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Psychological issues and self-adjustment methods of lung transplant recipients: An overview of systematic review

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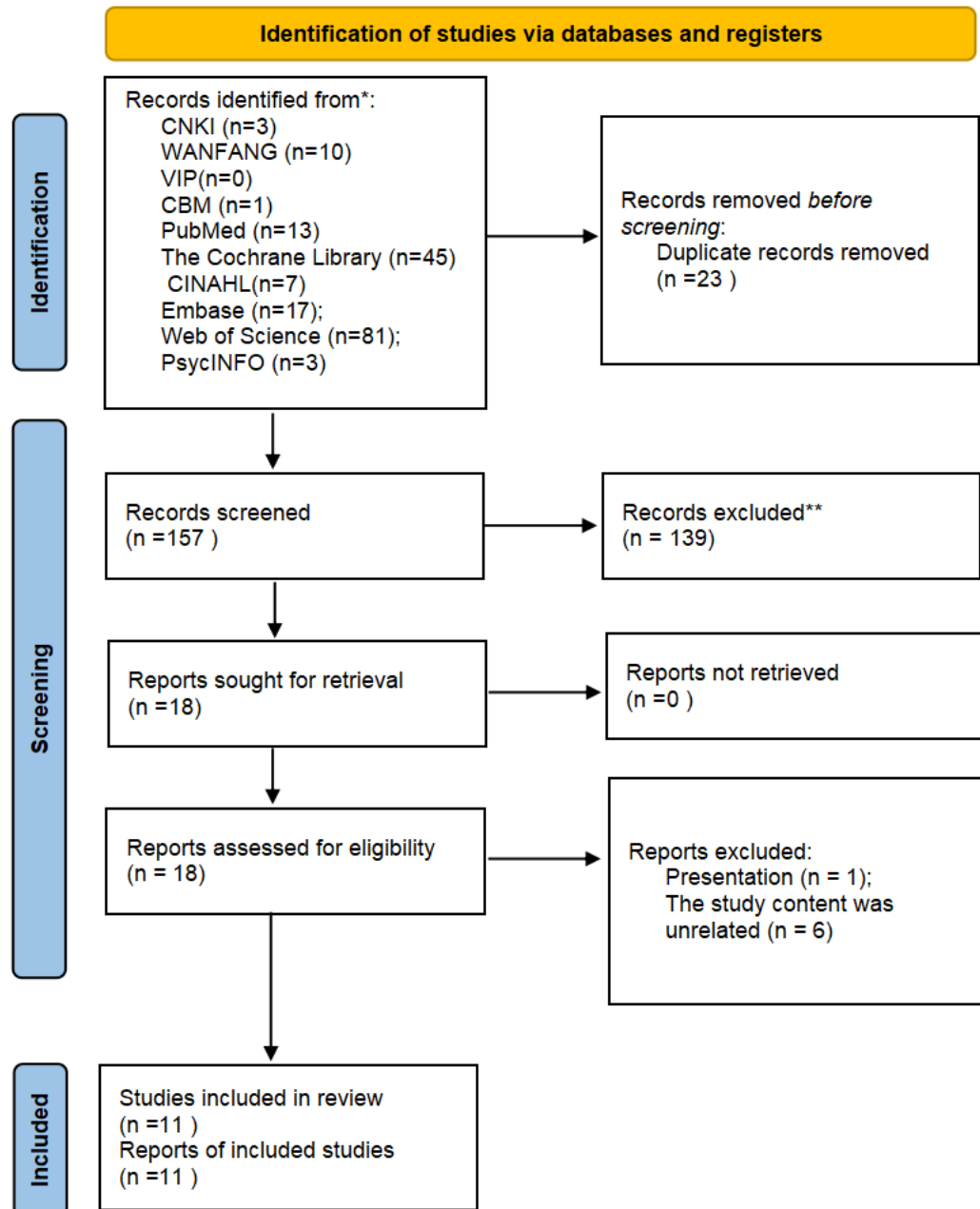
Introduction

Lung transplant recipients face unique psychological challenges after transplantation, and self-adjustment is very important. The aim of this study is to re-evaluate the relevant systematic reviews to provide evidence-based support for the summary of psychological issues and self-adjustment methods for lung transplant recipients.

