TECHNICAL COMMENTARY

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Prevalence in refugees and asylum seekers

Introduction

Prevalence represents the overall proportion of individuals in a population who have the disorder of interest. It is different from incidence, which represents only the new cases that have developed over a particular time-period. Point prevalence is the proportion of individuals in a population who have the disorder at a given point in time (e.g., at one-month post-trauma), while period prevalence is the proportion of individuals in a population who have the disorder over specific time periods (e.g., one to two months post-trauma). Lifetime prevalence is the proportion of individuals in a population who have ever had the disorder and lifetime morbid risk also includes those who had the disorder but were deceased at the time of the survey. This summary table presents the evidence for the prevalence of PTSD in refugees and asylum seekers.

Method

We have included only systematic reviews with detailed literature search, methodology, and inclusion/exclusion criteria that were published in full text, in English, from the year 2009. Reviews were identified by searching the databases MEDLINE, EMBASE, and PsycINFO. Reviews with pooled data are prioritized for inclusion. Reviews reporting fewer than 50% of items on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA[1]) checklist have been excluded from the library. The evidence was graded guided by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group approach[2]. The resulting table represents an objective summary of the available evidence, although the conclusions are solely the opinion of staff of NeuRA (Neuroscience Research Australia).

Results

We found six systematic reviews that met our inclusion criteria[3-8].

- High quality evidence finds the overall prevalence of PTSD is around 31% in refugees and asylum seekers. Rates were highest in women, in refugees from Africa, and in smaller studies. Rates varied according to diagnostic scale, with the Clinician Administered PTSD Scale showing highest rates (40%), and the Mini-International Neuropsychiatric Interview showing lowest rates (26%).
- Moderate to high quality evidence finds the prevalence of PTSD in war-affected refugees and citizens is also around 31%. Rates were highest in samples exposed to recent conflict, to torture, to more traumatic events, to political terror, and in people from Cambodia, Bosnia, Kosovo, and Africa.
- Moderate quality evidence finds the prevalence of PTSD in adult Syrian refugees living in Western or Middle Eastern countries is around 43%. The prevalence of PTSD in Iraqi refugees living in Western countries is up to 37%.
- Moderate quality evidence finds the prevalence of PTSD in child and adolescent refugees is around 23%, with rates highest in those displaced for less than two years and in those with an insecure visa status.

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Blackmore R, Gray KM, Boyle JA, Fazel M, Ranasinha S, Fitzgerald G, Misso M, Gibson-Helm M

Systematic Review and Meta-Analysis: The Prevalence of Mental Illness in Child and Adolescent Refugees and Asylum Seekers

Journal of the American Academy of Child and Adolescent Psychiatry 2020; 59(6): 705-714

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Comparison	**Prevalence of PTSD in child and adolescent refugees and asylum seekers.** **Studies were undertaken in Germany, Malaysia, Norway, Sweden, and Turkey. Refugees originated from the Middle East, Africa, and Southern Asia.**
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) finds the overall prevalence of PTSD is 22.7% in child and adolescent refugees. Prevalence is highest in those displaced for less than two years and in those with an insecure visa status.**
Prevalence in child and adolescent refugees and asylum seekers	
7 studies, N = 681, prevalence = 22.71%, 95%CI 12.79% to 32.64%, I^2 = 91% Prevalence was higher for those displaced for less than two years and for those with an insecure visa status. Conducting the diagnostic interview in the native language of the child or adolescent and current community residence gave lower prevalence rates.	
Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Blackmore R, Boyle JA, Fazel M, Ranasinha S, Gray KM, Fitzgerald G, Misso M, Gibson-Helm M

The prevalence of mental illness in refugees and asylum seekers: A systematic review and meta-analysis

