Age and Ageing 2024; **53:** afae217
https://doi.org/10.1093/ageing/afae217
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QUALITATIVE PAPER

Intersection between person-centred practice and Montessori for dementia and ageing in residential aged care

Marta Woolford[1], Lauren Bruce[1], Daniella Rigoni[1], Hannah Gulline[1], Phillipa Horsman[2], Ann MacRae[1], Danielle Berkovic[1], Niluksha Morawaka[2], Silvia Alberti[2], Helen Skouteris[1,3,4], Darshini Ayton[1]

[1]Health and Social Care Unit, School of Public Health and Preventive Medicine, Monash University, 553 St Kilda Road, Melbourne, Vic 3004, Australia
[2]Baptcare, Head Office, Melbourne, Vic 3124, Australia
[3]Monash Warwick Professor, Health and Social Care Improvement and Implementation Science, Melbourne, Vic 3004, Australia
[4]Warwick Business School, University of Warwick, Scarman Rd, Coventry CV4 7AL, United Kingdom

Address correspondence to: Darshini Ayton, Health and Social Care Unit, School of Public Health and Preventive Medicine, Monash University, 553 St Kilda Road, Melbourne, Vic 3004, Australia. Email: darshini.ayton@monash.edu

Abstract

Background: Internationally, person-centred care (PCC) is embedded in the language of regulations and mandated to be practised in residential aged care (RAC). Despite this, PCC has not been fully adopted in RAC in Australia and internationally, and concerns about the quality of care persist. Over the past 2 decades, Montessori for dementia and ageing has been introduced in RAC to support and inform a cultural change towards PCC. This study aimed to examine the intersection between the goals and approaches of Montessori and PCC in RAC.
Methods: This qualitative descriptive study reports on a secondary analysis of qualitative data from focus groups (FGs) and interviews with residents, family-members, staff, and volunteers from eight RAC homes in Victoria, Australia. Sixteen FGs and 36 interviews were conducted. A qualitative deductive approach using researcher-developed Montessori for dementia and ageing framework for data analysis was applied.
Results: Findings provide support for the intersection between PCC and Montessori with participants' descriptions of PCC aligning with many of the goals and approaches of Montessori. Participants most commonly described Montessori approaches of engagement in daily tasks with purposeful roles and promoting cognitive abilities through multi-sensory stimulation. Least frequently-described approaches included focusing on residents' strengths/abilities, maintaining function, using familiar objects, and guided repetition.
Conclusions: Findings have important implications for practice to use Montessori as a vehicle that supports and upskills the workforce to deliver care that is person-centred. Future research must examine the resources required to support the implementation and sustainability of Montessori as a vehicle for PCC.

Keywords: dementia; agitation; meaningful engagement; environmental modifications; multi-sensory stimulation; nursing home; qualitative research; older people

Key Points

- Advancing person-centred care (PCC) has been identified as a key care priority for residential aged care (RAC) homes.
- Implementing PCC into RAC continues to be confronted by challenges, and PCC has not been fully realised in RAC.

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- To achieve PCC in RAC, the workforce must be provided with the skills and tools that are appropriate and capable of implementation into regular care routines and everyday interactions with residents. Montessori for dementia and ageing has been described to provide this support.
- Montessori for dementia and ageing is used to maximise the capacity of older people and maintain a level of autonomy and participation in life by creating opportunities for meaningful engagement and re-directing strengths to remaining abilities.
- Identifying an intersection between Montessori for dementia and ageing and PCC has important implications for practice in RAC to use Montessori as a vehicle to improve practice and the quality of life outcomes of residents.

Introduction

Person-centred care

Internationally, person-centred care (PCC) is now embedded in the language of regulations and quality standards, and mandated to be practised by the residential aged care (RAC) workforce [1–3]. The rationale being, PCC supports the delivery of good quality and safe care [4]. PCC is multi-dimensional and encompasses five major elements: (i) empowering individual decision-making; (ii) respecting and treating people as individuals; (iii) looking at the world from the perspective of the person; (iv) creating positive social environments in which the person can experience relative wellbeing; and (v) working with the person's strengths and vulnerabilities rather than defining a person's identity by their physical and cognitive impairments [1, 4, 5]. In RAC, PCC aims to reduce agitation [6], depression [7], levels of boredom and helplessness [8], and improve the quality of life (QoL) for older adults living with multiple chronic conditions and/or functional limitations [9–12].

