questions covering mental disease in the family (range, 0-5).
tortured refugees were more likely to have had posttraumatic stress, dissociative, persistent somatoform pain, affective, and generalized anxiety disorders at some point in their lives.

The most frequent reported lifetime disorder among torture survivors was PTSD. Approximately 3 of 4 tortured refugees had this disorder at some point in their lives. More than 4 of every 10 tortured refugees had PTSD within the year before the interview. Among 365 refugees with lifetime PTSD, only 9 (2.5%) reported an onset of symptoms that was more than 6 months after the event. Onset of PTSD was always within 2 years of the event.

More than half of the tortured refugees reported a lifetime history of persistent somatoform pain disorder. In contrast, among nontortured refugees, only 1 of 4 reported this lifetime disorder. Lifetime dissociative disorder was common among tortured refugees (19.4%) but not among nontortured refugees (4.6%). The 12-month prevalence rates of persistent somatoform pain disorder and dissociative disorder were similar to the lifetime rates, indicating that these were chronic disorders. The lifetime rates of affective disorder and GAD were higher among tortured refugees (35.6% and 20.6%, respectively) than among nontortured refugees (15.6% and 12.5%). However, 12-month affective disorder and GAD rates were much lower for tortured and nontortured refugees, indicating remission.

Approximately 5 of 6 tortured refugees had at least 1 lifetime disorder, and 3 of 4 had at least one 12-month disorder. In contrast, more than half of nontortured refugees had a lifetime disorder within their life, and almost half had a 12-month disorder.

With respect to comorbidity (Table 3), approximately three quarters of the tortured and nontortured refugees with lifetime PTSD reported a comorbid disorder. Torted refugees with lifetime PTSD, compared with tortured refugees without lifetime PTSD, were more likely
Table 4. Demographic Correlates of Lifetime ICD-10 Psychiatric Disorders Among 418 Tortured Bhutanese Refugees*

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>PTSD</th>
<th>Dissociative Disorder</th>
<th>Persistent Pain Disorder</th>
<th>Affective Disorder</th>
<th>GAD</th>
<th>Specific Phobia</th>
<th>Any Disorder</th>
</tr>
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<tbody>
<tr>
<td>Total sample</td>
<td>418</td>
<td>73.7</td>
<td>19.4</td>
<td>56.2</td>
<td>35.6</td>
<td>20.6</td>
<td>23.2</td>
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<tr>
<td>Sex</td>
<td></td>
<td></td>
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<tr>
<td>Male</td>
<td>324</td>
<td>71.3</td>
<td>16.7</td>
<td>52.8</td>
<td>28.7</td>
<td>13.9</td>
<td>20.7</td>
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<tr>
<td>Female</td>
<td>94</td>
<td>81.9</td>
<td>28.7†</td>
<td>68.1†</td>
<td>59.6†</td>
<td>43.6†</td>
<td>31.9</td>
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<tr>
<td>Age, y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>21-35</td>
<td>119</td>
<td>73.9</td>
<td>18.5</td>
<td>47.9</td>
<td>36.1</td>
<td>16.0</td>
<td>26.1</td>
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<tr>
<td>36-54</td>
<td>207</td>
<td>71.5</td>
<td>19.8</td>
<td>58.0</td>
<td>37.2</td>
<td>24.6</td>
<td>20.3</td>
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<tr>
<td>55-85</td>
<td>92</td>
<td>78.3</td>
<td>19.6</td>
<td>63.0</td>
<td>31.5</td>
<td>17.4</td>
<td>26.1</td>
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<td>Religion‡</td>
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<tr>
<td>Hindu</td>
<td>349</td>
<td>75.4</td>
<td>20.1</td>
<td>58.7</td>
<td>37.5</td>
<td>22.6</td>
<td>23.5</td>
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<tr>
<td>Buddhist</td>
<td>48</td>
<td>62.5</td>
<td>14.6</td>
<td>47.9</td>
<td>27.1</td>
<td>8.3†</td>
<td>20.8</td>
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<td>Marital status</td>
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<tr>
<td>Lives with spouse</td>
<td>376</td>
<td>72.3</td>
<td>19.1</td>
<td>55.1</td>
<td>33.8</td>
<td>18.1</td>
<td>21.0</td>
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<td>Lives without spouse</td>
<td>42</td>
<td>85.7</td>
<td>21.4</td>
<td>66.7</td>
<td>52.4</td>
<td>42.9†</td>
<td>42.9†</td>
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<td>Employment status</td>
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<td>Unemployed</td>
<td>387</td>
<td>74.2</td>
<td>19.4</td>
<td>56.3</td>
<td>35.1</td>
<td>20.4</td>
<td>23.0</td>
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<tr>
<td>Employed</td>
<td>31</td>
<td>67.7</td>
<td>19.4</td>
<td>54.8</td>
<td>41.9</td>
<td>22.6</td>
<td>25.8</td>
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<td>Preflight family income</td>
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<tr>
<td>Low</td>
<td>17</td>
<td>47.1</td>
<td>11.8</td>
<td>47.1</td>
<td>29.4</td>
<td>5.9</td>
<td>17.6</td>
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<tr>
<td>Average</td>
<td>273</td>
<td>73.3</td>
<td>19.8</td>
<td>57.5</td>
<td>33.7</td>
<td>17.9</td>
<td>24.5</td>
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<tr>
<td>High or very high</td>
<td>128</td>
<td>78.1</td>
<td>19.5</td>
<td>54.7</td>
<td>40.6</td>
<td>28.1</td>
<td>21.1</td>
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<td>Education, y</td>
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<tr>
<td>0</td>
<td>284</td>
<td>76.9</td>
<td>21.1</td>
<td>57.0</td>
<td>38.0</td>
<td>22.9</td>
<td>25.4</td>
</tr>
<tr>
<td>1-15</td>
<td>134</td>
<td>79.9</td>
<td>15.7</td>
<td>54.5</td>
<td>30.6</td>
<td>15.7</td>
<td>18.7</td>
</tr>
</tbody>
</table>

