Online Supplement:

Literature search in Medline Database via Ovid performed: 21. June 2017 up-dated 11. January 2019.

|  |  |  |
| --- | --- | --- |
| **ID** | **Search** | **Results** |
| 1 | exp Affective Disorders, Psychotic/ | 2253 |
| 2 | exp Bipolar Disorder/ | 36966 |
| 3 | exp Delusions/ | 7440 |
| 4 | exp Depressive Disorder, Major/ | 25551 |
| 5 | exp Psychotic Disorders/ | 48324 |
| 6 | exp Schizophrenia/ | 97949 |
| 7 | (((affective or mental\*) adj3 (disorder\* or ill\*)) or (bipolar adj3 (disorder\* or illness\* or depress\*)) or ((severe\* or unipolar or major or manic) adj3 depress\*) or mania\* or psychoses or psychosis or psychotic or schizo\* or delusion\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 461089 |
| 8 | 1 or 2 or 4 or 5 or 6 or 7 | 461178 |
| 9 | exp Employment, Supported/ | 1073 |
| 10 | exp Rehabilitation, Vocational/ | 9980 |
| 11 | 9 or 10 | 9980 |
| 12 | ((supported adj3 employment\*) or (vocational adj3 (recover\* or rehabilitation\* or retraining)) or (occupational adj3 (recover\* or rehabilitation\* or retraining)) or (individual\* adj3 placement adj3 support\*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 11805 |
| 13 | 11 or 12 | 11805 |
| 14 | 8 and 13 | 2872 |
| 151 | ((((singl\* or doubl\* or treb\* or tripl\*) adj (blind\*3 or mask\*3)) or (allocated adj2 random)).tw. or (clin\* adj25 trial\*).ti,ab. or (clinic\* adj trial\*1).tw. or (double-blind\* or random\*).af. or clinical trial.pt. or clinical trials as topic.sh. or controlled clinical trial.pt. or double blind method.sh. or single blind method.sh. or double-blind method.sh. or single-blind method.sh. or drug therapy.fs. or exp clinical trials as topic/ or exp research design/ or placebo\*.tw. or placebos.sh. or practice guideline.pt. or random allocation.sh. or random\*.tw. or random.af. or randomized controlled trial.pt. or randomized controlled trials as topic.sh. or randomized.ab. or randomly allocated.tw. or randomly.ab. or single-blind method.sh. or trial.ab. or trial.ti.) not (case report.tw. or letter.pt. or historical article.pt. or review of reported cases.pt. or multicase review.pt.) | 3347555 |
| 16 | 14 and 15 | 495 |

*Note 1The filter for randomized controlled trials is from:* [*http://videncentret.dk/Forskerservice/Soegefiltre?sc\_lang=en*](http://videncentret.dk/Forskerservice/Soegefiltre?sc_lang=en)

Selection process and data extraction:

Two reviewers (XX and YY) independently screened titles and abstracts and excluded those articles where title or abstract clearly indicated that the article did not fulfil inclusion criteria. The online software program Covidence ([www.covidence.org](http://www.covidence.org)) was used to screen titles, abstracts and to create a flow -chart. A full text -reading was conducted of remaining articles. Any disagreement was resolved through discussion or the involvement of a third reviewer (ZZ). Relevant information was extracted regarding study population (e.g. gender, diagnoses, and follow-up period), intervention and control conditions, personal recovery and clinical recovery. If results were not reported to answer the listed hypotheses, authors were contacted by e-mail and requested to provide either raw -data or the analyses of the data.

The study by xxxxxxxxref*.* was among the full –text screened articles. As XX and ZZ were involved in the study, two colleagues not involved in this review full-text screened and quality assessed this study.

Flow diagram of included studies:

Articles included in qualitative synthesis (n = 11), covering n= 8 trials

Full-text articles excluded with reasons (n = 57): Wrong design (n=4), Wrong control intervention (n=5), Wrong outcomes (n=6), Not IPS intervention (n=12), Commentary (n=4), No results at 18 month follow-up (n=14), Abstract (n=6), Ongoing study (n=4),Wrong study population (n=2)

Articles included in quantitative synthesis, meta-analysis (n = 9), covering n=6 trials

Records identified through database searching (n = 3,774)

Screening

Included

Eligibility

Identification

Additional records identified through other sources (n = 0)

Records after duplicates removed (n = 2,167)

Records screened  
(n = 2,167)

Records excluded (n = 2,099)

Full-text articles assessed (n=68)

(

for eligibility(n = 61)

Articles included in analysis of pooled original data (n = 5), covering n=5 trials

Assessment of risk of bias in included trials:

The eight included trials were quality assessed according to the Cochrane collaboration’s tool for risk of bias1.

