Author's response to reviews

Title: Prevalence of serious mental disorders and torture among Tibetan refugees: A systematic review

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Version: 2 Date: 31 August 2005

Author's response to reviews: see over
Dear Editor

We hope this finds you well. We were very happy to receive the detailed and informative reviews. We are grateful to the reviewers for lending their expertise, which we believe has resulted in a superior manuscript. We believe we have been able to address all of the comments of the reviewers and have done so below. Please find our responses to the suggestions marked with a bullet:

**Reviewer 1: Dr. Kristy Sanderson**

1) This article reviews the published and unpublished evidence for prevalence of mental health problems among Tibetan refugees. Confidence intervals were calculated for prevalence rates, and a narrative description of each is provided. Mental health of refugees is a topical and important issue, and this review should be of interest to those working in this area.
   - We thank the reviewer for recognizing and agreeing the importance of mental disorders within this population.

2) Discussion and interpretation of results: The authors state that their findings indicate a "far higher" prevalence in their population of interest than in most refugee populations, citing a recent review in the Lancet. An adequate discussion of whether this is likely to be a real difference is not provided. The Lancet review only included studies that used diagnostic case finding tools. Such tools were not used in the studies included in the present review (with the exception of Servan-Schreiber). Thus it is quite plausible that the apparent difference is due to measurement differences, as symptom scales such as the HSCL will give higher "prevalence" rates than case finding instruments. To illustrate, a comparison of the Servan-Schreiber study which provided psychiatrist-identified cases of PTSD in children was very similar to the rates of PTSD in children reported in the Lancet review (11.5 vs 11%).
   - We appreciate the suggestion by the reviewer and have highlighted that most studies used only screening tools rather than diagnostic case tools. We have toned down our argument that this study indicates ‘far’ higher and now suggest merely ‘higher’ rates. However, as mentioned below, we highlight that the screening tools used have excellent correlation to the DSM-IV diagnoses for anxiety and depressive disorder and are now also used as diagnostic tools. We agree that the Servan-Schreiber study found rates similar to the study by Fazel. However, this is one small study in a pediatric population. We do not believe that it illustrates an inadequacy with the HSCL-25.
   - (Page 15, para 1) In our review, most assessments of anxiety and depression were determined by the Hopkins Symptom Check List (HSCL), a tool with extensive use internationally. The HSCL-25 is the most commonly used scale to assess anxiety and
depressive symptoms amongst refugee populations. Translations of the HSCL-25 have been validated against clinically-assessed diagnoses for anxiety and major depression, for use in several south Asian refugee groups, but have not tested for construct validity in a Tibetan population. Recent translations of the HSCL-25 into a variety of languages have demonstrated good psychometric properties and have been widely used in adolescents and adults to assess psychiatric morbidity in traumatized populations and refugee groups worldwide. The test-retest reliability of this instrument has been found to be \( r = .90 \) for Southeast Asian refugees. The diagnosis of PTSD was however, varied. Two studies used DSM-IV diagnostic case tools, while 1 used the Post-Traumatic Inventory (PTI) and 1 used the Harvard Trauma Questionnaire, a well-validated questionnaire with good correlation with clinical diagnosis.

2) An additional qualifier is that the studies used small samples, which tend to yield higher rates than larger studies.

- We agree with the reviewer and have inserted the following text into our limitations section: (Page 15 & 16) Further, the studies included in our review were generally limited in methodological quality. No study assesses test-retest reliability or construct validity. Only one study used a random-sampling technique. All studies were limited in their sample size and it is possible that this contributes to a sampling bias leading to a higher incidence.

3) Title: The five included studies assessed depression and anxiety symptoms, and in three studies, PTSD, with most using symptom scales. "Serious mental illness" is too strong a description. The authors might wish to change their title to reflect what was actually measured; "depressive and anxiety symptoms" accurately describes both the disorder types and use of screening scales to identify these symptoms for most of the studies.

- We appreciate the reviewers suggestion and, in keeping with the suggestion of the other reviewer, Dr Fazel, we have now titled the manuscript “Prevalence of serious mental disorders and torture among Tibetan refugees: A systemic review.”

4) For completeness, the authors should provide the prevalence in the control populations used in Holtz and Crescenzi.

- We agree with the reviewer and have inserted the following text: (Page 11, para 2) Holtz: The prevalence of symptom scores in the clinical range for both cohorts was 41.4% for anxiety symptoms and 14.3% for depressive symptoms. The torture survivors had a statistically significant higher proportion of elevated anxiety scores than did the nontortured cohort (54.3% vs. 28.6%, \( p = 0.01 \)). Depressive scores were not different between groups.

- (Page 13, para 1) Crescenzi: The authors found that refugees who were previously imprisoned were more likely to experience mental health issues than those never imprisoned, although both groups had elevated mental health symptoms [HSCL-anxiety scores 22.5 (SD=6.5) vs. 18.7 (SD=6.8), \( P=0.001 \)][HSCL-depressive scores 28.5 (SD 7.4) vs. 27.6 (SD 7.4), \( P=>0.05 \)]. PTSD was diagnosed in 20% of the total sample and anxiety and depression were diagnosable amongst 63% and 57% of the total sample, respectively.
5) I do not think the Figures are essential, given there are only a handful of studies, and the estimates present rates from single studies. I would prefer Table 1 to be the main source of results.
   - We appreciate this suggestion by the reviewer and have removed the figures.

