Disability Associated With Psychiatric Symptoms Among Torture Survivors in Rural Nepal

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Abstract: Our objective was to explore the relationships between psychiatric symptom categories (posttraumatic stress disorder (PTSD), anxiety, and depression) and disability among torture survivors. We conducted a cross-sectional study of help-seeking torture survivors in highly affected conflict areas in rural mid-Western Nepal, using rating scales to assess symptomatology and disability.

Validated screening instruments for the Nepali setting revealed that a high amount of psychopathology was present. Exploration of the relationships between psychiatric symptomatology and disability showed a central role for PTSD and anxiety complaints, but not for depressive complaints. A recursive model in which PTSD has (a) a direct relationship with disability and (b) an indirect relationship with disability mediated by anxiety and depression best fits the data. Findings are consistent with research on tortured refugees, suggesting the importance of a PTSD–anxiety mechanism. Implications for refugees in Western settings are discussed. Complexity of the mental status of torture survivors indicates multidisciplinary treatment.

Key Words: Nepal, torture, disability, PTSD, depression, anxiety.

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The practice of torture is a widespread international phenomenon (Amnesty International, 2006; Human Rights Watch, 2006) and studying the psychiatric consequences of torture is a relatively new field of science (Mollica and Caspi-Yavin, 1992). Commonly, psychiatric consequences of torture are framed in terms of the Diagnostic Statistical Manual (DSM-IV; American Psychiatric Association, 1994) or the International Classification of Diseases (ICD-10; World Health Organization, 1990) classification systems and measurement of psychiatric disorders has generally been done with various rating scales (Willis and Gonzalez, 1998) that mostly do not include questions on disability and daily functioning.

Research on disability, in our opinion, is important for 2 main reasons: (a) it can provide valuable data for treatment planning and secondary prevention, and (b) research on disability can provide valuable information on the clinical relevance of psychiatric constructs, especially in settings where the validity of Western psychiatric classification systems is unsure (e.g., Nepal, Bracken et al., 1995; Kagee and Naidoo, 2004).

Research on torture and disability is scarce, and has mostly been done in refugee populations (Mollica et al., 1999, Mollica et al., 2001; Momartin et al., 2003; Thapa et al., 2003). From this refugee research, 2 tentative conclusions might be drawn: (a) for nontortured refugees comorbid posttraumatic stress disorder (PTSD) and depression symptom categories are most relevant with respect to disability but not PTSD, and (b) refugees who have been tortured do not seem to show more disability than refugees who have not been tortured, but different predictors for disability and different psychiatric symptoms are found among these groups. Furthermore, research on refugee populations has shown that refugee status, including flight experience, poor housing in a new host context, and living in a new cultural context, can itself be a stressor affecting mental wellbeing and cause disability (Silove et al., 1997; Steel et al., 1999; Laban et al., 2004, 2005). It thus becomes important to explore the relationship between mental health and disability with nonrefugee torture survivors.

Mollica et al. (1999) have not specifically reported the relationships between PTSD, depression, and disability findings with torture survivors but have found no difference in amount of disability among Bosnian nontortured refugees and tortured refugees in camps in former Yugoslavia. Likewise, Thapa and colleagues (2003) found no difference in the amount of disability among tortured and nontortured Bhutanese refugees in refugee camps in southwestern Nepal, but different predictors were related to disability in both groups, and the groups had different psychiatric symptoms.

In a follow-up report on the Mollica et al. (1999) study, the prevalence of single PTSD diagnoses was so low that relationships between PTSD and disability were not reported. Comorbid PTSD and depression, however, were significantly related to disability. Single PTSD was unlikely to be chronic unless it was comorbid with depression, pointing at the

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relevance of PTSD and depression comorbidity, but not that of PTSD alone (Mollica et al., 2001). Similar findings were reported by Momartin et al. (2003), who studied Bosnian refugees resettled in Australia. They found that those with comorbid PTSD and depression showed higher disability on all indices than did a pure PTSD group.

In summary, in light of the current debate on the relevance of psychiatric disorders like PTSD in non-Western cultures and among torture populations (Turner et al., 2003; de Jong, 2005; Kagee and Naidoo, 2004), organizations and institutions providing mental health services to human-rights abused would benefit from more knowledge on the relationship between psychiatric symptomatology and disability. The role of culture does not only concern the phenomenology of psychiatric constructs but most probably extends to the experienced burden of mental health problems. Knowledge of disability could play a role in directing the development of mental health policy and care for torture survivors by informing the allocation of scarce resources to individuals most in need of, and most likely to use, mental health services (i.e., those with significantly impaired functioning).

