TECHNICAL COMMENTARY

Educational therapies

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Introduction

Educational therapies for psychiatric illnesses (psychoeducation) are targeted towards increasing a person's knowledge about their disorder. Educational therapies aim to improve insight and understanding, promote coping and reduce stigma, increase medication adherence, enable behavioural change, and ultimately prevent relapse. Educational sessions can take place individually or in groups, with other patients or with family, and are usually incorporated into an ongoing treatment regimen in both hospital and community settings.

Areas covered during educational sessions include; biological and environmental risk factors, symptoms, risk of relapse, common external episode triggers, problems with substance use, episode warning signs and action plans, risk of suicide, pharmaceutical and psychosocial treatments, importance of treatment adherence, importance of support networks, sleep, structured activities and routines.

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 2010 that report results separately for people with a diagnosis of bipolar or related disorders. We have prioritised reviews with pooled data so that effect sizes can be taken into consideration. Reviews were identified by searching MEDLINE, EMBASE, and PsycINFO. Hand searching reference lists of identified reviews was also conducted. When multiple copies of review topics were found, the most recent and/or comprehensive review was included.

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-analysis[1]. Reviews rated as having less than 50% of checked items 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 if 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 or if there is a dose dependent response. We have also taken into account sample size and whether results are consistent, precise and direct with low associated risks (see end of table for an explanation of these terms). 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 four systematic reviews that met our inclusion criteria[2-5].

- Moderate to low quality evidence suggests a medium-sized effect of fewer relapses to mania or depression with group

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psychoeducation, but not with individual psychoeducation, when compared to placebo or treatment as usual.

- Moderate to low quality evidence suggests psychoeducation may increase treatment adherence. Psychoeducation plus CBT may improve mania symptoms and functioning. Psychoeducation plus Personalized Real-time Intervention for Stabilizing Mood (PRISM) may improve depressive symptoms.
- Moderate to high quality evidence suggests reduced internalised stigma with psychoeducation.

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Bond K, Anderson IM

Psychoeducation for relapse prevention in bipolar disorder: a systematic review of efficacy in randomized controlled trials

Bipolar Disorders 2015; 17: 349-62

View review abstract online

Comparison	**Psychoeducation for relapse prevention in people with bipolar disorder who are not in an acute state vs. placebo control or treatment as usual.** **Treatment duration ranged from 42-103 weeks.**
Summary of evidence	**Moderate to low quality evidence (inconsistent, imprecise, direct, large sample) suggests a medium-sized effect of fewer relapses with group psychoeducation but not with individual psychoeducation when compared to placebo or treatment as usual.**

Relapse

A significant, medium-sized effect of fewer relapses with psychoeducation in group format, but not in individual format;

All studies: 7 studies, N = 513, OR = 1.98, 95%CI 1.09 to 3.58, $p = 0.024$, $I^2 = 54\%$

Group education studies: 5 studies, N = 367, OR = 2.80, 95%CI 1.63 to 4.82, $p < 0.001$, $I^2 = 19\%$

Individual education studies: 2 studies, N = 146, OR = 0.89, 95%CI 0.45 to 1.76, $p = 0.74$

A significant, medium-sized effect of fewer relapses to mania with psychoeducation in group format but not in individual format;

All studies: 8 studies, N = 582, OR = 1.68, 95%CI 0.99 to 2.85, $p = 0.06$, $I^2 = 55\%$

Group education studies: 5 studies, N = 367, OR = 2.07, 95%CI 1.11 to 3.85, $p = 0.02$, $I^2 = 47\%$

Individual education studies: 3 studies, N = 215, OR = 1.19, 95%CI 0.45 to 3.15, $p = 0.72$, $I^2 = 65\%$

A significant, medium-sized effect of fewer relapses to depression with psychoeducation in group format but not in individual format;

All studies: 8 studies, N = 582, OR = 1.39, 95%CI 0.78 to 2.48, $p = 0.26$, $I^2 = 63\%$

Group education studies: 5 studies, N = 367, OR = 2.08, 95%CI 1.05 to 4.12, $p = 0.04$, $I^2 = 57\%$

Individual education studies: 3 studies, N = 215, OR = 0.76, 95%CI 0.44 to 1.31, $p = 0.32$, $I^2 = 0\%$

Review authors report that psychoeducation was most effective in studies with more than 20 hours

of therapy and in studies with duration over 1 year. There were no differences between groups when psychoeducation was directly compared to CBT or family therapy.	
Consistency in results‡	Inconsistent
Precision in results§	Imprecise
Directness of results‖	Direct

Chatterton ML, Stockings E, Berk M, Barendregt JJ, Carter R, Mihalopoulos C

Psychosocial therapies for the adjunctive treatment of bipolar disorder in adults: network meta-analysis