**Reviewer 2: Dr. Mina Fazel**

1) The title is somewhat misleading as it is not just a study looking at the ‘Prevalence of mental illness among Tibetan Refugees: A systematic review’; much of the article is about torture and experiences of torture.
   - We appreciate the suggestion of the reviewer and have now changed the title to “Prevalence of serious mental disorders and torture among Tibetan refugees: A systemic review”

2) This leads to the main issue that this paper needs to address which is how to present the information gathered on both mental illness and on torture. In the paper the two are often presented together and the information might be more accessible to a broader readership if the two issues are separated, although torture and subsequent mental illness is obviously inter-related.
   - We agree with the reviewer that presenting this related information has been challenging. After careful consideration, we have endeavored to structure each study description in a systematic manner: Study population; incidence of torture, and; prevalence of mental illness.
   - We did not insert a table addressing torture as we feel that this may mislead readers into inferring systematic methods of torture, while it appears that the incidences of torture are in fact, widely varied.

3) Justification needs to be given for the stated prevalence of specific disorders. The authors state they made some assessment of validity of instruments but not of reliability. This area is so essential though that much more information needs to be given
   - We agree with the reviewer that assessing reliability is essential and it is disappointing that none of the 5 studies conducted a retest reliability intra-class coefficient. We have now noted this in the limitations section of the discussion: (Page 15 & 16) Further, the studies included in our review were generally limited in methodological quality. No study assessed test-retest reliability or construct validity. Only one study used a random-sampling technique.12 All studies were limited in their sample size and it is possible that this contributes to a sampling bias leading to a higher incidence.14

4) The HSCL-25 is used in 4 of the 5 included studies and so this questionnaire needs to be explained in greater detail. It is a screening tool and therefore some caution is required in order to infer prevalences of mental illness from its results.
   - We appreciate this suggestion by the reviewer and, as noted above, we have addressed this in the limitations section of the manuscript, as follows: (Page 15, para 1) In our review, most assessments of anxiety and depression were determined by the Hopkins Symptom Check List (HSCL), a tool with extensive use internationally1. The HSCL-25 is the most commonly used scale to assess anxiety and depressive symptoms amongst refugee populations. Translations of the
HSCL-25 have been validated against clinically-assessed diagnoses of anxiety and major depression\(^2\), for use in several south Asian refugee groups\(^{2-4}\), but have not tested for construct validity in a Tibetan population. Recent translations of the HSCL-25 into a variety of languages have demonstrated good psychometric properties and have been widely used in adolescents and adults to assess psychiatric morbidity in traumatized populations and refugee groups worldwide.\(^{5-8}\) The test-retest reliability of this instrument has been found to be \(r = .90\) for Southeast Asian refugees\(^9\).

5) The authors would improve the interpretation of results if they could address the issues of how to determine which refugees fulfilled diagnostic criteria for the disorders stated. They also compare prevalence rates to other studies of refugees but these studies use very different inclusion criteria (random or complete samples; semi-structured interviews, etc..) and therefore the results are not comparable.

- We appreciate the suggestion of the reviewer and have included the following information in the methods section: (Page 8, para 1) We determined the diagnostic criteria of the screening tools, where available, as follows: Harvard Trauma Questionnaire, scores above 2.5 are considered strongly suspicious of PTSD;\(^{15}\) Hopkins Symptom Checklist-25, scores above 1.75 on the individual (anxiety and depression) of the HSCL-25 is consistent with significant emotional distress and correlates with the presence of diagnosable psychiatric morbidity.\(^2\)

- We disagree that comparing the included studies with other studies of refugees is inappropriate as we do not draw direct comparisons and have not endeavored to pool the comparisons. The weak comparisons that we do draw are meant to place our findings in the overall evidence of refugee mental health.

6) The samples in the studies need further explanation, some are case-control studies, others are cross-sectional and so the prevalence rates in the studies will differ and so some explanation is required to understand figures 1, 2, and 3 as to which data is used, for example, in the case-control studies-

- We appreciate the suggestion of the review and, in balancing this suggestion with the suggestion of reviewer 1 to remove the figures, we have now removed the figures completely. The text now describes the control groups in more detail.

7) The information gathered on torture experienced in the refugees could be presented together in a sub-section rather than piecemeal with summaries of each study included. The authors could consider collating some of the methods of torture in a table and reference the studies alongside each separate technique.

- We appreciate this suggestion by the reviewer and, as mentioned above, we have now structured each study description to follow the same format (study population; incidence of torture; prevalence of mental disorders). We did not compile the torture information into a table as we believe it may erroneously infer systematic methods; whereas some of the less frequent methods of torture (ie. blood sampling) provide strong insights into human rights violations.
The discussion would need a greater exploration of the limitations of the study, especially addressing the methodological concerns of the different studies and the limitations in concluding true psychiatric prevalences from the instruments used.