*Data are given as percentages unless otherwise indicated. The displayed percentages are raw percentages, indicating the percentage of survivors with a given demographic variable that have a certain psychiatric disorder. PTSD indicates posttraumatic stress disorder; GAD, generalized anxiety disorder.
†Significant according to χ² test, with degrees of freedom equal to number of demographic variable levels minus 1. Considering the high number of comparisons, statistical significance was set at .01 to reduce chance significance.
‡Analyses exclude religions other than Hinduism and Buddhism.

to report each of the assessed disorders. Moreover, non-
tortured refugees with lifetime PTSD, compared with non-
tortured refugees without lifetime PTSD, were more likely
to report affective disorder and simple phobia.

Demographic correlates of the different disorders
among torture survivors are shown in Table 4. Tor-
tured female refugees, compared with tortured male refu-
gees, were at higher risk for most disorders. Survivors
living without a spouse (eg, being single, living sepa-
rated, or widowed) had more GAD and specific phobia.

COMMENT

In this population-based sample of tortured Bhutanese
refugees, male sex was identified as the only demo-
graphic predictor of reporting a history of torture. Other
demographics (including membership in a political or
human rights organization in Bhutan) did not predict tor-
ture status. Among the Nepali-speaking Bhutanese refu-
gees from southern Bhutan, torture occurred across de-
ographic groups.

Multivariate analyses of covariance showed an as-
SSociation between torture and psychiatric disorder. Risk
ratios showed that each of the assessed disorders, ex-
ccept specific phobias, occurred more likely in the life-
time of a tortured refugee than it did in the lifetime of a non-
tortured refugee. Affective disorder and GAD were
common lifetime disorders, but their much lower 12-
month prevalence rates indicate that these disorders fre-
quently remitted over time. With respect to 12-month

disorders, tortured refugees were much more likely to
report PTSD, dissociative (amnesia and conversion) dis-
orders, and persistent somatoform pain disorder.

We found that 5 of every 6 tortured refugees had a
lifetime disorder, and we noted a high rate of PTSD among
tortured refugees. This is not inconsistent with data from
the National Comorbidity Survey. In this US community
survey, about half of all rape survivors reported a lifetime
history of PTSD. Torture, frequently involving the unspeakable, may be even more traumatic. The preva-
ience (14.5%) of lifetime PTSD among nontortured Bhu-
tanese refugees was almost twice the rate reported by
Americans in the National Comorbidity Survey. High
PTSD rates among nontortured refugees may be ex-
plained by refugees’ increased risk of exposure to life-
threatening events, other than torture. The high rates of
dissociative (amnesia and conversion) disorders among
 tortured refugees are consistent with theory and re-
search relating trauma and dissociation and underscore
the relevance of assessing amnesia and conversion
in studies on the consequences of extreme stress.

