Judging psychiatric disorders in refugees

In a systematic review, Mina Fazel and colleagues (April 9, p 1309)[1] report rates of psychiatric disorder in refugees relocated to high-income western countries, emphasising studies of more than 200 individuals. They note the substantial heterogeneity of the samples and the findings.

In an accompanying Comment (p 1283)[2], Michael Hollifield emphasises one statistic in a way not consistent with the thrust of the review or its limitations, and not in line with a substantial amount of published data that fell outside the scope of the study. Hollifield makes several valid points, but incorrectly states that the primary implication of Fazel and colleagues' review is that psychiatric prevalence as a function of trauma among refugees worldwide is low.

The larger studies surveyed, which assessed refugees from the far east who were mostly resident in the USA, provide a combined estimate of the prevalence of post-traumatic stress disorder (PTSD) of 8–10%. If all eligible studies but these are analysed, the PTSD prevalence is 31% (191 out of 626). The review's focus on refugees in well-to-do countries, which provides valuable information for host governments seeking to deliver appropriate, cost-effective services, precludes generalisation to prevalence (and policy needs) in other contexts, including regions closer to the sites of trauma. With geographic diversity far broader than the Asian-only representation in the larger studies, 31% might be a better estimate on which to base generalisations about samples internationally.

A statistical point is that, in judging the extent to which sample characteristics predict prevalence, Fazel and colleagues assess the unique contribution of each predictor across the entire dataset. It is easy to misinterpret the results of such an analysis, as seems to have occurred in the Comment. This strategy is not designed to detect predictors that vary in effectiveness between samples. Furthermore, in such an analysis, no predictor is credited with variance shared with other predictors: each correlated predictor no longer measures what it initially measured.[3] This can give the impression not only that prevalence rates are lower than suggested by other portions of the results but that there is presently little hope of understanding and targeting the factors that contribute to such rates. Such a misreading of the systematic review could mislead policy-makers.

It is unlikely that a general, standard rate of worldwide refugee PTSD can be determined, given the heterogeneity of the samples included, of characteristics (such as type of trauma) not reported on, and of other samples, such as those not having made it to rich western countries. The USA hosted less than 5% of the world's refugees at the end of 2003.[4] Conversely, looking at refugee country of origin,[4] none of the top seven sources in 2003 provided a sample for the review. Whereas the review was largely limited to adults, 43% of the refugees who the United Nations tracks are younger than 18 years.[4] In available child samples, Fazel and colleagues found a PTSD prevalence of 35%.

Hollifield offers the generalisation that 90% of refugees do not have PTSD. But the systematic review does not suggest either what such a general rate might be or even that a single, general rate would be meaningful.

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1 Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. *Lancet* 2005; **365:** 1309–14.
2 Hollifield M. Taking measure of war trauma. *Lancet* 2005; **365**: 1283–84.
3 Miller GA, Chapman JC. Misunderstanding analysis of covariance. *J Abnormal Psychol* 2001; **110**: 40–48.
4 United Nations High Commissioner for Refugees. 2003 global refugee trends. Geneva: UNHCR, 2004.