The current study's objective was to explore the relationships of PTSD, anxiety, and depression on the one hand, with disability on the other hand, in a help-seeking sample of torture survivors in remote areas of Nepal. Our hypothesis was that because of the different nature of experienced stressors between (refugee) torture survivors and nontortured refugees, disability in our sample would be mediated by different variables than those reported for nontortured refugees.

METHODS

Participants and Setting

The study group consisted of a help-seeking torture survivor population visiting mobile health clinics, organized by the Centre for Victims of Torture (CVICT, a nongovernmental organization specializing in providing care to torture survivors) in 4 midwestern districts (Jajarkot, Rukum, Rolpa, and Salyan) in Nepal between July and November 2001. These districts are highly affected by armed conflict and are considered the base areas of Maoist insurgents. The Communist Party of Nepal (Maoists; CPNM), commonly called Maoists, launched an armed struggle in 1996 out of dissatisfaction with political developments. This struggle mainly followed Maoist military strategy and was focused on controlling the countryside at the time of research (Thapa and Sijapati, 2003). At the time of data collection, a governmental emergency phase was in place, curtailing civilian rights. At the time of this report, a ceasefire agreement had been signed between the government and the CPNM.

Preparation of these mobile clinics consisted of identification of sites where torture was rampant through collected newspaper clippings and subsequent visits to these areas to verify incidents of torture and request approval from both warring parties. Local organizations affiliated with the Informal Sector Service Center, INSEC (a partner of CVICT), which has representatives in all districts, were asked to identify torture victims and invite them to the mobile clinics. These representatives are highly aware of the situation of the villagers, mainly because of the high level of social control in Nepal, and were therefore expected to accurately detect possible torture survivors in their communities. Selection criteria, based on our definition of torture (torture is defined by CVICT as "the infliction of severe mental or physical suffering by the state's law enforcing institutions or armed oppositions, for any reason, on a person under the physical control of the perpetrator," which is based on the definition by the World Medical Association in 1975, with the inclusion of armed oppositions) were clearly stated to the participating organizations. The mobile clinics provide free medical examinations and free medical service for common ailments, documentation of human rights abuse and legal advice, conducting of interviews, and, if necessary, referral to appropriate services. A convenience sample was thus drawn by local representatives, consisting of torture survivors who presented themselves at their own initiative at the mobile clinics after being informed about its presence. Altogether 594 torture survivors presented themselves at the mobile clinics, out of which 238 were selected for a lengthier assessment (93 in Jajarkot, 21 in Rolpa, 90 in Rukum, 34 in Salyan).

Procedure

The team that conducted the mobile clinics consisted of at least 1 counselor, at least 1 medical doctor, and at least 1 lawyer. During the mobile clinics, respondents were screened by counselors for psychological problems using a checklist of psychosocial complaints commonly found in clients presenting to the CVICT clinics (somatic complaints, anxiety, depression, PTSD complaints) designed by CVICT. If respondents reported at least 2 psychological problems, they were selected for a more elaborate interview, which is described under instrumentation. Because of a very high influx at the first 2 mobile clinics (in Jajarkot and Rukum), only about the first 100 positively screened consecutive cases were assessed with the more elaborate forms, since it took approximately 90 minutes to conduct an interview. Due to the more remote location of the last 2 mobile clinics (in Rolpa and Salyan), influx of clients was more spread in time. Here, all positively screened torture survivors were assessed with the lengthier assessment procedure.

Psychosocial counselors who conducted the interviews had been trained in communication skills and interviewing techniques, working with torture survivors through several additional on-the-job training programs by various expatriates in Nepal. The symptom checklists were part of routine clinical assessment, and counselors were specifically instructed in the use of the checklists.

As torture survivors in Nepal might mistrust the signing of written contracts, we obtained recorded witnessed informed verbal consent, rather than written. This procedure, consistent with ICH Guideline 4.8, consists of the interviewer reading a complete description of the study to the respondent and asking for the person's verbal consent. If obtained, the interviewer records the respondent's declaration of verbal informed consent on paper. Another member of the research team is a witness during this procedure and signs after the interview to verify that verbal informed consent was ob-

tained. All participants were ensured of the confidentiality of the research.

