NEW APPROACHES TO MANAGING WANDERING

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Overview

• Review evidence related to outcomes of dementia related wandering.
• Look at results of two behavioural interventions trialled to reduce risky aspects of wandering in Residential Aged Care (RAC).
• Discuss approaches that future research should consider.
What are we talking about?

An objective, empirically-founded definition to aid universal understanding of the behaviour:

“syndrome of dementia-related locomotion behavior having a frequent, repetitive, temporally-disordered and/or spatially-disoriented nature that is manifested in lapping, random, and/or pacing patterns, some of which are associated with eloping, eloping attempts, or getting lost unless accompanied”.

An explanatory model of risky locomotion
(derived from the Need-Driven Behaviour Model, Algase et al 1996)

Contributing Factors

Stable
- Demographics
  (age*, race, gender*, education)
- Predisposing factors
  (personality*, response to stress*)
ApoE status

Dynamic
- Enabling
  Mobility*, function*, health status*, medications*
- Neurocognitive
  (attention, cognition, memory, language skills, executive functioning, wayfinding capacity)
Type and Intensity of Wandering

**Type**
- Spatial disorientation
- Repetitive/routinised walking
- Night wandering

**Intensity**
- Distance walked in a day
- Frequency and duration of each episode
- Persistence over time

Wandering
Type and Intensity

**ADVERSE OUTCOMES**

**Immediate**
- Fatigue *
- Food intake *
- Falling and injuries *
- Unescorted exits *
- Exiting alone *

**Cumulative**
- Weight loss (in excess of the disease alone) *
- Relocation *
- Ending home care *
- Becoming lost *
- Death *
**Risk Model**

### Contributing Factors

#### Stable Factors
- Demographics: (age, gender, education & race)
- Predisposing Factors (personality, response to stress, ApoE status)

#### Dynamic Factors
- Enabling factors: (Mobility, function, health status, medications)
- Neuro-cognitive factors: (Attention, cognition, memory, language/verbal skills, executive functioning)

### Type and Intensity of Wandering

#### Type of wandering:
- Spatial disorientation
- Repetitive/routinised walking
- Night time wandering

#### Intensity of wandering:
- Distance walked in a day
- Frequency and duration of each episode
- Persistence over time

### Immediate Adverse Outcomes for Wanderers
- Meal time impulsivity
- Inadequate food intake
- Falls, fractures and injuries
- Eloping behaviours (exit attempts, unescorted exits, and getting lost)

### Cumulative Adverse Outcomes for Wanderers
- Weight loss
- Relocation
- End of Home Care
- Death

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<table>
<thead>
<tr>
<th>Wandering</th>
<th>Risk estimate</th>
<th>Interpersonal</th>
<th>Technological</th>
<th>Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive wandering; Wandering disrupts necessary</td>
<td>Low</td>
<td>Engagement; diversion; collusion, behaviour modification</td>
<td>Sensory enhancement</td>
<td>Risk screening assessment; behaviour logs; scheduled location checks</td>
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<tr>
<td>Losing one’s way indoors</td>
<td>Low-medium</td>
<td>Verbal re-direction; train to use same route every time.</td>
<td>Environmental design and cueing</td>
<td>Risk screening assessment; behaviour logs; scheduled location checks</td>
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<tr>
<td>Trespassing into off-limits or hazardous areas or beyond mastery level; night wandering; stating intent to leave; preparing to leave</td>
<td>Medium</td>
<td>Verbal redirection; behavioural modification; structured activity programs; wandering registry; intensified supervision.</td>
<td>Alert/alarm systems; barricades, locks/subjective exit barriers, e.g. mirror, mural, door and floor camouflage, environmental design &amp; cueing; surveillance</td>
<td>As above with increased frequency of location checks</td>
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<tr>
<td>Exit door lingering and testing</td>
<td>Medium to high</td>
<td>Redirect using verbal and non-verbal cueing &amp; diversion; conceal cues for leaving, e.g. keys; intensified supervision; alert responsible parties to heightened risk</td>
<td>Subjective exit barriers</td>
<td>Lost residents plans; door alarms, drills/checks; incident reports; medication review</td>
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<tr>
<td>Seeking means or opportunity to exit</td>
<td>Medium to high</td>
<td>Verbal redirection; behavioural modification; structured activity programs; wandering registry; intensified supervision.</td>
<td>As above</td>
<td>As above</td>
</tr>
<tr>
<td>Un-approved exiting</td>
<td>High</td>
<td>Promptly respond to alert/alarms Contain, monitor</td>
<td>As above</td>
<td>As above</td>
</tr>
<tr>
<td>Eloping; losing one’s way beyond care; getting lost</td>
<td>High, critical</td>
<td>Track, return. Promptly recognise absence, rapidly locate and return to supervised care, assess health status</td>
<td>Wandering registry, local or state police; search and recovery mission</td>
<td>GPS</td>
</tr>
</tbody>
</table>
What can we do better now?