British Journal of Psychiatry 2017; 210: 333-41

View review abstract online

Comparison	**Psychoeducation for people with bipolar disorder vs. treatment as usual.** **This meta-analysis uses direct and indirect comparisons from 41 trials (N = 3,119).**
Summary of evidence	**Moderate to low quality evidence (large sample, unable to assess consistency, imprecise, direct and indirect) suggests psychoeducation may increase treatment adherence. Psychoeducation plus CBT may improve mania symptoms and functioning. Psychoeducation plus Personalized Real-time Intervention for Stabilizing Mood (PRISM) may improve depressive symptoms.**
Relapse	
No significant differences between groups; RR = 0.83, 95%CI 0.65 to 1.06, $p > 0.05$ *Psychoeducation + cognitive behavioural therapies (CBT) yielded similar results;* RR = 1.12, 95%CI 0.58 to 2.18, $p > 0.05$	
Mania symptoms	
No significant differences between groups; g = -0.22, 95%CI -0.64 to 0.20, $p > 0.05$ *Psychoeducation + Personalized Real-time Intervention for Stabilizing Mood (PRISM) yielded*	

similar results; *g* = 0.33, 95%CI -0.22 to 0.89, *p* > 0.05 *Psychoeducation + CBT resulted in a small effect of fewer mania symptoms;* *g* = -0.95, 95%CI -1.47 to -0.43, *p* < 0.05	
Depressive symptoms	
No significant differences between groups; *g* = -0.14, 95%CI -0.30 to 1.01, *p* > 0.05 *Psychoeducation + CBT yielded similar results;* *g* = -0.58, 95%CI -2.41 to 1.25, *p* > 0.05 *Psychoeducation + Personalized Real-time Intervention for Stabilizing Mood (PRISM) gave a small effect of fewer depressive symptoms;* *g* = 0.60, 95%CI 0.11 to 1.09, *p* < 0.05	
Treatment adherence	
Psychoeducation resulted in a medium-sized effect of increased medication adherence; RR = 0.27, 95%CI 0.14 to 0.53, *p* < 0.05 *Psychoeducation + CBT resulted in a small effect;* RR = 0.14, 95%CI 0.02 to 0.85, *p* < 0.05	
General functioning	
No significant differences between groups; *g* = 0.20, 95%CI 0.17 to 0.58, *p* > 0.05 *Psychoeducation + CBT resulted in a medium-sized effect;* *g* = 2.55, 95%CI 1.69 to 3.40, *p* < 0.05	
Consistency in results	Unable to assess; no measure of consistency is reported.
Precision in results	Precise for overall relapse, mania symptoms and functioning only.
Directness of results	Direct and indirect

Miklowitz DJ, Efthimiou O, Furukawa TA, Scott J, McLaren R, Geddes JR, Cipriani A

Adjunctive Psychotherapy for Bipolar Disorder: A Systematic Review and

Component Network Meta-analysis

JAMA Psychiatry 2021; 78: 141-50

View review abstract online

Comparison	**Psychoeducation plus medication vs. standard care for bipolar disorder.** **Standard care consisted of routine outpatient medication visits with a physician. It is sometimes accompanied by case management.**
Summary of evidence	**Moderate quality evidence (unclear sample size, consistent, imprecise, direct) finds psychoeducation reduces relapses compared to standard care, with no particular benefit for depression and mania symptoms.**
Relapse and symptoms	
Significant, medium-sized effect of fewer relapses with psychoeducation; 3 RCTs, N not reported, OR = 0.51, 95%CI 0.26 to 0.99, $p < 0.05$ Authors report no significant differences in relapse rates when psychoeducation was compared to CBT, supportive therapy, or family/conjoint therapy. There were no differences in depression or mania symptoms between psychoeducation and standard care or other therapies.	
Consistency in results	Authors report little evidence of inconsistency.
Precision in results	Imprecise
Directness of results	Direct

Tsang HWH, Ching SC, Tang KH, Lam HT, Law PYY, Wan CN

Therapeutic intervention for internalized stigma of severe mental illness: A systematic review and meta-analysis

Schizophrenia Research 2016; 173: 45-53

View review abstract online

Comparison	**Psychoeducation for reducing internalised stigma vs. standard care for people with bipolar disorders.** **Some studies also included people with schizophrenia spectrum disorders or depression.**

	Therapy duration ranged from 3 weeks to 3 months.
Summary of evidence	**Moderate to high quality evidence (consistent, precise, indirect, large samples) suggests reduced internalised stigma with psychoeducation.**
Internalised stigma **Measured using the Internalized Stigma of Mental Illness scale**	
Significant, medium-sized effect of reduced internalised stigma with psychoeducation; 1 RCT + 2 controlled trials, N = 274, *d* = -0.40, 95%CI -0.64 to -0.16, *p* = 0.001, I^2 = 17%, *p* = 0.30	
Consistency in results	Consistent
Precision in results	Precise
Directness of results	Indirect; mixed samples

Explanation of acronyms

CBT = cognitive behavioural therapy, CI = confidence interval, *d* = Cohen's *d* and *g* = Hedges' *g* = standardised mean differences, N = number of participants, OR = odds ratio, *p* = significance level ($p < 0.05$ generally regarded as significant), RR = relative risk, vs. = versus

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.

† 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 have been divided by the pooled standard deviation (or the standard deviation of one group when groups are homogenous) which 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[6].

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[6]. 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[7]. 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;

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

§ Imprecision refers to wide confidence intervals indicating a lack of confidence in the effect estimate[7]. 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.

‖ 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[7].

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