Despite the mandates and benefits, PCC has not been fully realised and adopted in RAC in Australia [13, 14] and internationally [15–18]. Concerns about the quality of care in RAC persist [1, 3], and residents experience low QoL [19, 20]. The RAC workforce continues to prioritise more task-oriented aspects of care over person-centredness [13, 21]. The concept of PCC is complex and multi-dimensional, and, hence, sustained programs of culture change are required to embed the elements of PCC in everyday practice [18].

Montessori for dementia and ageing

The philosophy of Montessori was first designed over 100 years ago by an Italian physician and educator Dr Maria Montessori as an approach to support in the education of children. Dr Montessori created learning environments for children that foster their abilities and stage of development, and remove obstacles to learning. Maria Montessori did not design environments for older adults, but her philosophy to nurture children's abilities and create positive learning environments was recognised to have relevance to the care of older people. Over the past 2 decades, researchers, clinicians, and architects have contributed to a large body of evidence on Montessori for dementia and ageing and to applying the philosophy into the RAC setting to support and inform a cultural change towards PCC [1–3, 10, 22–26].

Montessori for dementia and ageing draws on the methods designed by Dr Montessori for children and applies these to the care of older people, recognising the specific contextual and individual characteristics of older people and the aged care sector. Examples of methods used include individual-centred engagement in activities and care, support for independence and choice through prepared environments, the provision of meaningful work and opportunities to make contributions, and fostering abilities and engagement throughout daily interactions (not limited to activities) [10, 23, 27–31].

Montessori for dementia and ageing is recognised to be a non-pharmaceutical approach to the care of older people [32, 33] that aims to enhance the QoL of residents and reduce levels of boredom, inactivity, and disengagement [10, 23, 27–31]. For residents living with dementia in RAC, Montessori has been shown to reduce helplessness and agitation and therefore decrease the need for psychotropic medication utilisation [8, 10, 23, 24, 30, 34–36].

Background to the research

In 2020, just before the COVID-19 pandemic, Baptcare—a not-for-profit community service organisation with 15 RAC homes in Victoria and one in Tasmania (Australia)—set out to develop a new model of care for their RAC homes. To achieve this, Baptcare established a collaborative partnership with researchers from Monash University—Health and Social Care Unit (HSCU). The aim of the partnership was to develop a model of care that is underpinned by a strong evidence-base and, importantly, reflects the voices of those the model of care will inevitably impact—RAC residents, family members, staff, and volunteers. Key domains of focus were PCC, integration, and coordination of care, clinical care, training and workforce capacity building, and the RAC physical environment.

To inform and support the development and implementation of the new model of care, HSCU researchers conducted a literature review for PCC [10] and training (under review).

Development of a Montessori for dementia and ageing framework

Researchers at HSCU conducted a literature review on PCC for RAC [10]. This review demonstrated the effectiveness of Montessori for dementia and ageing and, hence, was subsequently selected as one of the methods to support PCC in Baptcare's new model of care.

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To identify the goals (what Montessori aims to achieve for older people) and approaches (the tools to support person-centred practice), authors (MW, DA, DR, PH, LB), in partnership with Baptcare, developed a Montessori for dementia and ageing framework (Framework) that synthesises the goals and approaches of Montessori from key consumer websites and a rapid review of the academic literature. A similar approach has been applied previously [36–55].

From the rapid review of the academic literature and key consumer websites the following were identified: 'the goals of Montessori': (i) independence, (ii) choice, (iii) memory, (iv) mobility and skills, and (v) purpose; and 'the approaches of Montessori': (i) participating in meaningful activities, (ii) opportunities to engage in purposeful roles, (iii) breaking down tasks, (iv) memory and visual cues, and (v) promoting physical and cognitive ability (Figure 1).

Regular discussions around framework development were held with the research team and the project team, and discrepancies were discussed until consensus was reached on all goals and approaches presented in Figure 1. The framework was also reviewed and approved by a Montessori-trained expert working in the aged care sector. Once developed, the framework informed the development and subsequent implementation of education and training, and the creation of positive environments and assessment for aged care.

The goals and approaches presented in Figure 1 are extensively reported in academic and grey literature. We synthesised this existing body of work to develop the Montessori framework for Baptcare. However, what remains unclear is how, if at all, Montessori for dementia and ageing and PCC in RAC align—do the goals and approaches of Montessori presented in the literature align with PCC in RAC and subsequently can be used to support person-centred practice?