PLoS Medicine 2020; 17(9): 1003337

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Comparison	**Prevalence of PTSD in refugees and asylum seekers.** **Studies were undertaken in Australia, Austria, China, Germany, Italy, Lebanon, Nepal, Norway, South Korea, Sweden, Switzerland, Turkey, Uganda, United Kingdom, and the United States of America.** **Regions of origin included the Middle East, Europe, Asia, and Africa.**
Summary of evidence	**High quality evidence (large sample, consistent, appears precise, direct) finds the overall prevalence of PTSD is around 31% in refugees and asylum seekers. Rates were highest in women, in refugees from Africa, and in smaller studies. Rates varied according to diagnostic scale, with the Clinician Administered PTSD Scale showing highest rates (40%), and the Mini-International Neuropsychiatric Interview showing lowest rates (26%).**
Prevalence of PTSD	
22 studies, N = 4,639, prevalence = 31.46%, 95%CI 24.43% to 38.50%, I^2 = 26% PTSD prevalence was higher for women (34.02%), in the smaller studies (37.35%), and those originating from Africa (48.25%). The Clinician Administered PTSD Scale yielding a higher prevalence of PTSD (40.41%) than the World Health Organization–Composite International Diagnostic Interview (31.6%), and the Structured Clinical Interview for DSM (30.55%) and the Mini-International Neuropsychiatric Interview (25.8%). Duration of displacement had no significant impact on PTSD prevalence.	
Consistency in results	Consistent
Precision in results	Appears precise
Directness of results	Direct

Peconga EK, Hogh Thogersen M

Post-traumatic stress disorder, depression, and anxiety in adult Syrian refugees: What do we know?

Scandinavian Journal of Public Health 2020; 48: 677-87

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Comparison	**Prevalence of PTSD in adult Syrian refugees living in Western or**

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	Middle Eastern countries.
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) finds the prevalence of PTSD in adult Syrian refugees is around 43%.**
Prevalence of PTSD in adult Syrian refugees	
15 studies, N = 8,176, prevalence = 43.0%, range = 23.4% to 83.4%	
Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Slewa-Younan S, Uribe Guajardo MG, Heriseanu A, Hasan T

A Systematic Review of Post-traumatic Stress Disorder and Depression Amongst Iraqi Refugees Located in Western Countries

Journal of Immigrant and Minority Health 2015; 17: 1231-9

View review abstract online

Comparison	**Prevalence of PTSD in Iraqi refugees.**
Summary of evidence	**Moderate quality evidence (large sample, direct) finds the prevalence of PTSD in Iraqi refugees in Western countries is between 8% and 37%.**
Prevalence in Iraqi refugees	
6 studies, N = 1,912, prevalence range 8% to 37.2%	
Consistency in results	No measure of consistency is reported.
Precision in results	No measure of precision is reported.
Directness of results	Direct

Steel Z, Chey T, Silove D, Marnane C, Bryant RA, van Ommeren M

Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and

displacement: a systematic review and meta-analysis

Jama 2009; 302: 537-49

View review abstract online

Comparison	**Prevalence of PTSD in war-affected citizens and refugees (not all the sample were displaced).**
Summary of evidence	**Moderate to high quality evidence (large sample, inconsistent, appears precise, direct) finds the prevalence of PTSD in war-affected refugees and citizens is around 31%. Rates were highest in samples exposed to recent conflict, to torture, to more potentially traumatic events, to political terror, and in people from Cambodia, Bosnia, Kosovo, and Africa.**
Prevalence in war-affected citizens and refugees	
145 studies, N = 64,332, prevalence = 30.6%, 95%CI 26.3% to 35.2%, I^2 = 99% Rates of PTSD were higher in samples exposed to torture, in samples exposed to more potentially traumatic events, in samples exposed to political terror, in samples exposed to recent conflict, and in Cambodian, Bosnian, Kosovon, and African samples. Rates of PTSD were also higher in smaller rather than larger samples, in studies using self-report rather than diagnostic interviews to assess PTSD, and in studies reporting point rather than period prevalence.	
Consistency in results	Inconsistent
Precision in results	Appears precise
Directness of results	Direct

Von Werthern M, Robjant K, Chui Z, Schon R, Ottisova L, Mason C,

The impact of immigration detention on mental health: A systematic review

BMC Psychiatry 2018; 18: 1945

View review abstract online

Comparison	**Prevalence of PTSD during and following immigration detention.**
Summary of evidence	**Moderate to low quality evidence (small to medium samples, appears inconsistent and imprecise, direct) finds the prevalence of PTSD in adults and children during or following immigration detention is between 17% and 100%.**

Prevalence in refugees and asylum seekers

Prevalence of PTSD during and following immigration detention	
Adults: 5 studies, N = 304, prevalence ranged from 17% to 76% Children: 3 studies, N = 51, prevalence ranged from 17% to 100%	
Consistency in results	Appears inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Explanation of acronyms

CI = confidence interval, I^2 = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), N = number of participants

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Explanation of technical terms

* Bias has the potential to affect reviews of both RCT and observational studies. Forms of bias include; reporting bias – selective reporting of results; publication bias - trials that are not formally published tend to show less effect than published trials, further if there are statistically significant differences between groups in a trial, these trial results tend to get published before those of trials without significant differences; language bias – only including English language reports; funding bias - source of funding for the primary research with selective reporting of results within primary studies; outcome variable selection bias; database bias - including reports from some databases and not others; citation bias - preferential citation of authors. Trials can also be subject to bias when evaluators are not blind to treatment condition and selection bias of participants if trial samples are small[9].

