

Prevalence in refugees

Introduction

Prevalence quantifies the proportion of individuals in a population who have a disease during a specific time-period while incidence refers to the number of new cases of disease that develop in a population during a specific time-period while. In disorders of short duration incidence and prevalence rates may be similar, however with disorders of long duration such as with schizophrenia there can be variation between the two.

An immigrant is a person who makes a conscious choice to leave their country to seek a better life elsewhere. They are free to return home at any time if things don't work out as they had hoped. In contrast, refugees are forced to flee their country, often suddenly, leaving behind their homes, most or all of their belongings, family members and friends. Many have experienced significant trauma and the journey to safety is fraught with hazard. They cannot return unless the situation that forced them to leave improves. Studies of immigrants have found an increased risk of schizophrenia (both first and second generation), but refugees are at particularly high risk due to the added stress of having to leave their country due to war or persecution.

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 2000. 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

approach². 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 one systematic review that met our inclusion criteria³.

- High quality evidence finds the overall prevalence of psychotic disorders is 1.5% in refugees and asylum seekers. Studies were undertaken in Australia, Germany, Italy, Lebanon, Norway, United Kingdom, and the United States of America. Refugees were from Azerbaijan, former Yugoslavia, Middle East, Africa, Palestine, and Russia.

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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

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[View review abstract online](#)

Comparison	<p>Prevalence of psychotic disorders (mostly schizophrenia spectrum) in refugees and asylum seekers.</p> <p>Studies were undertaken in Australia, Germany, Italy, Lebanon, Norway, United Kingdom, and the United States of America.</p> <p>Countries of origin included Azerbaijan, former Yugoslavia, Middle East, Africa, Palestine, and Russia.</p>
Summary of evidence	<p>High quality evidence (large sample, consistent, appears precise, direct) finds the overall prevalence of psychotic disorders is 1.5% in refugees and asylum seekers.</p>
Prevalence of psychotic disorders	
6 studies, N = 1,695, prevalence = 1.51%, 95%CI 0.63% to 2.40%, I ² = 26%	
Consistency in results	Consistent
Precision in results	Appears precise
Directness of results	Direct

Explanation of acronyms

CI = confidence interval, I² = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), N = sample size, vs. = versus

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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 small⁴.

† Different effect measures are reported by different reviews.

Reliability and validity refers to how accurate the instrument is. Sensitivity is the proportion of actual positives that are correctly identified - 100% sensitivity = predict all people who are at high risk as developing psychosis and specificity is the proportion of negatives that are correctly identified - 100% specificity = not predicting anyone as being at high risk 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. Standardized 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. 0.2 represents a small effect, 0.5 a moderate effect, and 0.8 and over represents a large effect⁴.

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 ⁵. InOR stands for logarithmic OR where a InOR 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 between variables. They are an indication of prediction, but do not confirm causality due to possible and often unforeseen 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



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being in units of standard deviations to allow comparison across different scales.

‡ Inconsistency refers to differing estimates of treatment effect across trials (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 be 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;

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

§ 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, this criteria should be relaxed⁶.

|| 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 so is inferred from available evidence. These inferred treatment effect sized are of lower quality than those gained from head-to-head comparisons of A and B.



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References

1. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group (2009): Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *British Medical Journal* 151: 264-9.
2. GRADE Working Group (2004): Grading quality of evidence and strength of recommendations. *British Medical Journal* 328: 1490.
3. Blackmore R, Boyle JA, Fazel M, Ranasinha S, Gray KM, Fitzgerald G, *et al.* (2020): The prevalence of mental illness in refugees and asylum seekers: A systematic review and meta-analysis. *PLoS Medicine* 17(9): 1003337.
4. Cochrane Collaboration (2008): Cochrane Handbook for Systematic Reviews of Interventions. Accessed 24/06/2011.
5. Rosenthal JA (1996): Qualitative Descriptors of Strength of Association and Effect Size. *Journal of Social Service Research* 21: 37-59.
6. GRADEpro (2008): [Computer program]. Jan Brozek, Andrew Oxman, Holger Schünemann. *Version 3.2 for Windows*