Advancing PCC has been identified as a key care priority for RAC homes in the majority of high-income countries, including Australia, United States, United Kingdom, and member countries of the European Union [18]. Montessori has been applied to the care of older people for over two decades to underpin practice and support PCC [23, 36, 41, 55].

Purpose of the project

This study re-analysed secondary data initially collected to inform the development of the new model of care (of which PCC was one domain). Our overall aim was to determine whether Figure 1 Montessori goals and approaches align with staff, volunteers, residents, and family descriptions of PCC within the secondary data, and subsequently can be used to support PCC in RAC.

Methods

Design

A qualitative descriptive study reporting on a secondary analysis of qualitative data from focus groups (FGs) and interviews.

Setting and research team

Baptcare is a not-for-profit community service organisation with 15 RAC homes in Victoria and 1 in Tasmania, Australia. The study was conducted in the state of Victoria, the second-most populous state in Australia, accounting for about 25% of the country's population (March, 2023) [3]. Eight RAC homes were purposefully sampled to represent a variety of home sizes, rural and metropolitan locations, and homes with a dedicated dementia memory support unit.

The team consisted of health and social care researchers with experience in models of care and content knowledge of dementia, PCC, and Montessori for dementia and ageing (MW, DA, DB, LB, HG, HS, and AM). The team from Baptcare consisted of representatives from strategy and operations (PH, NM, and SA), and project management (DR).

Participants

RAC staff, family members, volunteers, and residents (participants) from the eight homes were eligible to participate. Staff included personal care workers and registered and enrolled nurses; and lifestyle activity, volunteers, and spiritual care coordinators. Residents were permanent residents living in one of the eight Baptcare homes. Family members were persons close to the resident, such as adult children, siblings, partners, and friends.

Data collection

Data were collected via semi-interviews and FGs with participants using an interview guide developed by the HSCU research team in collaboration with Baptcare to inform the development of the new model of care (Supplementary Table 1). Data collection took place between October 2021 and May 2022. This period was towards the end of the sixth COVID-19 lockdown in Victoria, following previous extensive lockdowns which commenced in March 2020. These lockdowns led to RAC homes being closed off under the health directions of the government, resulting in limited resident movement and visitor access to the home [56]. Residents and staff experienced a high burden of COVID-19 infections and, as a consequence, working and living conditions were documented across the nation as being in crisis [57]. Staff leaving the sector and COVID-19 isolation requirements led to staff shortages in RAC [57]. The data collection took place in this context. Five researchers were involved in data collection with participants (DA, DB, AM, DR, and LB).

Consent

Participants provided verbal consent before interview or FG participation. Written consent was not sought to minimise the use of paper-based documents in light of COVID-19 infection control principles. The resident's personal care worker or nurse used their clinical judgement to determine whether they believed the resident could understand and

