

Best Evidence Summaries of Topics in Mental Healthcare

BEST *in* **MH** *clinical question-answering service*

Question

“In adults with schizophrenia or related disorders, how effective is horticultural therapy, compared to standard care, for improving patient outcomes?”

Clarification of question using PICO structure

Patients: Adults with schizophrenia or related disorders
Intervention: Horticultural therapy
Comparator: Standard care
Outcome: Any patient outcomes

Clinical and research implications

There is currently insufficient evidence to determine whether horticultural therapy is beneficial for people with schizophrenia and related disorders, and further, larger randomised controlled trials are needed which examine this. Evidence from a systematic review that included one very small, short term RCT with methodological limitations found no effect of horticultural therapy on well-being and quality of life, but that horticultural therapy may, in the short-term, be more effective than standard care in relieving depression, anxiety, and stress symptoms.

What does the evidence say?

Number of included studies/reviews (number of participants)

One systematic review (SR) met the inclusion criteria for this summary. The SR included one small randomised controlled trial (RCT) (n = 24). However, the results came from one small RCT with a short duration (participants were assessed pre-to post-intervention which lasted ten days) that was judged at high risk of bias due to the exclusion of two participants from the analysis who withdrew from the study.

Main Findings

There was no difference between horticultural therapy and standard care in terms of well-being and quality of life (mean difference (MD) -0.90 95% confidence interval (CI) -10.35 to 8.55). Horticultural therapy was associated with improved mental state (MD -23.70, CI -35.37 to -12.03) including depression (MD -8.03, CI -15.40 to -0.66), anxiety (MD -9.67, CI -15.87 to -3.47), and stress symptoms compared to standard care.

Authors Conclusions

The authors concluded that there is insufficient evidence to draw conclusions on benefits or harms of horticultural therapy for people with schizophrenia. Further larger randomised trials are needed to increase high quality evidence in this area.

Reliability of conclusions/Strength of evidence

This review was well conducted and its findings are likely to be reliable.

What do guidelines say?

Neither National Institute for Health and Care Excellence (NICE) nor Scottish Intercollegiate Guidelines Network (SIGN) guidelines offer guidance as to the use of horticultural therapy for adults with schizophrenia or related disorders.

Date question received: 12/08/2014

Date searches conducted: 15/09/2014

Date answer completed: 18/09/2014

References

Liu, Y., Bo, L., Sampson, S., Roberts, S., Zhang, G., Wu, W. (2014). Horticultural therapy for schizophrenia. *Cochrane Database Syst Rev*, 5. DOI: 10.1002/14651858.CD009413.pub2.

Results

Systematic Reviews

Author (year)	Search Date	Inclusion criteria	Number of included studies	Summary of results	Risk of bias
Liu et al. (2004)	09/01/2013	<p><i>Participants:</i> Adults with a diagnosis of schizophrenia or related disorders, such as schizophreniform disorder, schizoaffective disorder and delusional disorder.</p> <p><i>Intervention:</i> Horticultural therapy, with or without standard care. For the one included RCT, this involved a one-hour horticultural activity session conducted over ten consecutive days, alongside standard care. Session topics were taught in relation to improving understanding about the importance of protective factors and coping with stress.</p> <p><i>Comparator:</i> Standard care (e.g., medication, medication management, case management, and supportive psychotherapy).</p> <p><i>Outcome:</i> Primary outcome: Well-being and quality of life (e.g., Personal Wellbeing Index, PWI-C). Secondary outcomes: clinical global response, general functioning (e.g., Work Behavior Assessment, WBA), physical fitness, satisfaction with treatment, mental state and behaviour (e.g., Depression Anxiety Stress Scale, DASS21), and adverse effects.</p> <p><i>Study designs:</i> RCTs</p>	1 RCT (n=24)	<p>The study was judged at high risk of bias as two participants withdrew from the trial and were not included in the analysis. The study was low risk of bias for all other domains.</p> <p>There was no difference in wellbeing and quality of life (PWI-C change scores pre- to post-intervention, MD -0.90 95% CI -10.35 to 8.55) or leaving the study early (risk ratio 5.00, 95% CI 0.27 to 94.34) between groups.</p> <p>Horticultural therapy showed improved mental state and behaviour assessed using the DASS21 compared to control (MD -23.70, CI -35.37 to -12.03) and for depression (MD -8.03, CI -15.40 to -0.66) anxiety (MD -9.67, CI -15.87 to -3.47) and stress (MD -5.50, CI -10.57 to -0.43) change scores.</p> <p>Clinical global response, physical fitness, and adverse effects were not reported.</p>	Low

Risk of Bias:

SRs

Author (year)	Risk of Bias				
	Inclusion criteria	Searches	Review Process	Quality assessment	Synthesis
Liu et al. (2004)					