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† Different effect measures are reported by different reviews.

Prevalence refers to how many existing cases there are at a particular point in time. Incidence refers to how many new cases there are per population in a specified time period. Incidence is usually reported as the number of new cases per 100,000 people per year. Alternatively some studies present the number of new cases that have accumulated over several years against a person-years denominator. This denominator is the sum of individual units of time that the persons in the population are at risk of becoming a case. It takes into account the size of the underlying population sample and its age structure over the duration of observation.

Reliability and validity refers to how accurate the instrument is. Sensitivity is the proportion of actual positives that are correctly identified (100% sensitivity = correct identification of all actual positives) and specificity is the proportion of negatives that are correctly identified (100% specificity = not identifying anyone as positive if they are truly not).

Weighted mean difference scores refer to mean differences between treatment and comparison groups after treatment (or occasionally pre to post treatment) and in a randomised trial there is an assumption that both groups are comparable on this measure prior to treatment. Standardised mean differences are divided by the pooled standard deviation (or the standard deviation of one group when groups are homogenous) that allows results from different scales to be combined and compared. Each study's mean difference is then given a weighting depending on the size of the sample and the variability in the data. Less than 0.4 represents a small effect, around 0.5 a medium effect, and over 0.8 represents a large effect[9].

Odds ratio (OR) or relative risk (RR) refers to the probability of a reduction (< 1) or an increase (> 1) in a particular outcome in a treatment group, or a group exposed to a risk factor, relative to the comparison group. For example, a RR of 0.75 translates to a reduction in risk of an outcome of 25% relative to those not receiving the treatment or not exposed to the risk factor. Conversely, a RR of 1.25 translates to an increased risk of 25% relative to those not receiving treatment or not having been exposed to a risk factor. A RR or OR of 1.00 means there is no difference between groups. A medium effect is considered if RR > 2 or < 0.5 and a large effect if RR > 5 or < 0.2[10]. lnOR stands for logarithmic OR where a lnOR of 0 shows no difference between groups. Hazard ratios measure the effect of an explanatory variable on the hazard or risk of an event.

Correlation coefficients (eg, r) indicate the strength of association or relationship

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between variables. They can provide an indirect indication of prediction, but do not confirm causality due to possible and often unforseen confounding variables. An r of 0.10 represents a weak association, 0.25 a medium association and 0.40 and over represents a strong association. Unstandardised (*b*) regression coefficients indicate the average change in the dependent variable associated with a 1 unit change in the independent variable, statistically controlling for the other independent variables. Standardised regression coefficients represent the change being in units of standard deviations to allow comparison across different scales.

‡ Inconsistency refers to differing estimates of effect across studies (i.e. heterogeneity or variability in results) that is not explained by subgroup analyses and therefore reduces confidence in the effect estimate. I^2 is the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance) - 0% to 40%: heterogeneity might not be important, 30% to 60%: may represent moderate heterogeneity, 50% to 90%: may represent considerable heterogeneity and over this is considerable heterogeneity. I^2 can be calculated from Q (chi-square) for the test of heterogeneity with the following formula[9];

$$I^2 = \left(\frac{Q - df}{Q}\right) \times 100\%$$

§ Imprecision refers to wide confidence intervals indicating a lack of confidence in the effect estimate. Based on GRADE recommendations, a result for continuous data (standardised mean differences, not weighted mean differences) is considered imprecise if the upper or lower confidence limit crosses an effect size of 0.5 in either direction, and for binary and correlation data, an effect size of 0.25. GRADE also recommends downgrading the evidence when sample size is smaller than 300 (for binary data) and 400 (for continuous data), although for some topics, these criteria should be relaxed[11].

‖ Indirectness of comparison occurs when a comparison of intervention A versus B is not available but A was compared with C and B was compared with C that allows indirect comparisons of the magnitude of effect of A versus B. Indirectness of population, comparator and/or outcome can also occur when the available evidence regarding a particular population, intervention, comparator, or outcome is not available and is therefore inferred from available evidence. These inferred treatment effect sizes are of lower quality than those gained from head-to-head comparisons of A and B.

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