Assessment

The instrument on which analyses were based consisted of 2 parts. One part consisted of demographics, information about the arrest (government) or captivity (Maoists) during which torture took place, information about the legal proceedings, information regarding possible displacement, and information about the torture (techniques and instruments used). The second part consisted of instruments to measure PTSD symptoms, anxiety, depression, and disability. For assessing PTSD symptoms, the Posttraumatic Stress Disorder Checklist-Civilian version (PCL-C) was used. To measure anxiety and depression the Hopkins Symptom Checklist (25-item version; HSCL-25) and to assess disability the World Health Organization Disability Assessment Scheme II (12-item Interviewer Administered Version; WHODAS II) were administered. The PCL-C and the HSCL-25 have been validated among internally displaced persons (IDP) in Nepal, where 97% of the subjects have had at least 1 traumatic experience (Thapa and Hauff, 2005). All instruments were interviewer administered due to the high percentage of illiterate Nepali torture survivors.

All instruments were translated using an approach suggested by Van Ommeren et al. (1999). This approach uses a Translation Monitoring Form and aims at obtaining a systematic and culturally sensitive translation through a 5-step procedure, including blind-back translation and testing of items with Focus Groups (Van Ommeren et al., 1999).

The PCL-C is a 17-item symptom checklist, which assesses PTSD both according to the DSM-IV and as a continuous construct. We chose to use it because of its brevity and because the PCL-C assesses PTSD symptoms in general rather than in relation to a specific trauma, which is important with torture survivors, since they have not been confronted with 1 particular traumatic event but with a range of traumatic events. The instrument is developed for use in research settings where information on PTSD symptoms is a research objective but where an in-depth interview is not possible. Research has shown that the PCL-C has good psychometric properties (Blanchard et al., 1996). Respondents are asked questions on 17 PTSD symptoms on a 5-point Likert Scale. By using the last 3 categories of this Likert scale, a PTSD score on 3 levels, corresponding to the answer categories on the Likert scale ("3 – moderate," "4 – quite a bit," and "5 – extreme"), can be obtained, as well as a general scoring under or over a validated cutoff score.

A translated version of the HSCL-25 was available through the translation for a study on the impact of torture among Bhutanese refugees living in Nepal (Shrestha et al., 1998). The HSCL-25 has been widely and cross-culturally used in studies assessing the effects of torture (Carlson and Rosser-Hogan, 1994; Mollica et al., 1987; Terheggen et al., 2001). It is an easily administrable instrument that assesses symptoms of both anxiety and depression. Besides anxiety and depression symptoms, a score on general emotional distress can be obtained. The test–retest reliability of the instrument was found to be high (r = .89) for Southeast Asian refugees in the United States (Carlson and Rosser-Hogan, 1994). The item on sexual interest was deleted for this population similar to our previous experience with internally displaced persons (Thapa and Hauff, 2005). Counselors felt uncomfortable asking this question, especially to seniors, and omitted the question in many cases. Sexuality is a highly sensitive topic of conversation for most Nepali, and women are expected to express disinterest in sexual activities.

The World Health Organization's Disability Assessment Schedule (WHO-DAS II) was selected to measure disability. Its strengths are its cross-cultural applicability and its psychometric strengths assessed through classical test construction and item response theory. The WHO-DAS II assesses disability in daily life through 17 items and generates a general disability score and information regarding the disability experienced due to a health problem in the last 30 days. The general disability score is generated by adding the scores on the 12 items that concern disability in various life domains, after recoding these according to the World Health Organization instructions for the instrument. These 12 items are all scored on a 5-point Likert Scale.

Statistics

Thirty-seven cases were deleted for analysis due to extensive missing values. These cases were analyzed for differences with cases without missing values on demographic variables. No statistically significant differences were found, limiting the possibility of selection bias. Random missing values for each variable were replaced with item means.

