Mission impossible: treating serious mental illness and substance use co-occurring disorder with integrated treatment: a meta-analysis

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CRD summary
This review found that integrated treatment led to modest, but not statistically significant, improvements in psychological outcomes and reduced alcohol use, but did not reduce drug use. Its effectiveness varied by setting. Poor reporting and substantial variation across the studies, suggest that the results are not reliable and the authors’ conclusions are inappropriate.

Authors' objectives
To investigate the effectiveness of integrated treatment for serious mental illness, occurring with substance misuse.

Searching
PubMed and The Cochrane library were searched for publications in English. Some search terms were presented.

Study selection
Studies had to be of either a residential or out-patient integrated treatment programme, for adults with mental illness and substance misuse. Outcome data on psychiatric symptoms, functioning or substance use had to be presented. Only studies performed in the USA were included. A range of other exclusion criteria were described, such as studies of only women, of only older patients, of patients with co-occurring disorders, where patients had disorders such as HIV or AIDS, and of psychopharmacological interventions.

In the included studies, the average age was 38 years (range 18 to 66); most patients were male (range 32% to 96%), and not White. Patients had a range of psychiatric disorders including schizophrenia, schizoaffective disorder, and bipolar disorder. Substance use included alcohol and drug dependence. There was considerable diversity in the types of integrated treatment, and in the comparators.

The number of reviewers who selected studies was not stated.

Assessment of study quality
Study quality was assessed using the Methodological Criteria for Alcohol Treatment Studies, developed by Moncrieff and Drummond; details were not presented.

The number of reviewers who assessed quality was not stated.

Data extraction
Comparisons between integrated treatment and the comparator were extracted, from each study, and converted into overall effect sizes, in terms of Hedges' g, with corresponding 95% confidence intervals. These data were extracted at 12 months of follow-up, or at the last available time, if 12 months was not available. Control group data were imputed, where necessary, for studies without a comparator.

The number of reviewers who extracted the data was not stated.

Methods of synthesis
The study data were apparently synthesised in random-effects meta-analyses, but the details of the method were not presented. Subgroup analysis was used to compare out-patient and residential studies, and meta-regression was used to investigate the effects of study quality. Heterogeneity was assessed using I² and Cochran's Q. Egger's test was used to investigate publication bias.

Results of the review
Thirteen studies were included, with 3,665 adults (2,824 after loss to follow-up; sample size range 38 to 1,495). Follow-
up ranged from six to 36 months. The average quality score was 34.38, but how this should be interpreted was not discussed. Only eight studies had random allocation to treatment.

Nine studies reported data on psychiatric outcomes. The results favoured integrated treatment, but were not statistically significant (ES 0.08, 95% CI -0.08 to 0.24). There was substantial heterogeneity ($\chi^2=98\%$). There was no evidence of a difference between out-patient and residential studies.

Seven studies reported changes in alcohol or drug use. For alcohol use, the results favoured integrated treatment, but were not statistically significant (ES 0.07, 95% CI -0.22 to 0.35). There was substantial heterogeneity ($\chi^2=97\%$). Integrated treatment was favoured in residential settings, but not in out-patient settings; the difference between these results was not statistically significant. For drug use, the comparator was favoured and the results were statistically significant (ES -0.20, 95% CI -0.38 to -0.02). There was substantial heterogeneity ($\chi^2=94\%$). There was no statistically significant difference between out-patient and residential studies.

There was some evidence that lower quality trials gave more favourable results for the integrated treatment. There was no evidence of publication bias.

Authors’ conclusions
Integrated treatment led to modest, but not statistically significant, improvements in psychological outcomes and reduced alcohol use. The usual care comparator reduced drug use. The effectiveness of integrated care varied by setting.

CRD commentary
This review addressed a relevant medical question, with broadly appropriate inclusion criteria. A limited search was performed, in two databases, and selection was restricted to published studies, conducted in the USA. The review was generally poorly reported; it was not clear whether efforts were made to reduce reviewer error and bias.

Study quality was assessed, but the details were not presented and the quality of the included studies is uncertain. The studies were generally small and varied substantially, probably due to the considerable diversity in patient populations and types of treatment. The study data were combined in meta-analyses, most of which gave results that were not statistically significant. As the authors noted, these results apply only to the USA and may not generalise to other countries.

For all these reasons, the results should not be considered to be reliable, and the authors’ conclusions appear to be inappropriate.

Implications of the review for practice and research
Practice: The authors suggested that policy makers should consider how to promote out-patient treatment programmes.

Research: The authors recommended that research should investigate the effects of treatment intensity and programme fidelity.

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