Trials were classified as ”overall low risk of bias” if all components described in the assessment were classified as “low risk of bias”. If one or more of the bias components were classified as “unclear” or “high risk” of bias, the study was classified as “overall high risk of bias”.

Blinding of participants and staff was not possible due to the nature of the intervention. Therefore, this item was omitted from the assessment of risk of bias.

A total of three trials were found to be of high quality2-4 ref x and five trials were found to be of low quality5-11 (The risk of bias graph and risk of bias summery are available in the Online Supplement).

Allocation:

All trials reported the methods of random sequence generation, in which “computer-generated randomization lists” were used. As well, all trials reported sufficient details for assessment of risk of bias according to allocation concealment.

Blinding:

Three trials reported that the assessors were blinded to the assignment2-4 + ref x. The rest of the trials used un-blinded assessors5-11. Assessors were un-blinded in the majority of studies, which may lead to overestimated effect -sizes12.

Incomplete outcome data:

Total attrition rate ranged from 2%9 to 30%ref x. Four trials2-6 ref x reported incomplete outcome data in a flowchart according to the CONSORT criteria 13, while three trials reported follow-up rates in text paragraphs9-11. One trial did not report incomplete outcome data7, 8.

Selective reporting:

Four trials reported outcomes according to protocol2-6 + ref x. Three trials reported all outcomes stated in the aims9-11, whereas one trial reported results on symptoms and quality of life but omitted to specify measured non-vocational outcomes7, 8.

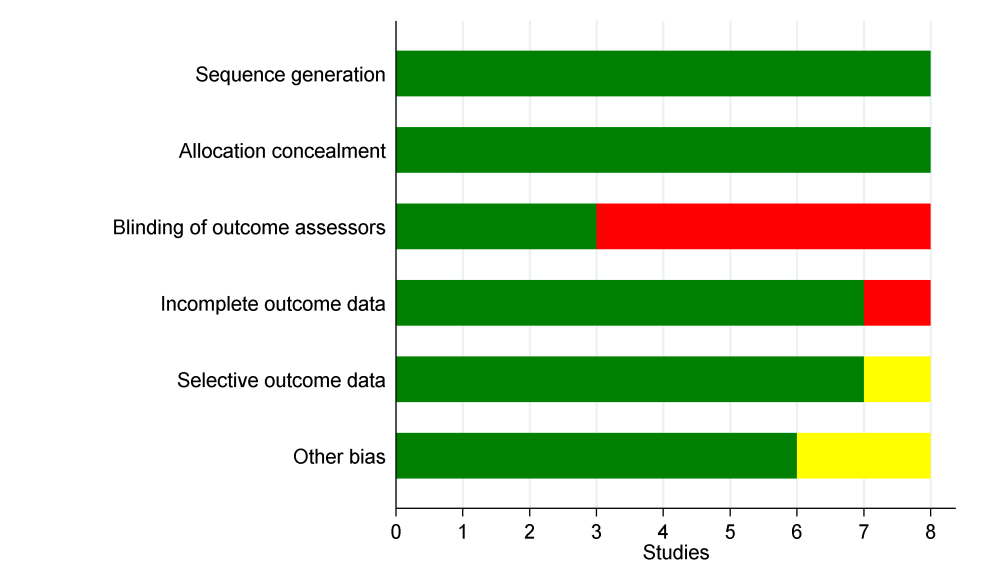
Other potential sources of bias:

Statistical procedures were reviewed in the eight selected trials. Two trials did not report or comment on power calculation for sample size9, 11. None of the trials reported using inappropriate statistical tests.

Risk of bias across studies:

The search strategy included ClinicalTrials.gov and WHO-trial registration for unpublished trials. According to inclusion criteria no on-going trials were found in this search. Therefore we found no reason to suspect the existence of publication bias or selective reporting across studies.

Risk of bias graph. Review authors’ judgement about each risk of bias item presented as proportions across all included studies



Risk of bias summary: review authors’ judgements about each risk of bias item for each study included.

