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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. 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. This topic assesses the prevalence of schizophrenia in veteran populations.

Method

We have included only systematic reviews (systematic literature search, detailed methodology with inclusion/exclusion criteria) published in full text, in English, from the year 2000 that report results for people with a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder or first episode schizophrenia. Reviews were identified by searching the databases MEDLINE, EMBASE, and PsycINFO. Hand searching reference lists of identified reviews was also conducted. When multiple copies of review topics were found, only the most recent and comprehensive version were included. Reviews with pooled data are given priority for inclusion.

Review reporting assessment was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses ([PRISMA](#)) checklist that describes a preferred way to present a meta-analysis¹. Reviews with less than 50% of items checked have been excluded from the library. The PRISMA flow diagram is a suggested way of providing information about studies included and excluded with reasons for exclusion. Where no flow diagram has been presented by individual reviews, but identified studies have been described in the text, reviews have been

checked for this item. Note that early reviews may have been guided by less stringent reporting checklists than the PRISMA, and that some reviews may have been limited by journal guidelines.

Evidence was graded using the Grading of Recommendations Assessment, Development and Evaluation ([GRADE](#)) Working Group approach where high quality evidence such as that gained from randomised controlled trials (RCTs) may be downgraded to moderate or low review and study quality is limited, if there is inconsistency in results, indirect comparisons, imprecise or sparse data and high probability of reporting bias. It may also be downgraded if risks associated with the intervention or other matter under review are high. Conversely, low quality evidence such as that gained from observational studies may be upgraded if effect sizes are large, there is a dose dependent response or if results are reasonably consistent, precise and direct with low associated risks (see end of table for an explanation of these terms)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 two systematic reviews that met our inclusion criteria^{3, 4}.

- Moderate quality evidence suggests the current prevalence of schizophrenia in elderly veterans in the USA is around 11%.
- Moderate to low quality evidence suggests the prevalence of schizophrenia in conflict settings in East Timor is 0.34% and in South Darfur, Sudan is 4.1%.

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Charlson F, van Ommeren M, Flaxman A, Cornett J, Whiteford H, Saxena S

New WHO prevalence estimates of mental disorders in conflict settings: A systematic review and meta-analysis

The Lancet 2019; 394: 240-8

[View review abstract online](#)

Comparison	Prevalence of schizophrenia in conflict settings.
Summary of evidence	Moderate to low quality evidence (unclear sample sizes, inconsistent, unable to assess precision, direct) suggests the prevalence of schizophrenia in conflict settings is between 0.34 and 4.1%.
Schizophrenia	
<p>1 cross-sectional study of an internally displaced population in South Darfur Sudan reported a prevalence of schizophrenia of 4.1%.</p> <p>1 general population survey in East Timor reported a schizophrenia point prevalence of 0.34%.</p>	
Consistency in results	Inconsistent
Precision in results	Unable to assess; no CIs are reported.
Directness of results	Direct

Williamson V, Stevelink SAM, Greenberg K, Greenberg N

Prevalence of Mental Health Disorders in Elderly U.S. Military Veterans: A Meta-Analysis and Systematic Review

American Journal of Geriatric Psychiatry 2018; 26: 534-45

[View review abstract online](#)

Comparison	Prevalence of schizophrenia in elderly US veterans (≥65 years).
Summary of evidence	Moderate quality evidence (large sample, inconsistent, imprecise, direct) suggests the current prevalence of schizophrenia in elderly veterans is around 11%.
Schizophrenia	

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Current: 6 studies, N = 972,956, prevalence = 11.2%, 95%CI 3.69% to 21.69%, $I^2 = 100\%$

Consistency in results	Inconsistent
Precision in results	Imprecise
Directness of results	Direct

Explanation of acronyms

CI = confidence interval, I^2 = measure of heterogeneity in study results, 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 small⁵.

† Different effect measures are reported by different reviews.

Prevalence; how many people have a particular disorder or event at a particular point in time. Incidence; how many new cases of a disorder or event per population in a specified time period.

Median rate ratio refers to the ratio between prevalence or incidence rates of two groups, based on the median rather than the mean. The median is often used as a better measure of central tendency than the mean when data are skewed. Harmonic means are also used when data are skewed and are appropriate for rate data.

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. 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. 0.2 represents a small effect, 0.5 a medium effect, and 0.8 and over represents a large effect⁵.

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 ⁶. 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

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

sample size is smaller than 300 (for binary data) and 400 (for continuous data), although for some topics, this criteria should be relaxed⁷.

‡ 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;

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

|| 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 sizes are of lower quality than those gained from head-to-head comparisons of A and B.

§ 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

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References

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2. GRADE Working Group (2004): Grading quality of evidence and strength of recommendations. *British Medical Journal* 328: 1490.
3. Charlson F, van Ommeren M, Flaxman A, Cornett J, Whiteford H, Saxena S (2019): New WHO prevalence estimates of mental disorders in conflict settings: A systematic review and meta-analysis. *The Lancet* 394: 240-8.
4. Williamson V, Stevelink SAM, Greenberg K, Greenberg N (2018): Prevalence of Mental Health Disorders in Elderly U.S. Military Veterans: A Meta-Analysis and Systematic Review. *American Journal of Geriatric Psychiatry* 26: 534-45.
5. Cochrane Collaboration (2008): Cochrane Handbook for Systematic Reviews of Interventions. Accessed 24/06/2011.
6. Rosenthal JA (1996): Qualitative Descriptors of Strength of Association and Effect Size. *Journal of Social Service Research* 21: 37-59.
7. GRADEpro (2008): [Computer program]. Jan Brozek, Andrew Oxman, Holger Schünemann. *Version 3.2 for Windows*