Vocational rehabilitation in schizophrenia and other psychotic disorders: a literature review and meta-analysis of randomized controlled trials

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CRD summary
This review investigated the effects of vocational rehabilitation for individuals with severe mental illness. The authors concluded that supported employment programmes have produced consistently better rates of employment than traditional vocational rehabilitation. A lack of information on the review methodology and quality of the included studies makes it difficult to assess the reliability of the evidence underlying the authors’ conclusions.

Authors’ objectives
To review the current literature on vocational rehabilitation for individuals with severe mental illness and to provide recommendations for future research.

Searching
MEDLINE (from 1966 to 2002) and PsycINFO (from 1887 to 2002) were searched for peer-reviewed studies published in the English language; the search terms were reported. In addition, the reference lists of the identified studies were checked.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were included in the review. The duration of the included trials ranged from 5 to 36 months.

Specific interventions included in the review
Interventions with an explicit focus on providing out-patient vocational services (even if the services were part of a broader rehabilitation programme) were included in the review. The interventions in the included studies fitted into three general categories: individual placement and support (IPS) or supported employment (SE); job-related social-skills training; or incentive therapy. The length of treatment ranged from 10 weeks to 36 months. The control groups used in the included studies were treatment as usual, psychosocial vocational rehabilitation programmes, and interventions that differed from the experimental intervention by a single variable only (e.g. paid versus unpaid job placement).

Participants included in the review
At least one third of the participants in a study had to have psychotic spectrum disorder for the study to be included in the review. Of the included participants, 66% had a primary psychotic disorder. The mean age of the participants was 38 years and 58% were male.

Outcomes assessed in the review
The studies had to report data on vocational outcomes to be included in the review. Most of the included studies used primarily work-related outcomes (e.g. percentage of participants who obtained employment), the number of hours worked, the mean wages earned and the mean job tenure.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity. However, they did state that the majority of the studies did not
report whether the outcome assessors were blind to the experimental conditions.

**Data extraction**
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. Data extracted included modality of vocational rehabilitation, type of control condition, and group differences in outcomes. Where data were available, effect sizes were calculated for each outcome measure. T-tests were converted into Cohen's d values, and chi-squared values were converted into effect size correlations, which were then converted to Cohen's d values.

**Methods of synthesis**
How were the studies combined?
The data were combined using weighted mean effect sizes and, where appropriate, Mantel Haenszel odds ratios (ORs).

How were differences between studies investigated?
The results were discussed separately for each type of intervention. Differences between the studies were evident in the table of included studies.

**Results of the review**
Eleven RCTs (n=1,617) were included in the review.

All studies: all 11 studies reported positive results. More participants in experimental conditions worked at any point during the trial than participants in control conditions (8 studies; 61% versus 32%, weighted mean effect size 0.66). Three of 4 studies assessing rehospitalisation found no difference between the experimental and control groups.

IPS/SE: all 9 studies of IPS/SE programmes reported positive results. All 6 studies comparing IPS/SE with other vocational services found higher percentages of participants achieving competitive work at any time during the trial in the IPS/SE group. Five studies reporting adequate data found 51% in competitive employment with IPS/SE versus 18% with other vocational services (weighted mean effect size 0.79). IPS/SE participants were about 4 times more likely than control group participants to obtain competitive work (OR 4.14, 95% confidence interval: 1.73, 9.93).

Incentive therapy: the only study of incentive therapy reported increases in the percentage of participants ever working (97% versus 36%) and working at end point (60% versus 16%) when participants were paid versus unpaid for working.

Work-related social skills training: the only RCT of work-related social skills training found an increase in the number of participants working at end point when they received monthly follow-up contact with the social-skills group leader for 3 months (47% versus 23%).

**Authors' conclusions**
Supported employment programmes in general, and IPS in particular, have produced consistently better rates of competitive employment and employment of any type than traditional vocational rehabilitation. Although IPS appears effective, it is not effective for all participants, and further improvements should be made to produce positive outcomes for more consumers.

**CRD commentary**
The review question was defined clearly in terms of the participants, intervention, outcomes and study design. Appropriate sources were searched for relevant studies. However, the search was restricted to studies published in English, which increases the risk of both publication and language bias. It was unclear how papers were selected for the review or how the data were extracted, which means that the validity of these processes cannot be assessed. If one reviewer carries out these tasks alone, the risk of bias is increased. In addition, the authors did not state that they assessed the quality of the included studies.
Appropriate details of the individual studies were presented. However, differences between the studies were not assessed, which makes it difficult to determine whether the statistical pooling of the studies was appropriate. In addition, pooling across all 11 studies for the employment outcome seems inappropriate, given that the interventions varied between studies. Whilst the authors’ conclusions follow from the evidence presented, a lack of information on both the review methodology and the quality of the included studies makes it difficult to assess the reliability of the evidence underlying the authors’ conclusions.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further investigation of modifiable versus non-modifiable predictors of success will be needed to better target interventions towards people who are likely to benefit from them. In addition, the authors stated that future studies should use outcome measures that indicate duration of employment, wages earned, job satisfaction and nonvocational outcomes such as community functioning, quality of life, severity of psychiatric symptoms and rehospitalisation over time. They also highlighted the need for research in special populations such as older psychiatric patients, women and non-English speakers.

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