- Wandering history on admission/ at home
- Take reports of increased locomotor behaviour seriously
- Get a good snapshot of the behaviour of concern – Excessive walking? Agitation? Fatigue? Intrusion?
  - Peak period assessment
  - Behavioural log
  - RAWS (NH &C versions)
- Monitor capacity to walk safely - physical and cognitive (mastery of environment and wayfinding).
- Provide appropriate physical supports for environmental protection
A Tool to Measure Wandering Behaviour

- The Revised Algase Wandering Scale (RAWS) (Nursing Home & Community versions)

- A 28-item questionnaire, based on three dimensions of wandering
  Persistent walking
  Spatial disorientation
  Eloping

- Differentiates between those who do not wander, those with occasional behaviour, those who wander but without issues and those whose behavior involves moderate to high risk (scale 1-4)

- Validated in an Australian community sample

Two approaches to reducing risky wandering

- **Aim**: To trial the feasibility of two behavioural interventions implemented with people with severe dementia who wander in RAC.
- **Target of the intervention**: frequent/repetitive walking & boundary transgression
- **Protocol development**
  - Consulted with potential end user
    - → Exercise based activity & Music
  - Considered theoretical frameworks
    - Wandering is an expression of unmet needs.
      - Eliminate / modify underlying cause
      - Make the behaviour safer
  - Considered the evidence
    - No previous RCTs specific to wandering
    - **BUT** Walking programs had the strongest evidence
    - **AND** Listening to preferred music effective for agitation
Intervention protocols

**Supervised walking program**
- Daily 30 minute walk with a trained RA or care staff
- 30 minutes before peak activity periods
- Outside care facility
- 3 week trial

**Listening to preferred music**
- Daily 20 minute session with trained RA
- Listened to selection of preferred music 30 minutes before peak activity (condition 1) OR at random times (condition 2).
- 3 week trial
Outcome measures

• Pre, during and post measures
• **Protocol fidelity** – length of session, reason for deviations from protocol/no intervention.
  • IRR 10% - check protocol fidelity and types of communication used
• **Characteristics of wandering:**
  • Direct observation – 2 x 2 hours per week per participant
    • Locomoting / non locomoting – frequency & duration
    • Pattern – pacing, lapping, random, direct
    • Boundary transgression – entry into out of bounds/hazardous areas
  • 24/7 step count – Actigraph™ Activity monitors
  • Trialled Noldus Pocket Observer™
• **Immediate pleasure** (music intervention)
• **Staff/family members perception** (interviews)
• Others: wandering status agitation, sleep, falls, weight
Participants

**Supervised Walking**
- 2 participating facilities
  - 60 bed dementia specific locked unit
  - 120 bed mixed frail aged ad people with dementia (not locked)
- 7 residents with severe dementia who were known to wander and tolerate Actigraph™

**Preferred Music**
- 2 participating facilities
  - 60 bed dementia specific locked unit – condition 1
  - 94 beds – 16 beds in locked dementia specific unit – condition 2
- 10 residents with severe dementia who were known to wander and enjoyed listening to music
What did we find?

- Protocol fidelity

  **Supervised Walking Program** – 80% of planned walks were completed
  - Reasons for not starting/completing walk: participant refused (n=5), participant fatigue (n=4), self-reported illness (n=3), staff reported participant illness (n=3), participant asleep (n=3), staff unavailable to conduct walk (n=1).
  - Reasons for not taking planned route: road work, participant choice, weather

  **Listening to Preferred Music** – 61% of scheduled sessions were initiated; only 60% of sessions initiated went for full 20 minutes
  - Reasons for not commencing – involved in other activity, planning another activity, absent from facility
  - Reasons sessions ending early – participant walked away from speaker or removed headphones
  - 1 participant refused all sessions
Effect of interventions on wandering

- No significant findings BUT characteristics of wandering were not exacerbated during intervention weeks
Impact of music on mood

- Participants were asked ‘Did you enjoy listening to music’ at the end of each session:
  - 51% said YES
  - 33% did not respond
  - 13% said NO or were neutral
  - 3% response not recorded
- More positive mood observed during music sessions
Staff perceptions of walking program

- Improved participants’ mood and engagement with others.
- Staff found it was an enjoyable activity that helped build rapport with residents.
- Walking outside the facility was an important part of the program.
- Participants seemed to enjoy going for a walk – after some initial anxiety, were very enthusiastic.
- Didn’t notice change in amount of walking but seemed to walk more in common spaces – more social.
- BUT worried about interfering with staff routine and taking staff from care duties.
- Should use volunteers or activity officers and consider group walks for socialisation
General observations

- Participants initially had trouble adjusting to being outside
  - Some had not been outside facility for many years
    - Uneven ground, grass and breeze
- **No participant tried to run away.**
- The participants were very aware of the new surroundings and noises.
- Had trouble sticking to strict time schedule as participants keen to leave.
- **Some residents became very fatigued** – had low step counts but were elopement risk.
- **Suited participants but not all** – low step count.
Staff/family perceptions of music program

• Participants **enjoyed** listening to music.
• **Positive** changes in the person’s mood and behaviour were observed.
• The program caused **minimal impact on the facility** and it should continue BUT no consensus on who should implement the program.
• Suggested using the music at set times e.g. after lunch or dinner.
General observations

- Very hard to get some residents to come to a designated area to listen to music – sometimes listened in areas with many distractions.
- Family may not know current likes and dislikes.
- Other residents entering bedrooms interrupted sessions.
- Expecting residents to sit for 20 minutes may not have been realistic.
- Suited some participants but not all.
## Proposed modifications to the protocol

### Supervised Walking Program
- Groups of residents walking in groups.
- Morning or afternoon sessions.
- Continue to walk outside the facility.
- Use staff / volunteers provided by facility to lead walks.
- Need to exclude residents with low step counts.

### Listening to Music
- Check music selection with the person with dementia if possible.
- Need to be able to tolerate headphones.
- Involve facility staff more.
- Reduce the length of the intervention to 10 minutes.
- Consider adding a visual component e.g. video clips of artist or related /meaningful images.
Where to next?

- Revision of the RAWS
- Development of a tool to support effective and safe return
- Further refinement and testing of promising non-pharm. interventions focused on risk high risk characteristics