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UPDATING THE ESTIMATE OF REFUGEES RESETTLED IN THE UNITED STATES WHO HAVE SUFFERED TORTURE

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Torture is a strong predictor of a broad range of debilitating and lasting physical and mental health conditions (Quiroga & Jaranson, 2005). Populations of refugees who are being resettled in the United States include many torture survivors, many of whom require significant and specialized health and mental health care. For example, refugees who report experiences of torture are four times more likely to suffer from post-traumatic stress disorder (PTSD) than other refugees, and 2.5 times more likely to suffer from depression (Steel et al., 2009). For these reasons, it is essential that policy makers in the field of refugee health services have a reliable estimate of the number of torture surviving refugees in the country.

Until recently, policy makers have been forced to rely on an outdated estimate of between 400,000 and 500,000 torture surviving refugees in the United States. This number was derived in the early 1990s from the oft-cited torture prevalence rate of 5-35% found extensively in the literature on torture. This range is in fact based on studies conducted in several different high income countries in which refugees were being resettled; it is not known how accurately those studies reflect the situation in the United States. The estimate appears in a chapter in a volume intended to provide a critical account of current refugee policies in European countries (Baker, 1992).

Given that this number has not been updated in more than twenty years, and that significant numbers of refugees have been resettled in the United States every year during that period, the estimate of 400,000 to 500,000 torture surviving refugees in the United States is certainly incorrect. The actual number must be much greater than that. How much greater is the key question to which policy-makers require an answer.

Unfortunately, measuring the prevalence of something as sensitive and complex as experiences of torture in populations as diverse as refugees in the United States is an extremely challenging task. Were it easier, there is no doubt that the estimate would have been updated regularly. Nevertheless, given the importance of this question for policy on refugee resettlement and the provision of health and other services, the *Center for Victims of Torture* (CVT) found it essential to see what could be done to update the understanding of the size of the population of torture surviving refugees in the United States. To do this, CVT's researchers developed the following meta-analytic methodology and arrived at the results and conclusions laid out towards the end of this summary paper.

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METHODOLOGY

The Preferred Reporting Items for Systematic Reviews & Meta-Analyses (PRISMA) guidelines (Liberti, 2009) were followed for the systematic literature review and meta-analysis carried out herein. A comprehensive literature search was conducted utilizing four online library search databases (Embase, Ovid Medline, PILOTS/WOS, and PsychInfo), with assistance from a Diehl Hall Bio-Med Librarian on the University of Minnesota Health Sciences campus. 'Exploded' MeSH headings were additionally utilized for a wider range of nested terms so that the resulting list of citations would include most or all major epidemiologic study designs. "Torture,""survivor," "refugee and/or asylum-seeker" and "prevalence" were the four main categories of terms used.

Table 1: List of search terms	
Abuse*	Refugee*
Aggress*	Asylum*
Battered*	Asylee*
Human rights abuse*	Refugee (MeSH)
Maltreat*	Prevalence
Mistreat*	Risk
Neglect	Risks
Persecut*	Rate
Tortur*	Rates
Trauma*	Logistic regression*
Violen*	Epidemiolog*
Battered women (MeSH)	Epidemiologic Methods (MeSH)
Child abuse (MeSH)	Epidemiologic Measurements (MeSH)
Crime victims (MeSH)	Epidemiologic factors (MeSH)
Human rights abuses (MeSH)	"statistics as topic" (MeSH)
Violence (MeSH)	
"Wounds and Injuries" (MeSH)	

As intended to ensure comprehensiveness, this initial search produced a very long list of potentially relevant references. These references were then reviewed at two levels (abstract review and full text review) with respect to the following inclusion criteria:

1. The published article had been through a peer-review process.
2. The results of the study were published in the years 1980 to 2015.
3. The results included a quantitative estimate of the prevalence of torture within an adult population (defined as eighteen years or older) of asylum seekers, asylees, or refugees currently within the United States. Although some included studies differentiated between primary and secondary torture survivors, this was not an inclusion criterion.

4. The study reported on a representative sample of the general population, as opposed to convenience or help-seeking samples.

The process by which the initial search results were narrowed down to the final set of five studies is summarized in Figure 1.