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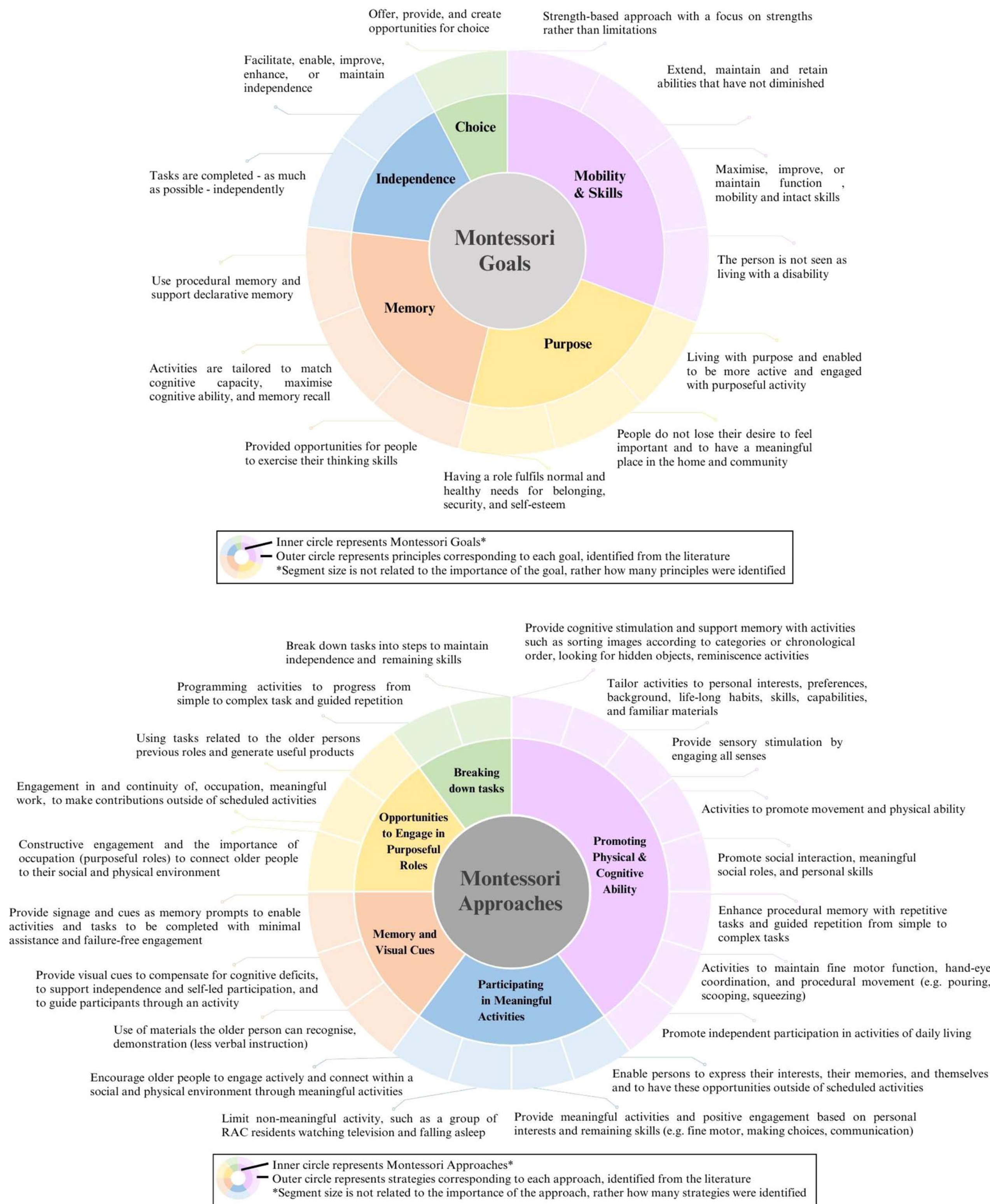

Figure 1. Framework of Montessori for dementia and ageing goals and approaches. Legend: Montessori goals and approaches for dementia and ageing were derived from a rapid review of the academic literature and key consumer websites, including: [20, 23–29, 31–54]. Definitions: meaningful activities are the things that RAC residents can do. They include the physical, social, or leisure activity suited to each resident's needs and preferences (e.g. hobbies like gardening or crafts). Purposeful roles are the things that residents can be. They include tasks related to previous occupational and domestic-type roles (e.g. cooking, organising events), the generation of useful products (e.g. making signs for upcoming events), and contributing to the home and those around them through meaningful work (e.g. setting the table for lunch).

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participate in the study. The process of verbal consent was approved by Monash University Human Research Ethics Committee (HREC). Residents who were unable to provide consent or assent (e.g. residents with severe cognitive decline or severe dementia), were unable to communicate in English, or were unwilling to provide consent were ineligible to participate.

Ethics

This study was approved by the Monash University HREC.

Data analysis

To understand the intersection between Montessori and PCC, the research team used qualitative interviews, and FGs initially collected to inform the development and components of Baptcare's new model of care, of which PCC is one domain, and deductively coded this data to Figure 1 Framework to determine whether the language used in the lived experiences of participants on PCC align with the goals and approaches of Montessori regular discussions around data analysis were held with the research team and the project team throughout the data analysis process to increase rigour.

Coding and data analysis were conducted by MW, DA, DB, and HG. QSR International NVivo Version 19 (2021–2022, Victoria, Australia) was used to support data management and analysis.

Results

Participants

Sixteen FGs were conducted. This included eleven FGs with 236 staff ($n=152$ personal care worker [PCW]; $n=24$ registered nurse; $n=18$ enrolled nurse; $n=15$ lifestyle assistants/coordinators; $n=12$ administration/management; $n=5$ housekeeping, maintenance, and kitchen; $n=4$ RAC manager, $n=4$ chaplain; and $n=2$ physiotherapist), three with residents (FG 1 $n=12$; FG 2 $n=13$; FG 3 $n=3$), one with family (2 participants), and one with volunteers (5 participants); and 36 interviews (28 with residents, 5 with family, and 3 with staff [PCW]) were conducted. The 16 FGs ranged from 57 to 110 minutes, and the 36 interviews ranged from 10 to 70 minutes. Data collection with staff occurred across the eight RAC homes. Due to COVID-19 lockdown restrictions, resident interviews and FGs were conducted across four of the homes, and family FGs were conducted at three of the homes. The shortest interviews were with residents living with dementia and the length of the interview was decided by the participant.