More than half (56%) of the nontortured refugees
reported a lifetime disorder. Similarly, 2 large commu-
nity surveys conducted in the US, the National Comor-
bidity Survey and the Epidemiological Catchment Area
study, have identified high rates of lifetime mental disor-
der among adults younger than 55 years (48% and 47%,
respectively). Such high rates of disorder are of con-
cern for health care planning. However, diagnosis and
need for treatment are not necessarily the same.
survey did not seek to identify severe mental disorder requiring immediate treatment. Nevertheless, the high rates of disorder in the Bhutanese refugee community argue for the presence of quality mental health services. Such services are typically not present in refugee camps.

Tortured and nontortured Bhutanese refugees experienced much medically unexplained pain, as is evident from the observed rates of persistent somatoform pain disorder. Further research is needed to assess whether and to what extent this unexplained pain results from physical or psychiatric disorders or from direct exposure to physical or mental trauma. The observed comorbidity between persistent somatoform pain disorder and PTSD among the tortured is consistent with previous research, noting a relation between medically unexplained somatic complaints and PTSD. Clinical experience suggests that these unexplained complaints are associated with mistaken beliefs in a damaged body. The frequent reporting of somatic pain and somatoform symptoms of dissociation may also be related to response styles, inflating prevalence rates. For example, some of these symptoms may cover or tap into local idioms of expressing distress.

We investigated demographic correlates of disorder among torture survivors. The finding that female torture survivors have more likely experienced a range of disorders not only is consistent with previous research indicating that women are at greater risk of affective and anxiety disorders but also may be an indication of sociocultural stressors associated with being a woman in South Asia. The finding that tortured Bhutanese refugees in intact marriages are less likely to have had anxiety disorders is consistent with research showing that Southeast Asian refugees in intact marriages have less depressive affect and neuroticism.

This survey has the following strengths and weaknesses. Even though the generalizability of findings beyond the specific context is unknown, a strength of the survey is that it involved a large population-based sample of tortured refugees living in a non-Western setting. Moreover, the comparison group, drawn from the same refugee camp population, was similar in terms of demography and refugee status, although theoretically the groups may have differed on variables not assessed. In contrast to other studies, we investigated a broad range of disorders through a structured psychiatric interview. Yet, determination of torture status was based on self-report, and retrospective assessment several years after the persecution may have led to underreporting of forgotten events and disorders. Furthermore, the validity of the various CIDI diagnoses is still under investigation. The WHO is investigating the comparability of diagnoses in different cultures assessed according to the ICD and DSM diagnostic systems using the Schedules for Clinical Assessment in Neuropsychiatry and the CIDI. Preliminary results indicate that the outcome factor structure does not vary significantly across groups (Chris Nelson, PhD, WHO CIDI, written communication, April 7, 1999), suggesting construct validity of diagnoses.

This present survey indicates a greater risk for 12-month ICD-10 PTSD than did our first survey of DSM-III-R PTSD among torture survivors, using data primarily from the same refugee group. The 2 surveys, however, are not entirely comparable. The CIDI PTSD module, used in the present survey, may overestimate 12-month PTSD. In CIDI research, if respondents with lifetime PTSD report having had any PTSD symptoms within the last 12 months, they are diagnosed as having 12-month PTSD, possibly inflating the observed 12-month prevalence rate and risk ratio. Data of the first survey were collected in the refugees’ own huts, possibly in the presence of other refugees, which may have resulted in an underestimate.

In contrast, the present survey was conducted in a confidential environment. During the first survey, the preparation of the PTSD questions in Nepali involved lexical translation and testing only. For the second survey, we developed and applied a methodical approach to translation involving focus groups and blind-back translation. As we have shown elsewhere, this approach provides a more understandable and equivalent translation.

Our data inform about clinical disorders that require more professional attention. Although there is increasing evidence of the efficacy of treatments for PTSD, the literature does not yet indicate effective treatment for torture survivors with ICD-10 persistent somatoform pain and dissociative (amnesia and conversion) disorders. Service delivery efforts and treatment outcome research should be augmented to target these disorders to improve care of tortured refugees.

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drops further rather than continue treatment with the medication with close observation. This is critically important in treatment-resistant patients who may respond to few medications, or who are violent when psychotic. Platelet and WBC counts may not completely normalize but may stabilize enough to safely continue treating the patient with the antipsychotic medication.

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