Methods

The method of the overview of systematic review was used to sort out and summarize existing reviews.

- The Cochrane Library, PubMed, EMBASE, CINAHL, Web of Science, PsycINFO, and Chinese databases including China National Knowledge Infrastructure (CNKI), Wanfang data, Chinese Scientific Journals Full-text Database (VIP) and China Biology Medicine Disc (CBM) were searched from the inception of the database to January 30,2024.
- Two researchers screened the literature and extracted relevant information.
- We applied the AMSTAR 2 Scale to assess methodological quality of included reviews, used the PRISMA 2020 statements and ENTRQ statements to evaluate reporting quality of included reviews.



Results

A total of 11 systematic reviews were included, covering "psychological issues" and "psychological self-adjustment methods".

Psychological issues

Anxiety, depression, uncertainty about the future, adjustment disorders, sense of inadequacy and fear of complications.

Psychological self-adjustment methods

- Actively integrating into the society,
- Resuming daily activities, change lifestyle and attitude
- Accepting self
- Seeking social support
- Receiving psychological interventions, such as mindfulness-based stress reduction (MBSR) intervention, music therapy.

Methodological quality

The results of AMSTAR 2 assessment showed that the overall methodological quality was low, and the methodological quality of most studies was low or critically low, and most studies report insufficient details on three key items (Item 2, Item 9, Item 13) .

TABLE 1 Evaluation results of AMSTAR 2 scale

| Included studies | Q1 | Q2* | Q3 | Q4* | Q5 | Q6 | Q7* | Q8 | Q9* | Q10 | Q11* | Q12 | Q13* | Q14 | Q15* | Q16 | Ranking of quality |
|---------------------------------|----|-----|----|-----|----|----|-----|----|-----|-----|------|-----|------|-----|------|-----|--------------------|
| Seiler 2016 ^[1] | Y | Y | N | PY | Y | N | Y | PY | N | N | N/A | N/A | Y | Y | N/A | Y | Moderate |
| Jobst 2022 ^[2] | Y | Y | N | PY | Y | Y | Y | Y | N | N | N/A | N/A | N | Y | N/A | Y | Low |
| Singer 2013 ^[3] | Y | N | N | PY | N | Y | Y | N | N | N | N/A | N/A | N | Y | N/A | N | Critically low |
| Dew 2015 ^[4] | Y | PY | N | PY | Y | Y | Y | PY | PY | N | Y | Y | Y | Y | Y | Y | Moderate |
| Goldbeck 2014 ^[5] | N | N | N | PY | Y | Y | Y | PY | Y | N | Y | Y | Y | Y | Y | Y | Low |
| Sambucini 2022 ^[6] | Y | N | N | PY | Y | Y | Y | PY | PY | N | Y | N | Y | Y | Y | Y | Low |
| Cordoza 2021 ^[7] | Y | Y | N | PY | Y | Y | Y | Y | N | N | N/A | N/A | N | Y | N/A | Y | Critically low |
| Cavallini 2015 ^[8] | Y | N | N | PY | N | N | Y | N | N | N | N/A | N/A | N | N | N/A | Y | Critically low |
| Stubber 2020 ^[9] | Y | PY | N | PY | N | Y | Y | PY | PY | N | N/A | N/A | N | N | N/A | N | Low |
| Yanyan Sun 2022 ^[10] | Y | N | N | PY | Y | Y | PY | PY | PY | N | N/A | N/A | Y | N | N/A | N | Low |
| Saisai Liu 2021 ^[11] | Y | N | N | PY | Y | Y | Y | PY | PY | N | N/A | N/A | Y | N | N/A | N | Low |

