Evidence for the effectiveness of a sensory garden in improving the quality of life of people with dementia and prominent negative experience

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Acknowledgements

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• Staff and management of mecwa Prahran
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• Stan Smith, Maze Gardens
Gardens and dementia

- Increasing interest in outdoor areas
- Growing body of research into effects
- Australian norm is outdoor living
Gardens

- Grassed areas
- Raised garden beds
- Fenced
- Sealed paths
- Loop paths
- Shade
- Water feature
- Aviary

- Outdoor seating
- Tables
- Seasonal plantings
- Non-poisonous plants
- Not sharp plants
- Colourful
- Scented/Aromatic
- Stimulus for memory
Dementia

- Often associated with pacing, agitation, aggression, confusion, depressive isolation and sleep disturbance
- Cohen-Mansfield & Werner (1998)
  - Outdoor areas have a beneficial effect
  - Mood is improved by visits to outdoor areas
  - Reduces pacing
- Cox, Burns & Savage (2004)
  - Garden time improves sense of well-being
Current study

- Bequest available & space available
- AB design – pre garden and post garden
- 60 residents
  - 42 Low Level care
  - 18 High Level care
Study Group

• Selected by consensus of staff and management
  – “Does this person have any of the following disturbed behaviour to a level that is a problem?:
  – confusion, agitation, withdrawal, verbal disruption, physical aggression, depression, wandering falls and social disruption”

• n = 15

• Behaviours rated by same group of staff at Pre and Post garden
Measures

• Agitation
  – Cohen Mansfield Agitation Inventory (CMAI)
    • Frequency and disruptiveness of 29 behaviours associated with agitation

• Depression
  – Cornell Scale for Depression in Dementia
    • Mood signs, ideational disturbance, behavioural disturbance, physical signs and cyclic functions

• Well-being
  – Dementia Care Mapping
Dementia Care Mapping

- Measures both Well-being and Ill-being
- 24 behaviour categories identified
- Emotional Well-being and Ill-being rated on six point scale (-5, -3, -1, +1, +3, +5)
- 5 minute observations over 6 hours
  - Behaviour
  - Emotional state
  - Negative and positive events
Dementia Care Mapping cont.

**Type 1: High Potential for well-being**
- Interaction with others
- Expressing oneself creatively
- Intellectual engagement
- Work-like engagement
- Eating and drinking
- Sensory engagement

**Type 2: Low potential for well-being**
- Passively watching others
- Socially withdrawing
- Repetitiveness
## Well-being and Ill-being scale

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
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<tbody>
<tr>
<td>+5</td>
<td>Exceptional well-being - it is hard to envisage anything better; very high levels of engagement, self-expression, social interaction</td>
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<tr>
<td>+3</td>
<td>Considerable signs of well-being; for example in engagement, interaction or initiation of social contact</td>
</tr>
<tr>
<td>+1</td>
<td>Coping adequately with present situation; some contact with others; no signs of ill-being observable</td>
</tr>
<tr>
<td>-1</td>
<td>Slight ill-being visible; for example boredom; restlessness or frustration</td>
</tr>
<tr>
<td>-3</td>
<td>Considerable ill-being; for example sadness; fear or sustained anger; moving deeper into apathy and withdrawal</td>
</tr>
<tr>
<td>-5</td>
<td>Extremes of apathy, withdrawal, rage, grief or despair</td>
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Design of the courtyard garden
Garden Use

- Small Groups (3-4) with one staff or lifestyle coordinator
- Individual time with one staff or lifestyle coordinator
- Time in the garden with and without staff
- Planting
- Watering
- Weeding
- Walking
- Lying in the sun/shade
- Smoking
- Picking vegetables
- Picking flowers
The journal

• The arrival of “Gordon”
• “A miracle of nature”
• “It would appear there’s a lot of sex in the aviary”
• “I don’t like that at all” or “That’s beautiful”
• “It calms my spirit”
• “They’re not plastic”
Results
Disturbed behaviour Pre & Post

No. of residents

Confusion  Agitation  Withdrawal  Verbal Disruption  Physical Aggression  Depression  Wandering  Falls  Social Disruption

Pre Garden
Post Garden
Number of agitated behaviours

<table>
<thead>
<tr>
<th>AM Shift</th>
<th>PM Shift</th>
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</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Baseline</td>
</tr>
<tr>
<td>Study Group</td>
<td>Non Study Group</td>
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</tbody>
</table>

Baseline Post-garden
Baseline Post-garden
Baseline Post-garden
Baseline Post-garden
Baseline Post-garden
Baseline Post-garden
Baseline Post-garden
Frequency of agitated behaviours for Study Group

- Baseline Study Group Mean
- Post-training Study Group Mean
Disruptiveness of agitated behaviour for Study Group

- Pacing
- Disrobing
- Cursing
- Requests
- Repetitive
- Hitting
- Grabbing
- Noises
- Screaming
- Absconding
- Complaining
- Negative
- Handling
- Hiding
- Hoarding
- Tearing
- Mannerisms
- Restless

Baseline Study Group
Post-Garden Study Group
Depression - Cornell

![Graph showing the comparison between Pre-Garden and Post-Garden depression levels for Study Group and Non-Study Group. The Study Group shows a significant decrease in depression levels post-garden, while the Non-Study Group shows a minimal change.]
Video clip of resident in sensory garden

1. Poetry session
2. Garden
3. Dining room
KH14 – responses per 30secs

Hand massage

Relocated in garden

Garden

30 second intervals
Conclusion

• Sensory gardens are effective in reducing agitation and depression
• Sensory gardens are effective in improving well-being
• Sensory gardens are important for creating opportunities for positive experience
  – Lift mood during garden time and beyond
  – Facilitate use of well-learned actions
  – Stimulate conversational engagement
  – Increase complexity of conversation
  – Encourage remembering
• Not necessary to have staff with resident for well-being to be improved.