- We appreciate this suggestion by the review and have now provided greater detail regarding the limitations of our review and the studies included therein: (Page 15, para 1) There are certain limitations to interpreting our study. We performed a systematic review using standard searching techniques. It is possible however, that NGO reports were not published and as such, were excluded without our knowledge. However, we did consult the Tibetan Government in Exile for their knowledge regarding additional studies and none were located. A further limitation is that not all studies examined the impact of torture on mental health illnesses, and it is possible, and likely, that torture victims have increased susceptibility to mental illness, such as PTSD. Studies used diverse instruments with which to determine the prevalence of mental health illnesses. In the studies we included, 4 used screening tools to evaluate anxiety and depressive disorders.\(^{10,12,13,16}\) Only 1 consistently used diagnostic tools.\(^{11}\) The accurate assessment of psychiatric disorders is difficult to ensure in epidemiological studies, especially in non-Western populations, for whom the validity of measures developed in Western populations may be restricted\(^{5,17-19}\). In our review, most assessments of anxiety and depression were determined by the Hopkins Symptom Check List (HSCL), a tool with extensive use internationally.\(^{1}\) The HSCL-25 is the most commonly used scale to assess anxiety and depressive symptoms amongst refugee populations. Translations of the HSCL-25 have been validated against clinically-assessed diagnoses of anxiety and major depression,\(^{2}\) for use in several south Asian refugee groups\(^{2-4}\), but have not tested for construct validity in a Tibetan population. Recent translations of the HSCL-25 into a variety of languages have demonstrated good psychometric properties and have been widely used in adolescents and adults to assess psychiatric morbidity in traumatized populations and refugee groups worldwide.\(^{5-8}\) The test-retest reliability of this instrument has been found to be \(r=.90\) for Southeast Asian refugees.\(^{9}\) The diagnosis of PTSD was however, varied. Two studies used DSM-IV diagnostic case tools\(^{10,11}\), while 1 used the Post-Traumatic Inventory (PTI)\(^{12}\) and 1 used the Harvard Trauma Questionnaire\(^{13}\), a well-validated questionnaire with good correlation with clinical diagnosis. The studies examined were all conducted in North India, after the refugees had arrived from Nepal. It may be that the incidence of mental health illnesses are higher during their stay in Nepal and decrease with time, as was observed in several included studies\(^{11,13,16}\). Further, the studies included in our review were generally limited in methodological quality. No study assessed test-retest reliability or construct validity. Only one study used a random-sampling technique.\(^{12}\) All studies were limited in their sample size and it is possible that this contributes to a sampling bias leading to a higher incidence.\(^{14}\) A final limitation is that this study only examined incidents of torture reported by the refugees. Other Tibetans who are ‘persons of concern’ for the UNHCR are also likely to have experienced torture, and were not included for analysis in this review.
9) In addition, the discussion exposes the possible human rights abuses of the current Chinese government and encourages ‘governments and economic partners’ to put pressure on China to address these concerns. While I am sympathetic to the sentiments expressed, some caution is needed in the interpretation of results from just 5 studies especially in light of some of the biases of the populations sampled (and that all those sampled were living in India, a government accused of using similar torture techniques). Given the possible high use of torture by many Western and non-Western governments, robust, comparative data on prevalence of PTSD, for example, could help make this point in a more rigorous manner.

- We appreciate this suggestion by the reviewer and agree that torture in not limited to Tibet. However, although we included 5 systematic evaluations of mental disorder likely linked to abuse and torture, these are not the only evaluations of human rights abuses within this population. Evaluations by the International Campaign for Tibet, the US State Department, Human Rights Watch, and our own group, have all documented widespread human rights. Considering that this journal is focused on health and human rights, we believe it is appropriate to make statements regarding the human rights situation and refer to appropriate human rights instruments. Our aim is not to suggest that there is a hierarchy of torture (ie. that one form of torture is worse than another, although this is likely), but to suggest that no incidences of torture should be tolerated. NGOs and foreign governments should be aware that torture is unacceptable and use their abilities to pressure the Chinese government into respecting human rights declarations that they have ratified.

10) Some further background information on Tibet, for example population of Tibetans in China, would help to place in context the figure of 150,000 Tibetans living outside of the country.

- We appreciate this suggestion by the reviewer and have now modified the introduction section to provide greater context, as follows: (Page 4, para 1) More than 50 years of occupation have been accompanied by forced population displacements, widespread hunger during, restrictions on cultural and religious freedoms, and well-documented political violence against specific cultural groups, mass arrests, imprisonment of political prisoners and execution. Human rights groups have documented at least 60 deaths of peaceful demonstrators since 1987\textsuperscript{11}. The current Tibetan population of Tibet is estimated at 6 million, with an undetermined number of Chinese occupants. This repression against Tibetans has resulted in large refugee populations in neighboring countries. It is estimated that more than 150,000 Tibetan refugees reside in the neighboring countries of Bhutan, Nepal, and India;\textsuperscript{11} a generous token from such poor countries.

We are deeply grateful to the reviewers and editors for lending their expertise and time to improve the manuscript and hope that you will now find it acceptable.

Sincerely
Edward Mills