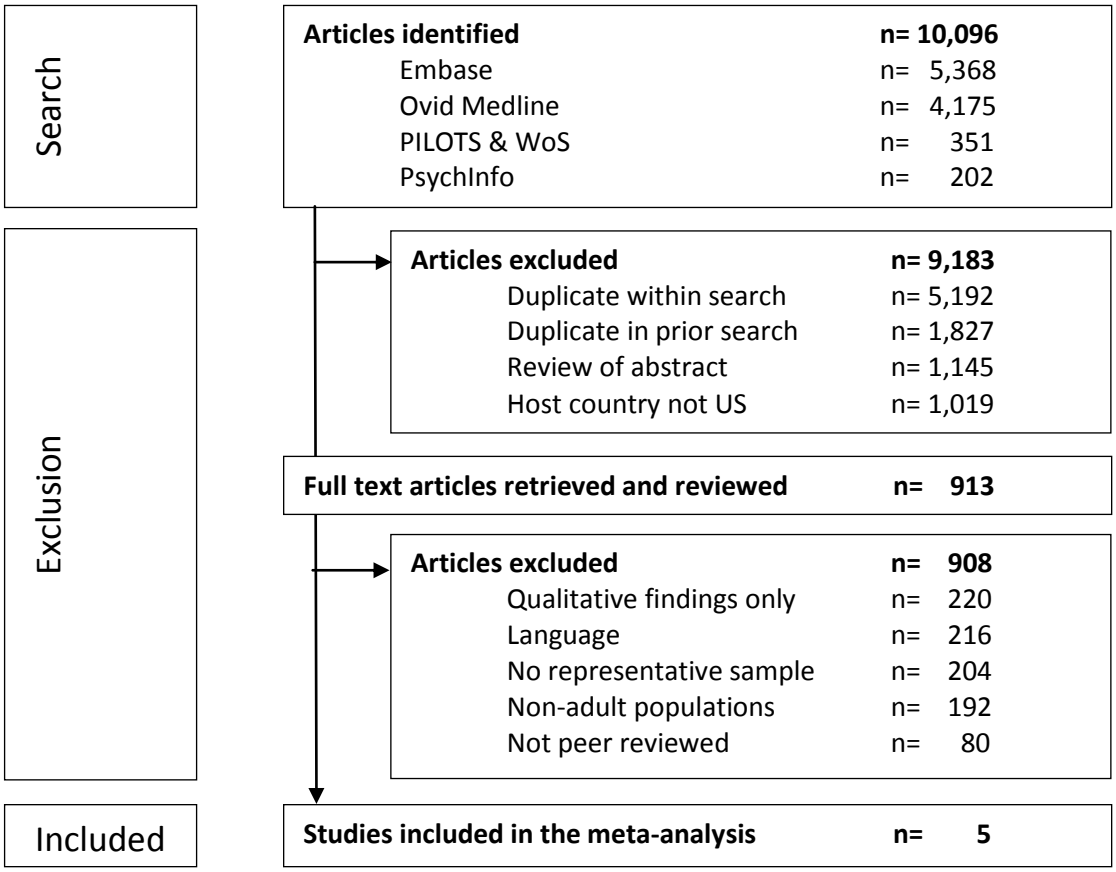

Fig. 1 Search, retrieval and exclusion process

Following this initial search, CVT released preliminary findings to the member centers of the *National Consortium of Torture Treatment Programs (NCTTP)* of the United States. Currently the consortium has 34 members in 17 states. Consortium members were asked to identify any other studies that might have been missed in CVT's initial search. Although several members of the consortium responded positively to this initiative, emphasizing the importance of more accurately estimating the number of torture surviving refugees in the United States, no further studies or publications were identified. Representatives of one center raised concerns about the findings of one study included in the meta-analysis – further details are included below.

Studies included in the analysis

Keller et al. (2003), associated with the *Bellevue/NYU Program for Survivors of Torture,* conducted interviews with 70 asylum seekers who were being detained in New York, New Jersey and Pennsylvania. The people interviewed were mostly men and from various countries on the African continent. 74% reported experiences of torture.

Jaranson et al. (2004), associated with the *University of Minnesota* and the *Center for Victims of Torture (CVT),* interviewed 1,134 Oromo and Somali refugees living in the Minneapolis/St. Paul area. 55% of Oromo respondents and 36% of Somali respondents reported experiences of torture. Overall, 44% of the sample reported being tortured.