Qualitative interview and focus group results

Montessori goals and person-centred care

Overall, participants' descriptions of PCC did align with the goals of Montessori for dementia and ageing. The intersection between Montessori Goals and participant descriptions of PCC are described in more detail below. Participant quotes are presented in italics, and text presented in brackets link components of the goals and approaches Framework (Figure 1) with interview/FG findings.

Montessori goal 1: independence

In the interviews and FGs, participants described independence as a spectrum. Residents spoke about independence in terms of: living with (maintaining) independence 'I virtually do what I want and like to do, you know, within reason' (R [resident]4-I [interview]-H [home]1); being enabled to have independence ''I'm allowed to go out by myself' (R2-I-H2); or having the conditions (facilitated) to be independent, such as non-restricted access to outdoor areas within the home 'You can go anytime you want into the garden' (R5-I-H1).

Staff described independence in terms of recognising that residents were independent before admission to RAC: 'respect everything in what residents need' and to not do 'what we want. Residents were doing their own things before' (S (staff)-FG-H1).

Independence was also described as being lost (not facilitated) following the transition to RAC: 'When I came in, I felt that I'd lost my independence' (R-FG1-H3). Other residents described having lost their independence as a result of physical decline 'I'm not used to anything like this [asking for medication]. I'm used to being independent. You know, and then all of a sudden, my legs went on me' (R3-I-H1).

Montessori goal 2: choice

Residents described being provided with (offered) activity choices and that this is good for their mood 'I'm feeling good now because of all the things that they [staff] arrange for us to do, like the music day' (R-FG-H4). The importance of being offered choices was exemplified by another resident: 'I don't like being forced into doing something. I love the football. Every time it's on, we can do it here [lounge room] or we do it in our room' (R3-I-H1).

In a FG, staff described how they create opportunities for residents to have choices 'I will go up and say, [name], would you like your coffee white with two sugars? And they'll [residents] say yes, or they'll change their preference. So, I'm still giving them the choice' (H6). Staff further described the importance of recognising that resident preferences change and hence offering choice to residents, even with everyday events, remains important: 'I know when I first started working in our dementia area I was told, "that person has vegemite on their toast every morning." Well, that person just told me they want jam on their toast. Just like us, every day their needs may be different' (S-FG-H6).

Family members described offering choice and leaving it up to residents to decide what they would like to do 'I think giving them that choice is important, and then you've seen it, because if they do [want to], they will start to engage' (F [Family]2-I-H4).

Choice was also described by some residents as something that was at times limited in relation to activities: 'You don't get a choice [in activities] sometimes' (R4-I-H2). One family member described their frustration with the cessation of

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resident preferences upon admission to RAC: 'Got to be weeties, not weet-bix! He's spent his whole life eating a certain breakfast and suddenly it's all different' (R/F2-I-H4).

Montessori goal 3: memory and goal 4: mobility and skills

Some residents described continuing to have (maintaining) cognitive ability 'I can think for myself all the time.' This gave them a sense of independence 'I don't have to look for somebody' (R4-I-H2). Other residents described having lost some abilities 'I used to write greeting cards and things. Well, I can't do that' but went on to describe how they continue to do (maintain) the things they can 'I read all kinds [of books]' (R3-I-H4). One resident described how activities provided by staff in the home maintain their abilities: 'We have the exercises and I join in that and I'll go and play bingo this afternoon because it's on you and that helps the brain' (R3-I-H2).

Staff described 'we have to interact with them [residents]' and identified various initiatives to promote memory and skills, such as fine motor skills and social engagement: 'we do lots of things like word finds. We do memory, colouring in, paint. We love music. We cook and have a sing-along once a week. We do newspaper reading' (S-FG1-H4). Staff described how these activities gave residents 'active engagement', 'something to do' and that 'they [residents] loved it'. One staff member described wanting resources, such as computers so that 'residents could go and learn things' (S-FG-H3, 4, and 7).