We used multiple regression analyses to explore the likelihood of the hypothesized associations between the variables: PTSD, depression, anxiety, and PTSD–depression comorbidity in the study sample. We defined comorbidity as the occurrence of more than 1 disorder that exceeds that expected by chance alone (Caron and Rutter, 1991). On the basis of this definition, we used the product term of scores on 2 variables (e.g., disorders) as a suitable metric for comorbidity; higher scores on this measure represent the increased likelihood of the presence of 2 disorders. Variables in the regression analyses were centered around their means (Z-scores) to prevent bias caused by multicolinearity. Significant relationships between study variables were specified in a recursive regression model and this model was evaluated with LISREL 8 (Joreskög and Sörbom, 1993). Goodness of fit measures used in this study were: (1) the χ^2 test as a measure of the discrepancy between the variance–covariance matrix of the variables used in the model and the variance–covariance matrix derived from the specified relationships in the model. A nonsignificant χ^2 refers to the validity of the specified relationships in a model as interpretations of the (co)variances in the data matrix; (2) root mean square error of approximation (RMSEA). This estimate refers to the difference between the data variance–covariance matrix and the model-based matrix fit to the data, per degree of freedom. This estimate should be <0.05 to indicate close fit (Browne and Cudeck, 1993); and (3) non-normed fit index (NNFI), a value >0.90 indicates a good fit (Byrne, 1998; Joreskög and Sörbom, 1993). On the basis of the modification indices provided by LISREL, we specified sequential hierarchically nested models (not shown)

and evaluated the models by means of the goodness of fit measures. To avoid fully data driven path models, we only defined new paths in sequential nested models that could be (indirectly) derived from the literature. Second, we only specified relationships that resulted in an improvement of the χ^2 value of successive models, with at least 10 units (e.g., modification index >10). The final model (Fig. 1, model 2) only contains estimated paths with $t > 2.00$, thus only paths with a significance of $p < .05$. This final model is the "Most Likely Best Fitting Model" (MLBF). This MLBF model was obtained from a sequential χ^2 difference tests procedure: the χ^2 of the model of interest was significant different from a less saturated model but not significant different from a more saturated model (Anderson and Gerbing, 1988).

RESULTS

Demographic Characteristics Participants

The final sample ($n = 201$) consisted of mainly male (80.1%), Hindu (96.5%), married (80.1%) respondents from highly affected midwestern areas in Nepal (Table 1). Caste/ethnicities were more spread, with larger groups of Chhetri (second highest caste) and Hill ethnic groups (generally categorized as third caste) respondents.

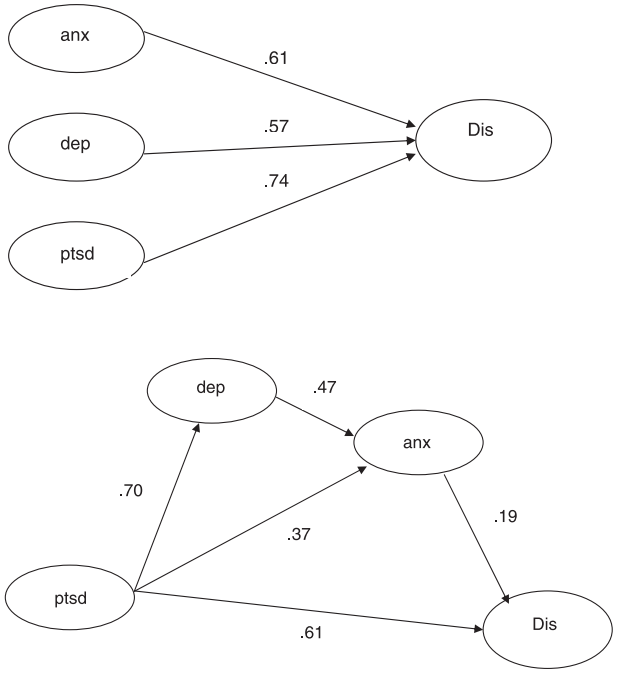

FIGURE 1. Structural equation modeling of relationships between psychiatric symptoms and disability. Model 1 (regression model): PTSD and disability with depression and anxiety as moderators. χ^2 (3) = 149.62; $p < .001$; RSMEA = 0.50; $p < .0001$; NNFI = 0.38. Model 2 (most likely best fitting model): PTSD and disability with depression and anxiety as mediators χ^2 (1) = 0.07; $p = .8$; RSMEA < .01; 95% CI RSMEA = 0.0–0.012; NNFI = 0.99. All estimates in the models were standardized.