Note: *=Key item; Y=Yes; N=No; PY=Partially yes;N/A=Not applicable. Item 1: Do the study questions and inclusion criteria include PICO? Item 2: Are there pre-published plans? Is there a clear bias between research and programmes? Item 3: Did the author explain the type of study design included? Item 4: Are comprehensive literature retrieval strategies used? Item 5: Were repeated studies screened? Item 6: Do you perform repeated data extraction? Item 7:Do you provide a list of excluded documents and explain why? Item 8: Are the included studies described in detail? Item 9: Were reasonable tools used to assess the risk of bias for each included study? Item 10: Are the funding sources included in the study reported? Item 11: If a meta-analysis is performed, are the results statistically combined using appropriate methods? Item 12: If a meta-analysis is performed, is the impact of bias risk explained in the results? Item 13: If a meta-analysis was performed, is the discussion explaining the effect of the risk of bias? Item 14: Is there a reasonable explanation for heterogeneity in the discussion? Item 15: If quantitative analysis is performed, are publication biases sufficiently investigated and their possible impacts discussed? Item 16: Are there any potential sources of conflicts of interest reported?

Reporting quality

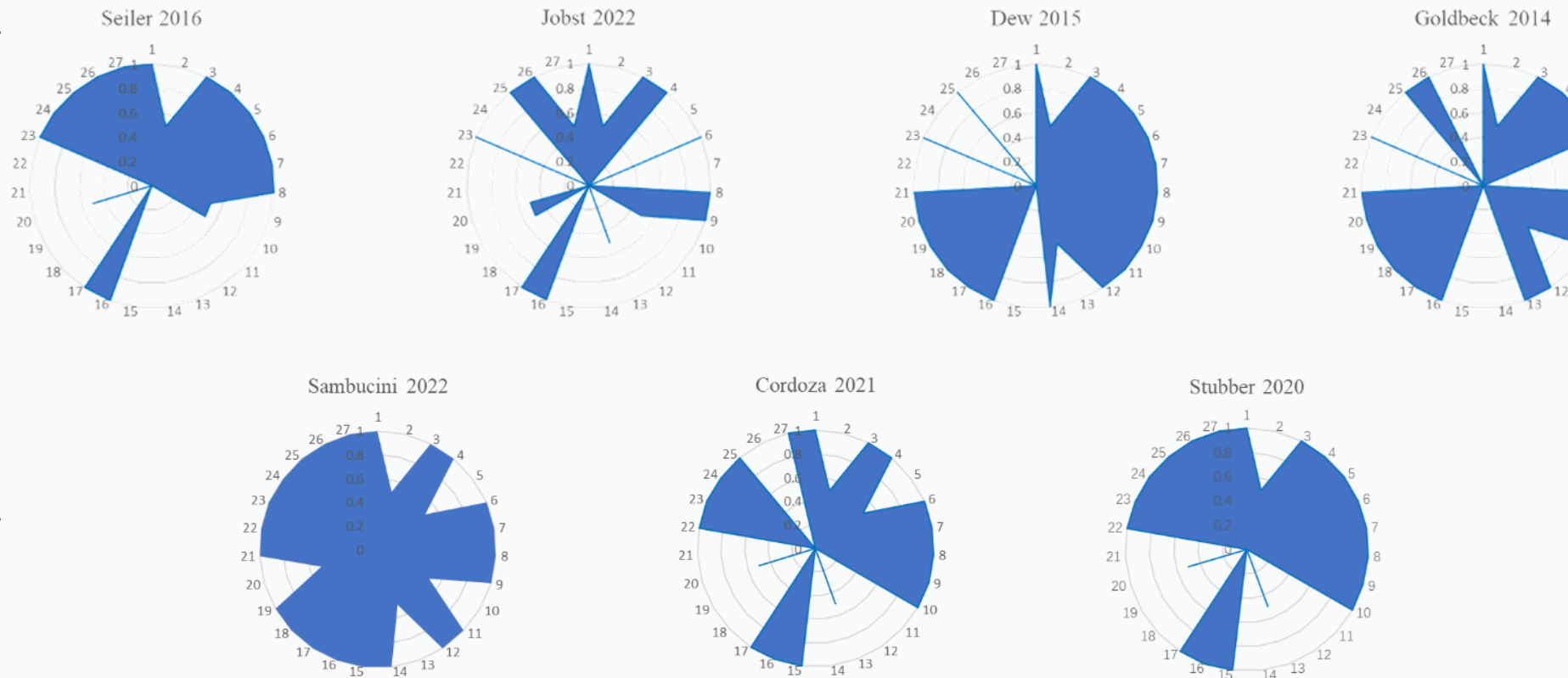
The results of PRISMA statement showed that only 1 study(Sambucini 2022^[6]) had relatively complete reports, and most of the studies still needed to be improved in terms of reporting quality.