 Low Risk

 High Risk

 Unclear Risk

Search Details

Source	Search Strategy	Number of hits	Relevant evidence identified
<i>SRs and Guidelines</i>			
NICE	Horticulture therapy	1	0
<i>Primary studies</i>			
CENTRAL	#1 MeSH descriptor: [Schizophrenia and Disorders with Psychotic Features] explode all trees 5806 #2 "acute psychosis" 134 #3 "delusional disorder" 122 #4 "brief psychotic disorder" 8 #5 MeSH descriptor: [Schizophrenia] explode all trees 4918 #6 schizoaffective 1117 #7 #1 or #2 or #3 or #4 or #5 or #6 6378 #8 MeSH descriptor: [Horticultural Therapy] explode all trees 4 #9 gardening 489 #10 "green gym" 1 #11 #8 or #9 or #10 493 #12 #7 and #11 11 Central only 0	0	0
PsycINFO	1. PsycINFO; exp SCHIZOPHRENIA/; 69447 results. 2. PsycINFO; ACUTE PSYCHOSIS [+NT]/; 936 results. 3. PsycINFO; SCHIZOAFFECTIVE DISORDER/; 2529 results. 4. PsycINFO; "delusional disorder".ti,ab; 610 results. 5. PsycINFO; "brief psychotic disorder".ti,ab; 85 results. 6. PsycINFO; 1 OR 2 OR 3 OR 4 OR 5; 71255 results.	0	0

	<p>7. PsycINFO; HORTICULTURE THERAPY/ OR BOTANY/ OR "PLANTS (BOTANICAL) [+NT]"/; 848 results.</p> <p>8. PsycINFO; gardening.ti,ab; 343 results.</p> <p>9. PsycINFO; "NATURE (ENVIRONMENT)"/; 804 results.</p> <p>10. PsycINFO; 7 OR 8 OR 9; 1924 results.</p> <p>11. PsycINFO; 6 AND 10; 0 results.</p> <p>12. PsycINFO; exp PSYCHOSIS/; 88088 results.</p> <p>13. PsycINFO; 10 AND 12; 1 results.</p> <p>RCT 0</p>		
Cinahl	<p>30. CINAHL; exp SCHIZOPHRENIA/; 9451 results.</p> <p>31. CINAHL; ACUTE PSYCHOSIS [+NT]"/; 0 results.</p> <p>32. CINAHL; SCHIZOAFFECTIVE DISORDER/; 39 results.</p> <p>33. CINAHL; "delusional disorder".ti,ab; 64 results.</p> <p>34. CINAHL; "brief psychotic disorder".ti,ab; 11 results.</p> <p>35. CINAHL; 30 OR 31 OR 32 OR 33 OR 34; 9519 results.</p> <p>36. CINAHL; HORTICULTURE THERAPY/ OR BOTANY/ OR "PLANTS (BOTANICAL) [+NT]"/; 0 results.</p> <p>37. CINAHL; gardening.ti,ab; 354 results.</p> <p>38. CINAHL; "NATURE (ENVIRONMENT)"/; 0 results.</p> <p>39. CINAHL; 36 OR 37 OR 38; 354 results.</p> <p>40. CINAHL; 35 AND 39; 2 results.</p> <p>41. CINAHL; HORTICULTURE/; 1511 results.</p> <p>42. CINAHL; 37 OR 41; 1649 results.</p> <p>43. CINAHL; "horticulture therapy".ti,ab; 8 results.</p> <p>44. CINAHL; 42 OR 43; 1649 results.</p> <p>45. CINAHL; 35 AND 44; 6 results.</p>	6	0
Medline	<p>13. MEDLINE; exp SCHIZOPHRENIA/; 86631 results.</p> <p>14. MEDLINE; ACUTE PSYCHOSIS [+NT]"/; 0 results.</p> <p>15. MEDLINE; SCHIZOAFFECTIVE DISORDER/; 32696 results.</p> <p>16. MEDLINE; "delusional disorder".ti,ab; 506 results.</p>	0	0

	<p>17. MEDLINE; "brief psychotic disorder".ti,ab; 67 results.</p> <p>18. MEDLINE; 13 OR 14 OR 15 OR 16 OR 17; 110849 results.</p> <p>19. MEDLINE; HORTICULTURE THERAPY/ OR BOTANY/ OR "PLANTS (BOTANICAL) [+NT]"/; 1595 results.</p> <p>20. MEDLINE; gardening.ti,ab; 787 results.</p> <p>21. MEDLINE; "NATURE (ENVIRONMENT)"/; 0 results.</p> <p>22. MEDLINE; 19 OR 20 OR 21; 2378 results.</p> <p>23. MEDLINE; 18 AND 22; 0 results.</p> <p>24. MEDLINE; exp SCHIZOPHRENIA AND DISORDERS WITH PSYCHOTIC FEATURES/; 118626 results.</p> <p>25. MEDLINE; 18 OR 24; 118846 results.</p> <p>26. MEDLINE; GARDENING/; 506 results.</p> <p>27. MEDLINE; 22 OR 26; 2769 results.</p> <p>28. MEDLINE; 19 OR 20 OR 26; 2769 results.</p> <p>29. MEDLINE; 25 AND 28; 1 results.</p> <p>RCT 0</p>		
Summary	NA	NA	

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