 Low risk of bias  Unclear risk of bias  High risk of bias

Low risk of bias Unclear risk of bias High risk of bias

Low risk of bias Unclear risk of bias High risk of bias

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Sequence generation | Allocation concealment | Blinding of outcome assessors | Incomplete outcome data | Selective outcome data | Other bias |
| Areberg 201317/ Bejerholm 201530 |  |  |  |  |  |  |
| Bond 200731/Kukla 2013 |  |  |  |  |  |  |
| Burns 200730/200929 |  |  |  |  |  |  |
| xxxx |  |  |  |  |  |  |
| Drake 199933 |  |  |  |  |  |  |
| Michon 201420 |  |  |  |  |  |  |
| Mueser 200436 |  |  |  |  |  |  |
| Kin Wong 200834 |  |  |  |  |  |  |

Study characteristics of the eight trails included in the review.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Author/Year | Population | Interventions | Outcomes | Results |
| Mueseret al*.* 200436 | n= 204  Male=62%  Schizophrenia or Schizoaffective=75%,  Bipolar disorder=5%,  Major depression=17%,  Others=3% | I: IPS  C1: Psychosocial intervention  C2:Treatment as usual | Self-esteem  Quality of life  Psychiatric symptoms  Global assessment of functioning | No difference between groups on any of the outcomes. |
| Bond et al.200731/Kukla *et al.* 201335 | n=187,  Male=64%,  Schizophrenia spectrum= 56%,  Affective disorder=41%,  Other=3% | I: IPS  C: Diversified Placement approach | Psychiatric symptoms | No difference between groups on any of the outcomes. |
| Michon et al201420 | n=151,  Male=74%,  Psychotic disorder=59%  Other=41% | I: IPS  C:Traditional vocational rehabilitation | Self-esteem  Quality of life    Psychiatric symptoms  . | No significant differences between groups.  Significant improvements for all outcomes in those who were competitively employed at or before follow-up |
| Drake et al*.*199933 | n=152,  Male=39%,  Schizophrenia spectrum=  67%,  Bipolar=14%,  Depression=17%,  Other=2% | I: IPS  C: EVR (enhanced vocational rehabilitation) | Self-esteem  Global assessment of functioning  Psychiatric symptoms | No difference between groups on any of the outcomes. |
| Kin Wong et al*.* 200834 | n=92,  Male=59%,  Schizophrenia spectrum= 70%,  Affective disorder=19%,  Other=11% | I: IPS  C: Conventional rehabilitation program | Quality of life  Psychiatric symptoms | No difference between groups on any of the outcomes. |
| Burns et al*.* 2007 30/  Burns et al*.* 200929 | n=312,  Male=60%,  Schizophrenia spectrum= 80%,  Bipolar disorder=17%,  Other=3% | I: IPS  C: Traditional vocational services | Quality of life  Psychiatric symptoms  Global assessment of functioning (symptoms)  Global assessment of functioning  (disability) | No difference between groups on any of the outcomes.  Significant differences in all measures apart from anxiety, positive symptoms and depression in those who were competitively employed at or before follow-up |
| Areberg et al*.* 201317/  Bejerholm *et al.* 2015 31 | n=120,  Male=56%,  Schizophrenia spectrum= 65%,  Bipolar disorder=7%,  Others=28 | I: IPS  C: Traditional vocational rehabilitation | Empowerment  Quality of life  Psychiatric symptoms | No difference between groups on any of the outcomes. |
| xxx | n=720,  Male=61%,  Schizophrenia spectrum= 77%,  Affective disorder=23% | I: IPS  C: Traditional vocational rehabilitation | Self-esteem  Quality of life  Psychiatric symptoms    Global assessment of functioning | No difference between groups on any of the outcomes. |