TABLE 1. Demographic Characteristics of Study Sample

Variable	Answer Categories	Frequency (%) $N = 201$
District of sampling	1. Jajarkot	87 (43.3)
	2. Rolpa	16 (8.0)
	3. Rukum	83 (41.3)
	4. Sindhuli	15 (7.5)
	5. Missing values	0 (0.0)
Gender	1. Male	161 (80.1)
	2. Female	40 (19.9)
	3. Missing values	0 (0.0)
Marital status	1. Unmarried	34 (16.9)
	2. Married	164 (81.6)
	3. Separated/divorced	1 (0.5)
	4. Widow/widower	1 (0.5)
	5. Missing values	1 (0.5)
Ethnicity/caste	1. Brahmin	28 (13.9)
	2. Chhetri	77 (38.3)
	3. Hill ethnic group	54 (26.9)
	4. Newar	5 (2.5)
	5. Dalit	22 (10.9)
	6. Other	15 (7.5)
	7. Missing values	0 (0.0)
Religion	1. Hindu	194 (96.5)
	2. Buddhist	5 (2.5)
	3. Other	2 (1.0)
	4. Missing values	0 (0.0)
Education	1. Formal education	110 (54.7)
	2. Nonformal education	33 (16.4)
	3. No education	57 (28.4)
	4. Missing values	1 (0.5)
Political inclination	1. Communist Party of Nepal (UML and others)	48 (23.9)
	2. Communist Party of Nepal (Maoist)	8 (4.0)
	3. Nepali Congress	43 (21.4)
	4. Rastrya Prajatantra Party	14 (7.0)
	5. Other	17 (8.5)
	6. None	45 (22.4)
	7. Missing values	26 (12.9)
Age (in yr): Minimum 15–Maximum 73; Mean 35.8 ($SD = 12.9$)		

Percentages in the table might not add up to exactly 100.0 due to rounding off errors.

Symptomatology

Using validated cutoff scores for a Nepali IDP population (Thapa and Hauff, 2005), there were indications for the presence of significant psychopathology (Table 2). More than half (59.7%) of our sample scored above the cutoff for PTSD, and most participants scored above the cutoff for anxiety and depression (85.6% and 81.1%, respectively).

Relationship Psychiatric Symptoms and Disability

Multiple Regression Analysis

A multiple regression analysis was performed with disability as the dependent variable and standardized (*Z*-

TABLE 2. Presence of Psychiatric Symptomatology in Study Sample

Symptom Category	Frequency (%) $N = 201$
PTSD (diagnostic algorithm)	
Moderate level (Likert Scale point 3)	140 (69.7) out of 201
Quite a bit level (Likert Scale point 4)	101 (50.2) out of 201
Extremely level (Likert Scale point 5)	19 (9.5) out of 201
PTSD (continuous)	
Noncases	81 (40.3)
Cases	120 (59.7)
Anxiety	
Noncases	29 (14.4)
Cases	172 (85.6)
Depression	
Noncases	38 (18.9)
Cases	163 (81.1)

scores) total scores on PTSD, anxiety, and depression as independent variables, as well as comorbidity of PTSD and depression. The regression model explained more than half of the variance ($R^2 = .566$, with $F(4) = 63.890$, $p = .000$), with PTSD and anxiety as the significant predictors of disability (PTSD; $\beta = 16.608$, $t = 6.549$, $p = .000$, anxiety; $\beta = 4.216$, $t = 2.362$, $p = .019$). Depression and comorbidity of PTSD and depression were not significant predictors of disability (depression; $\beta = 0.583$, $t = 0.326$, $p = .745$, comorbidity PTSD–depression $\beta = -2.368$, $t = -1.188$, $p = .236$).

Structural Equation Modeling

Structural equation modeling was performed to explore the hierarchical relationships between psychiatric symptoms and disability. The most likely best fitting model is presented in Figure 1 (model 2). This model had an excellent degree of fit (NNFI = 0.99, RSMEA <0.01, 95% confidence interval RSMEA = 0.0–0.012). The improvement of the model is best expressed by the χ^2 of the model: χ^2 (1) = 0.07 (p = .80), compared with χ^2 of the original regression model (model 1): (χ^2 (3) = 149.62 (p < .001). In the final model (model 2), PTSD contributes the most to variance in disability, through a direct relationship (0.61), and indirect via anxiety and depression as mediators. Depression had no direct relationship with disability in this sample.