Marshall et al. (2005), associated with the *Program for Torture Victims, Los Angeles,* conducted a household survey and interviewed 490 refugees from Cambodia who were living in California at the time of the study. 24% of those interviewed reported being primary victims of torture, and a further 31% were secondary victims. In total, 54% of respondents had been exposed to torture. In this study, torture was identified based on responses to item 16 of the Harvard Trauma Questionnaire – Part One (Mollica et al., 1992). A representative of the *Program for Torture Victims, Los Angeles* raised concern that the actual torture prevalence of torture among refugees from Cambodia may be in fact much higher than the reported 54%. This position was later supported by Dr. Megan Berthold, one of the authors of the original paper. Given that exclusion of this paper from the meta-analysis would in fact reduce the overall result (as opposed to increasing it, in line with the higher estimate suggested), the author decided to retain the paper so as to arrive at a more accurate estimate of the number of torture surviving refugees in the country.

Willard et al. (2013), associated with the *Community Health Alliance,* conducted retrospective chart reviews of public health screenings of Iraqi refugees arriving in Utah. Of 497 files reviewed, 24% reported being primary survivors of torture, and 31% reported being secondary survivors. In total, 56% of the samples reported exposure to torture.

Shannon et al. (2014), associated with the *University of Minnesota* and *CVT,* reviewed the charts following public health screening of 179 Karen refugees from Burma and Thailand, now living in Minneapolis and St. Paul, Minnesota. Of these, 27% reported being primary survivors of torture and 51% reported being secondary survivors.

Meta-Analysis

The simple meta-analysis was conducted using MetaXL Version 2.2. In essence, this analysis provides a weighted average of a number of study results. Prevalence rates for primary victims of torture were used in the analysis, although some studies also estimated the prevalence of secondary victims. The author used a random effects model which assumes that variability in effects arise from two sources: sampling error and study level differences. In other words, this analysis acknowledges that prevalence

rates will differ depending upon refugees' country of origin, the period when they entered the United States, and the methodology employed to estimate the prevalence of torture.

RESULTS AND DISCUSSION

The analysis suggests an overall population prevalence of 0.44 (95% confidence interval: 0.3-0.58). Since recent estimates suggest that there are three million refugees, asylees and asylum seekers in the United States (Bureau of Population, Refugees and Migration, 2015), this analysis suggests that there may be as many as 1.3 million torture surviving refugees in the country. This number is more than three times higher than the statistic often referred to in policy documents.

Meta-analyses are entirely dependent upon the methodologies and results of the studies included in the analysis. As a result, there are a number of qualifications that should be borne in mind when interpreting these results.

Firstly, this analysis is based on only five studies. Given the enormous variability in the histories and experiences of refugee populations from different parts of the world, this is a very small number indeed. Although CVT researchers have conducted an extensive and systematic search for relevant studies, it is possible that one or more studies have been missed, especially any studies not published in the peer-reviewed, scientific literature. Certainly more studies would enhance the accuracy of this kind of analysis.

Secondly, several studies included in this meta-analysis have relatively small sample sizes for population level research. Such small sample sizes reduce the confidence in prevalence estimates within particular populations, and although sample size is accounted for in the meta-analysis model, it is difficult to make more accurate predictions based on a few small samples.

Thirdly, an analysis of this kind attempts to provide a prevalence estimate across an extremely heterogeneous population of refugees, asylum seekers and asylees. The complexity of the population demands many more studies before researchers are able to narrow down the confidence intervals around any estimate of the prevalence of torture.

Finally, because experiences of torture are so difficult to talk about, the manner in which researchers assess a history of torture will greatly influence their results. Studies included in this analysis used a variety of methods. With more studies, it might be possible to ascertain the impact of different methodologies on prevalence estimates.

CONCLUSIONS

Given all these limitations on the data (and in fact in the field itself), it is very difficult to arrive at a specific and defensible estimate of the number of torture surviving refugees in the United States. The

result quoted in the results section above is merely the mid-point of a broad range within which the true prevalence rate very likely lies.

However, it is clear that the actual number of tortured refugees is a great deal higher than the statistics currently in use among policy makers. Even if we were to abandon the estimate of up to half a million—which is clearly out of date—this research suggests that the prevalence rate is higher than the often quoted rate of between 5 and 35%. This is likely the result of the United States' focus in the selection of people for resettlement within the country. This pattern continues with current political debates on how many Syrian refugees should be accepted into the United States, and the suggestion that preference should be given to refugees with medical problems and/or a history of torture.

The United States is a generous recipient of refugees from around the world. With this generosity comes an obligation to do what is possible to provide medical and mental health care to these highly traumatized populations. A history of torture is highly predictive of severe and lasting physical and mental health concerns. As such, the prevalence of torture in refugee populations is an essential parameter for the long-term planning and sustainability of services for the refugee population. CVT recommends that policy makers and researchers develop methodologies to more accurately track the growing number of torture surviving refugees living in the United States.

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