Scales used by trials providing data for meta-analyses and pooled analyses.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Self-esteem | Empowerment | Quality of life | Symptoms | Level of  functioning |  |
| Areberg 2013  Bejerholm 2015 |  | Empowerment Scale (ES)14 | The Manchester Short Assessment of Quality of Life version 2 (MANSA)15 | The Brief Psychiatric Rating Scale (BPRS)16 |  |  |
|  |  |  |  |  |  |  |
| Bond 2007  Kukla2013 |  |  | Abbreviated version of Lehman’s Quality of Life Interview17 | Positive and Negative Symptom Scale (PANSS)18 |  |  |
| Burns 2007/2009 | Rosenberg Self-Esteem Scale (RSE scale)19 |  | Lancashire Quality of Life Profile – European Version: (LQoLP-EU)20 | Positive and Negative Symptom Scale (PANSS),  Hospital Anxiety and Depression Scale (HADS)21 | Global Assessment of Functioning –symptoms (GAF-S)22, |  |
| xxx | Rosenberg Self-Esteem Scale (RSE scale) | Empowerment  Scale (ES) | Short-Form Health Survey (SF12)23 | Scale for the Assessment of Negative Symptoms (SANS)24,  Scale for the Assessment of Positive Symptoms (SAPS)24,  Hamilton depression scale (Ham D6)25 | Global Assessment of Functioning –  Disability (GAF-D)22  Global Assessment of functioning – function (GAF-F)26 |  |
| Michon 2014 | Rosenberg Self-Esteem Scale (RSE scale) |  | The Manchester Short Assessment of Quality of Life version 2 (MANSA) |  |  |  |
| Mueser*.*  2004 | Rosenberg Self-Esteem Scale  (RSE scale) |  | Abbreviated version of Lehman’s Quality of Life Interview | Positive and Negative Symptom Scale (PANSS) | Global Assessment Scale (GAS) |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

One study used the Short form Health Survey (SF12)23 +ref x to measure quality of life. This scale differs from the other scales used to measure quality of life by measuring health-related quality of life. Results on quality of life from that particular trial were excluded from analyses.

Two trials6, 11 measured depressive symptoms with the Positive and Negative Symptom Scale18. In addition, one6 of the two trials also measured depressive symptoms by the Hospital Anxiety and Depressions scale (HADS)21. Another trial used Hamilton 6-item depression scale (HamD6)25+ ref x. Based on these three scales, depressive symptoms were categorized as mild, moderate or severe. Mild was defined as: 1-3 on PANSS, 0-7 on HADS and 0-6 on HamD6; moderate: 4-5 on PANSS, 8-10 on HADS and 7-11 on HamD6; severe: 6-7 on PANSS, 11-21 on HADS and 12-22 on HamD6.

Positive and negative symptom scores from SANS and SAPS were converted into PANSS equivalent scores27.

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| --- | --- | --- | --- | --- | --- |
| Associations between weeks in employment and personal and clinical recovery adjusted for IPS. |  | | |  |  |
|  |  | | | |  |
|  | **SMD** | | | **CI** | **p-value** |
|  | | | |  |  |
| **Self esteem** | | | |  |  |
| < median weeks | | | 0.14 | -0.01,0.30 | 0.065 |
| ≥ median weeks | | | 0.17 | 0.00,0.35 | 0.049 |
| **Empowerment** | | |  |  |  |
| < median weeks | | | 0.18 | -0.02,0.37 | 0.083 |
| ≥ median weeks | | | 0.25 | 0.06,0.44 | 0.011 |
| **Quality of Life** | | |  |  |  |
| < median weeks | | | 0.03 | -0.16,0.22 | 0.768 |
| ≥ median weeks | | | 0.34 | 0.14,0.54 | 0.001 |
| **Psychotic symptoms** | | 0.02 | | -0.12,0.16 | 0.758 |
| < median weeks | |
| ≥ median weeks | | -0.11 | | -0.27,0.04 | 0.143 |
| **Negative symptoms** | | -0.25 | | -0.40,-0.09 | 0.002 |
| < median weeks | |
| ≥ median weeks | | -0.41 | | -0.56,-0.26 | 0.000 |
| **Anxiety** | | -0.02 | | -0.28,0.23 | 0.853 |
| < median weeks | |
| ≥median weeks | | -0.01 | | -0.28,0.26 | 0.936 |
| **Level of functioning** | | 0.23 | | 0.07,0.39 | 0.005 |
| < median weeks | |
| ≥ median weeks | | 0.59 | | 0.42,0.77 | 0.000 |
| **Depression** | | **Log. Reg. coeff.**  -0.45 | | -0.91,-0.00 | 0.049 |
| < median weeks | |
| ≥ median weeks | | -0.61 | | -1.09,-0.13 | 0.012 |

*Note: < median. weeks: less than median weeks of employment;> median weeks: more than median weeks of employment.*

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