Peer support

Introduction

Peer support involves providing support or services to people with mental health problems by other people who have experienced mental health problems. Peer support may promote confidence and hope through sharing experiences and modelling recovery and coping strategies. The potential for recipients of peer support to provide reciprocal support may also be empowering and of therapeutic value[1].

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 separately for people with a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder or first episode schizophrenia. Due to the high volume of systematic reviews we have now limited inclusion to systematic meta-analyses. Where no systematic meta-analysis exists for a topic, systematic reviews without meta-analysis are included for that topic. Reviews were identified by searching the databases MEDLINE, EMBASE, CINAHL, Current Contents, PsycINFO and the Cochrane library. Hand searching reference lists of identified reviews was also conducted. When multiple copies of reviews were found, only the most recent version 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[2]. Reviews reporting less than 50% of 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)[3]. 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 review that met our inclusion criteria[1].

- With unidirectional peer support, moderate to low quality evidence suggests a small effect of improved recovery and hope at the end of treatment and at follow-up, and improved depression and anxiety, quality of life, and empowerment at follow-up only. No differences were reported between unidirectional peer support and standard

care in psychotic symptoms, hospitalisation or satisfaction with services.

- With bidirectional mutual support, moderate to low quality evidence suggests a medium-sized effect of improved depression and anxiety, and a large effect of improved quality of life and empowerment at the end of treatment. No differences were reported between bidirectional peer support and standard care in recovery or hospitalisation rates.

- Moderate to low quality evidence suggests a medium-sized effect of less satisfaction with services with peer delivered services versus standard delivery.

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Lloyd-Evans B, Mayo-Wilson E, Harrison B, Istead H, Brown E, Pilling S, Johnson S, Kendall T

A systematic review and meta-analysis of randomised controlled trials of peer support for people with severe mental illness

BMC Psychiatry 2014; 14: 39

[View review abstract online](#)

Comparison 1	**Peer support (unidirectional peer support) plus standard care vs. standard care.**
Summary of evidence	**Moderate to low quality evidence (high risk of bias in primary studies, some inconsistency, some imprecision, large samples, direct) suggests a small effect of improved recovery and hope at the end of treatment and follow-up, and improved depression and anxiety, quality of life, and empowerment at follow-up only. No differences were reported for symptoms of psychosis, hospitalisation, or satisfaction with services.**

Mental state and hospitalisation

A small, significant effect of increased recovery and improved depression and anxiety in patients receiving peer support, with no differences in psychotic symptoms or hospitalisation rates;

Recovery, end of treatment: 4 RCTs, N = 1,066, SMD = -0.24, 95%CI -0.39 to -0.09, $p < 0.05$, I^2 = 27%, $p = 0.25$

Recovery, 6 months follow-up: 2 RCTs, N = 757, SMD = -0.23, 95%CI -0.37 to -0.09, $p < 0.05$, I^2 = 0%, $p = 0.40$

Overall symptoms, end of treatment: 3 RCTs, N = 753, SMD = -0.07, 95%CI -0.39 to 0.24, $p > 0.05$, I^2 = 74%, $p = 0.02$

Overall symptoms, 6 months follow-up: 1 RCT, N = 753, SMD = -0.08, 95%CI -0.26 to 0.11, $p > 0.05$

Symptoms of psychosis, end of treatment: 2 RCTs, N = 696, SMD -0.08, 95%CI -0.27 to 0.03, $p > 0.05$, I^2 is not reported

Symptoms of psychosis, 6 months follow-up: 1 RCT, N = 448, SMD -0.00, 95%CI -0.19 to 0.18, $p > 0.05$

Depression/anxiety, end of treatment: 3 RCTs, N = 861, SMD = -0.10, 95%CI -0.24 to 0.03, $p > 0.05$, I^2 = 0%, $p = 0.37$

Depression/anxiety, 6 months follow-up: 2 RCTs, N = 721, SMD = -0.17, 95%CI -0.32 to -0.03, $p < 0.05$, I^2 = 0%, $p = 0.70$

Hospitalisation, end of treatment: 1 RCT, N = 45, RR 1.07, 95%CI 0.55 to 2.07, $p > 0.05$	
Duration of admission, end of treatment: 3 RCTs, N = 255, SMD -0.22, 95%CI -0.72, 0.28, $p > 0.05$, $I^2 = 72\%$, $p = 0.03$	
Authors state all trials were at high risk of bias.	