DISCUSSION

This study shows high levels of psychiatric symptomatology in Nepali nonrefugee torture survivors. Percentages found are consistent with a study on IDPs in Nepal using the same instruments (Thapa and Hauff, 2005) as well as another large study on refugee torture survivors from different settings, using the HSCL-25 and the Harvard Trauma Questionnaire (Keller et al., 2006). The findings differ, however, from findings on tortured Nepali-speaking Bhutanese refugees, where prevalences were lower (Shrestha et al., 1998; Van Ommeren et al., 2001, PTSD: 14/73.6%; anxiety: 20.6/43%; depression: 25/35.6% in the quoted studies respectively). It is not simple to explain these differences in prevalence of psychopathology in these studies, but differences could be due to (a) differences in sampling methodology (convenience/help seeking versus random) and (b) differences in assessment of PTSD, anxiety, and depression complaints. Even on the same sample of Nepali-speaking Bhutanese refugee samples, different prevalence of psychiatric complaints were found using different assessment methods (HSCL-25 in Shrestha and colleagues' study and Composite International Diagnostic Interview in Van Ommeren and colleagues' study).

In accordance with our hypothesis, regression analyses did not show a significant relationship between comorbid PTSD–depression and disability. Rather, PTSD and anxiety were the most important predictors in a regression analysis. Subsequent *SEM*, to explore hierarchical relationships between the variables, confirmed a central role for PTSD and anxiety in explaining variance in disability. Disability variance in the *SEM* analyses was best accounted for by 2 pathways: (a) a direct pathway from PTSD symptoms to disability, and (b) an indirect pathway from PTSD to disability, mediated by anxiety and depression symptoms. These findings differ from studies showing the importance of comorbid PTSD and depression for nontortured refugees. They are, however, consistent with formulations of the consequences among torture in refugees. In a previous study on Tamil refugees, torture was found to be the main predictor of PTSD symptoms, when other war-related factors were taken into account (Silove et al., 2002) and torture was a predictor for the development of PTSD in Algeria, Ethopia, and Gaza (de Jong et al., 2001). Silove (1999) has posited a theoretical framework for the psychiatric effects of torture in which challenges to the core adaptive system of "safety" are linked to PTSD symptomatology. It could be this challenge to safety during torture experience that causes a different clinical presentation, with different pathways to disability, than that of generally war-affected populations. Especially, our *SEM* findings suggest the importance of a direct pathway of PTSD–anxiety towards disability for torture survivors, in addition to the known PTSD–depression pathway for nontortured refugees.

These findings have possible implications for tortured asylum seekers and refugees in Western settings. In a study by Laban and colleagues in the Netherlands among Iraqi asylum seekers, mental status was related more strongly to length of the asylum procedure than adverse life events. This study compared asylum seekers who stayed in the Netherlands for <6 months with asylum seekers who stayed over 2 years. The second group had a worse mental status as measured on anxiety, depression, and somatoform disorders. (Laban et al., 2004). Stress related to the asylum procedure, and issues related to family and work were the most important risk factors for depression, anxiety, and somatoform disorders (Laban et al., 2005). Among tortured asylum seekers and refugees in Western settings, these postmigration stressors may thus strengthen the identified disability mechanism of PTSD mediated by anxiety and depression.

Finally, these findings emphasize the complexity of the mental status and associated disability among torture survivors. Two different pathways to disability were found, which in our opinion indicates the need for multidimensional or multidisciplinary treatment to address these different pathways.

The findings of our study are constrained by several limitations. First, selection of participants was not random. Study participants were help-seeking torture survivors who presented themselves at mobile clinics of a nongovernmental concerned organization. Besides self-selection effects, it is possible that those people with more access to the partner organization with suspected human rights abuse were overrepresented. Also, we have little knowledge of what obstructions to mobile clinic visits might have been presented by both warring parties. Furthermore, in a screening procedure, those with at least 2 psychological problems were selected for a lengthier assessment. This could have lead to bias in that participants with more overt and easily reported complaints were overselected. Second, especially in the first 2 mobile camps, data were collected under strained circumstances of an active ongoing civil war. Besides the presence of missing data, it is difficult to state how these circumstances could have influenced our research results. Finally, a major limitation of our study is the cross-sectional nature of the study design. For the sequential relationships that we present, a longitudinal research design would have been more appropriate.

CONCLUSIONS

Help-seeking nonrefugee torture survivors in midwestern Nepal showed high prevalence of psychiatric symptomatology. This study points to the clinical relevance of PTSD and anxiety symptoms for Nepali torture survivors; these complaints were strongly related to disability. Psychiatric symptoms and disability were related through 2 different mechanisms: (a) a direct relationship between PTSD and disability and (b) an indirect relationship between PTSD and disability, with anxiety and depression as mediators. Multidisciplinary treatment approaches that address the complexity of the relationships between psychiatric symptoms and disability seem indicated.

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