TECHNICAL COMMENTARY

Schizophreniform disorder

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Introduction

Diagnostic scales are widely used within clinical practice and research settings to ensure consistency of illness ratings. These scales have been extensively validated and provide a set of criteria that is used to define and diagnose an illness. Two key examples include the American Psychiatric Association's *Diagnostic and Statistical Manual* (DSM) and the World Health Organisation's *International Classification of Diseases* (ICD), which both provide a comprehensive definition of schizophrenia and related disorders. Both the DSM and ICD criteria are regularly updated, and the most recent versions are the DSM-5 and the ICD-10.

Schizophreniform disorder is a part of the schizophrenia spectrum of disorders and has sometimes been used as a provisional diagnosis while waiting to see if symptoms improve by six months or progress, resulting in a diagnosis of schizophrenia. DSM-5 requires at least one of the following symptoms is present for a significant portion of the time during a one-month period, but for less than six months: delusions, hallucinations, or disorganised speech. Disorganised behaviour or negative symptoms may also be present. There can be no manic, depressive, or mixed manic-depressive episodes, and any mood disturbance must have been present during only a minority of the time. The symptoms cannot be due to the effects of a substance or due to a medical or neurological disorder.

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 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 two systematic reviews that met our inclusion criteria[3, 4].

- Moderate to high quality evidence suggests the rate of a schizophrenia diagnosis following a diagnosis of schizophreniform disorder is around 65% by about 4 years. The rate of first-episode psychosis patients retaining a diagnosis of schizophreniform disorder over time is around 29%.

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Fusar-Poli P, Cappucciati M, Rutigliano G, Heslin M, Stahl D, Brittenden Z, Caverzasi E, McGuire P, Carpenter WT

Diagnostic Stability of ICD/DSM First Episode Psychosis Diagnoses: Meta-analysis

Schizophrenia Bulletin 2016; 42(6): 1395-406

View review abstract online

Comparison	**Diagnostic stability in people with first-episode psychosis using ICD or DSM over 4-5 years.**
Summary of evidence	**Moderate to high quality evidence (large sample, unable to assess consistency, precise, direct) suggests the diagnositic stability for schizophreniform disorder is 29% over time.**
Diagnostic stability	
42 studies N = 14,484, follow-up average 4.5 years *The proportion of people with first-episode psychosis that retain a diagnosis of schizophreniform disorder is 29%;* Schizophreniform disorder: 0.29, 95%CI 0.22 to 0.38 *Other diagnoses;* Schizophrenia: 0.90, 95%CI 0.85 to 0.95 Schizoaffective disorder: 0.72, 95%CI 0.61 to 0.73 All affective spectrum psychoses: 0.84, 95%CI 0.79 to 0.89 Substance-induced psychotic disorder: 0.66, 95%CI 0.51 to 0.81 Delusional disorder: 0.59, 95%CI 0.47 to 0.71 Acute and transient psychotic disorder/brief psychotic disorder: 0.56, 95%CI 0.62 to 0.60 Psychosis not otherwise specified: 0.36, 95%CI 0.27 to 0.45	
Consistency in results	Unable to assess; no measure of consistency is reported.
Precision in results	Precise
Directness of results	Direct

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Murrie B, Lappin J, Large M, Sara G

Transition of Substance-Induced, Brief, and Atypical Psychoses to Schizophrenia: A Systematic Review and Meta-analysis

Schizophrenia Bulletin 2019; 46(5): 505-516

View review abstract online

Comparison	**Rates of a diagnosis of schizophrenia following a diagnosis of schizophreniform disorder.**
Summary of evidence	**Moderate to high quality evidence (large sample, inconsistent, precise, direct) suggests the rate of a schizophrenia diagnosis following a diagnosis of schizophreniform disorder is around 65%.**
Diagnosis of schizophrenia	
Diagnosis of schizophrenia at follow-up (mean 4 years); 20 estimates, N = 590, rate = 65%, 95%CI 57% to 72%, I^2 = 54%	
Consistency in results	Inconsistent
Precision in results	Appears precise.
Directness of results	Direct

Explanation of acronyms

CI = confidence interval, DSM = American Psychiatric Association's Diagnostic and Statistical Manual, ICD = World Health Organisation's International Classification of Diseases, 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[5].

† 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. 0.2 represents a small effect, 0.5 a moderate effect, and 0.8 and over represents a large effect[5].

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]. 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.

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Correlation coefficients (eg, r) indicate the strength of association or relationship 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[5];

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

§ 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[7].

‖ 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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