Quality of life, hope, empowerment and satisfaction
Small, significant effects of increased hope in patients receiving peer support, improved quality of life and empowerment at follow-up only;
Hope, end of treatment: 4 RCTs, N = 1,072, SMD = -0.14, 95%CI -0.27 to -0.02, $p < 0.05$, $I^2 = 7\%$, $p = 0.36$
Hope, 3-6 month follow-up: 3 RCTs, N = 967, SMD = -0.24, 95%CI -0.46 to -0.02, $p < 0.05$, $I^2 = 65\%$, $p = 0.06$
Quality of life, end of treatment: 5 RCTs, N = 1,039, SMD = 0.04, 95%CI -0.16 to 0.24, $p > 0.05$, $I^2 = 52\%$, $p = 0.08$
Quality of life, 3-6 month follow-up: 2 RCTs, N = 639, SMD = -0.24, 95%CI -0.40 to -0.08, $p < 0.05$, $I^2 = 0\%$, $p = 0.98$
Empowerment, end of treatment: 2 RCTs, N = 286, SMD = -2.67, 95%CI -7.35 to 2.02, $p > 0.05$, $I^2 = 97\%$, $p < 0.001$
Empowerment, 3-6 month follow-up: 2 RCTs, N = 538, SMD = -0.25, 95%CI -0.43 to -0.07, $p < 0.05$, $I^2 = 97\%$, $p < 0.001$
Satisfaction, end of treatment: 3 RCTs, N = 332, SMD = 0.02, 95%CI -0.20 to 0.23, $p > 0.05$, $I^2 = 12\%$, $p = 0.29$
Authors state all trials were at high risk of bias.

Consistency in results[‡]	Consistent, apart from overall symptoms, duration of admission and empowerment.
Precision in results[§]	Precise, apart from hospitalisation and empowerment at end of treatment.
Directness of results[∥]	Direct
Comparison 2	**Mutual peer support (bidirectional peer support) plus standard care vs. standard care.**
Summary of evidence	**Moderate to low quality evidence (high risk of bias in primary studies) suggests a medium-sized effect of improved depression and anxiety at the end of treatment, and a large effect of improved quality of life and empowerment.**

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Mental state and hospitalisation
Significant, medium-sized effects of improved depression and anxiety at the end of treatment, with no significant differences in recovery or hospitalisation rates;
Depression and anxiety, end of treatment: 1 RCT, N = 300, SMD -0.42, 95%CI -0.66 to -0.18, $p < 0.05$
Recovery, end of treatment: 1 RCT, N = 300, SMD -0.11, 95%CI -0.35 to 0.13, $p > 0.05$
Hospitalisation, end of treatment: 1 RCT, N = 80, RR 0.50, 95%CI 0.23 to 1.11, $p > 0.05$
Authors state all trials were at high risk of bias.

Quality of life and empowerment
Large, significant effects of improved quality of life and empowerment;
Quality of life, end of treatment: 1 RCT, N = 300, SMD -1.42, 95%CI -1.69 to -1.16, $p < 0.05$
Empowerment, end of treatment: 3 RCTs, N = 2,266, SMD -1.44, 95%CI -2.79 to -0.09, I^2 99%, $p < 0.00001$
Authors state all trials were at high risk of bias.

Consistency in results	Inconsistent for empowerment, N/A for other outcomes (1 RCT).
Precision in results	Precise for quality of life, imprecise for empowerment.
Directness of results	Direct
Comparison 3	**Peer delivered services (services are delivered by peer support worker) plus standard care vs. standard care.**
Summary of evidence	**Moderate to low quality evidence (high risk of bias in primary studies) suggests a medium-sized effect of reduced satisfaction with services at the end of treatment with peer delivered services.**

Hospitalisation
No significant differences between groups;
Hospitalisation, end of treatment: 1 RCT, N = 114, RR = 0.68, 95%CI 0.45 to 1.03, $p > 0.05$

Satisfaction with services
A medium size effect of reduced satisfaction with services with peer delivered services
Satisfaction, end of treatment: 1 RCT, N = 87, SMD = 0.48, 95%CI 0.05 to 0.91, $p < 0.05$

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Consistency in results	Not applicable (1 RCT).
Precision in results	Precise
Directness of results	Direct

Explanation of acronyms

CI = Confidence Interval, *d* = Cohen's *d* and *g* = Hedges' *g* = standardised mean differences (see below for interpretation of effect size) I² = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), N = number of participants, *p* = statistical probability of obtaining that result (*p* < 0.05 generally regarded as significant), Q = Q statistic for the test of heterogeneity, Q_w = test for within group differences (heterogeneity in study results within a group of studies – measure of study consistency), Q_B = test for between group differences (heterogeneity between groups of studies for an outcome of interest), vs. = versus, z = significance test

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[4].

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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).

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) 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[4].

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 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]. Odds ratios (ORs) are similar to RRs, but they are based on the probability of an event occurring divided by the probability of that event not

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occurring. ORs and RRs are similar in size when the event is rare, such as with schizophrenia. lnOR stands for logarithmic OR where a lnOR of 0 shows no difference between groups. Hazard ratios (HRs) 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 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.

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‡ 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. I² 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. I² can be calculated from Q (chi-square) for the test of heterogeneity with the following formula[4];

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

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§ 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[6].

‖ 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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