FIGURE 1 PRISMA item Radar chart (N=7)

Included studies **Score**

| | |
|-------------------------------|-------------------|
| Seiler 2016 ^[1] | 15.5 ^b |
| Jobst 2022 ^[2] | 14 ^c |
| Dew 2015 ^[4] | 21 ^b |
| Goldbeck 2014 ^[5] | 20 ^b |
| Sambucini 2022 ^[6] | 24.5 ^a |
| Cordoza 2021 ^[7] | 16 ^b |
| Stubber 2020 ^[9] | 19.5 ^b |

a=Relatively complete report
b=Moderate deficiencies present
c=Severe information deficiency



Note: Item 1: title; item 2: structured abstract; item 3: theoretical basis; item 4: introduction purpose; item 5: inclusion and exclusion criteria; item 6: information sources; item 7: search strategy; item 8: selection process; item 9: data extraction; item 10: data item; item 11: single study bias; item 12: effect index; item 13: synthetic results method; item 14: reporting bias assessment; item 15: certainty assessment; item 16: research selection; item 17: study characteristics; item 18: risk of bias in studies; item 19: individual research results; item 20: synthetic results; item 21: inter-study bias results; item 22: certainty of evidence; item 23: discussion; item 24: registration and protocol; item 25: support; item 26: competing interests; item 27: availability of data, code and other materials.

Reporting quality

The evaluation results of ENTREQ guidelines showed that the reporting quality of four articles was acceptable, but the quality of some items still needed to be improved.

TABLE 2 ENTREQ evaluation results of the included Meta-synthesis (N=4)

| Included synthesis | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 | Q20 | Q21 |
|-------------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Singer 2013 ^[3] | PY | Y | Y | N | PY | Y | N | Y | Y | N | N | N | N | N | Y | Y | Y | N | Y | Y | Y |
| Cavallini 2015 ^[8] | PY | Y | Y | Y | PY | Y | Y | Y | Y | Y | N | N | N | N | Y | Y | Y | N | N | Y | Y |
| Sun 2022 ^[10] | PY | Y | Y | Y | PY | PY | Y | Y | PY | Y | Y | Y | Y | PY | Y | Y | Y | N | Y | Y | Y |
| Liu 2021 ^[11] | PY | Y | Y | Y | PY | Y | Y | Y | Y | Y | Y | Y | Y | PY | Y | N | Y | N | Y | Y | Y |

Note: Y=Yes; N=No; PY=Partially yes; Q1: aim ; Q2: synthesis methodology; Q3: approach to searching; Q4: inclusion criteria; Q5: data sources; Q6: electronic Search strategy; Q7: study screening methods; Q8: study characteristics; Q9: study selection results; Q10: rationale for appraisal; Q11: appraisal items; Q12: appraisal process; Q13: appraisal results; Q14: data extraction; Q15: software; Q16: number of reviewers; Q17: coding; Q18: study comparison; Q19: derivation of themes; Q20: quotations; Q21: synthesis output.

Conclusion

- Common psychological challenges faced by lung transplant recipients include anxiety, depression, self-perception issues, and concerns about the future.
- The findings suggest that lung transplant recipients employ various psychological self-adjustment methods to cope with these psychological issues, which positively improve their emotional state and quality of life.
- At present, the methodological quality and reporting quality of the included articles on psychological issues and self-adjustment methods for lung transplant recipients need to be improved. More high-quality, large-sample studies are still needed for further validation.

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