Overall, staff described activities that promote cognitive ability and skills, with few discussions centred on mobility and functional ability, which are an important component of Montessori [20, 25, 26, 38, 43, 44]. Whilst staff did describe situations where they took residents living with dementia every lunchtime 'outside to get a bit of fresh air' and recognised the importance of this for residents' wellbeing 'They need it ... you see the smile on their faces' (S-FG-H7), for most residents, it seemed that opportunities for physical activity and support around functional ability (e.g. independence with Activities of Daily Living [ADL's]) were limited 'I only go in the garden if we got a barbecue, once a week, sometimes once a fortnight' (R-5-I-H2).

One resident described needing supervision to walk within the home due to fear of the potential harms, such as risk of falls, this may cause: 'I'm not allowed to walk on my own, I got to get staff. [The staff] said what if you fall?' (R3-I-H1).

One family member described being prepared to take the risk of her mother falling to promote movement and maintain past interests: 'We just had to take that dignity risk thing. You can't stop her from living life. Gardens are important to them in their life and if she unfortunately falls, that's the risk I'm prepared to take' (F-FG-H6).

Montessori goal 5: purpose

In describing PCC, staff said that residents need opportunities to engage in purposeful roles, such as domestic and occupational activities, in the home 'one of the things that I would love to see happen is that the residents are doing some of these tasks with a staff member so they're involved in cleaning and they're involved in maintaining or feeding the chickens' (S-FG-H-8). One staff member articulated 'we might have a person living with dementia, but they're also living in a community. So how can we give that PCC that will still help them be a part of a successful community' (S-FG-H6).

Residents described 'I just want to help' (R2-I-H1). This was acknowledged by staff in a FG 'He's [resident] like okay, where are we going? He likes to help you'. Staff further described the positive outcomes for resident's well-being when they have a purpose in the home: 'he's getting a great sense of empowerment and to get engaged. He's happy to help me with dishes, holding the door. He likes to broom sometimes the kitchen and dining, all kinds of things. I'm engaging residents otherwise we can't work if you don't engage them' (H8). Family members similarly explained 'he likes to potter around the house' (R/F2-I-H4).

Montessori approaches and person-centred care

Overall, participant descriptions of PCC approaches aligned with the five Montessori approaches for Dementia and Ageing. The intersection between Montessori approaches and participant descriptions of PCC are described in more detail below.

Approach 1: participating in meaningful activities

Some residents stated that 'there is a lot to do' (R5-I-H2) with the activities offered aimed at promoting social engagement '[staff] put things on for us so we can all get together and go watch a movie or go for a walk so we're not completely alone in our own rooms all day long every day' (R3-I-H6).

Overall, residents and staff described that usually 'nothing much is going on' beyond activities being offered within designated lifestyle-led program times. (R3-I-H1; refer to Table 2 for example quotes).

Several residents stated lifestyle-led group activities, such as bingo, did not always meet their needs and preferences, and hence they preferred not to participate (quotes: Table 1).

To address the limited number of activities offered outside of the lifestyle schedule, staff described applying strategies to promote engagement in common areas, such as having tables with colouring and puzzles available for residents to do in between meals (quotes: Table 1).

Whilst descriptions of residents participating in meaningful activities were limited, staff did recognise the positive outcomes for residents when they do participate in activities that are meaningful: 'we took them [residents] out yesterday. You should have seen their faces, they lit up. We need to do what they love, that was something special, it's lovely' (S-FG-H7).

Approach 2: opportunities to engage in purposeful roles

One staff member described applying the Montessori approach of purposeful roles: 'I come from a background in Montessori. Residents very much out doing and being involved in everyday life things' (S-FG1-H4).

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Table 1. Example quotes for how PCC aligns with the Montessori approach: participating in meaningful activity.

Strategies staff apply to promote engagement: 'We've tried to introduce tables where there might be some adult colouring. But I think they should have areas where I can take residents and try to engage them for two-three hours in between meals' (S-FG-H8).
Example of meaningful engagement through conversation: 'I have a resident, she loves the art. Each time I visit her I always invite her to reflect on her own paintings. That really helps her to go back into her years where she drew a lot of encouragement and that's really helping her to be empowered' (S-FG-H7).
Limited activities offered outside of designated Lifestyle activities: 'Some of the residents just do feel a little bit lost. We don't always have a lot of time . . . we have to do something to engage them in activities. I don't have anything [for them to do] quickly' (S-FG-H3 and 8).
Lifestyle-led activities do not meet residents' needs and preferences: 'Every day it's the same thing. They're playing bingo now, which I'm not really into' (R-I-H1 and 6); 'I think there are quite a lot of them [Lifestyle activities] and I think to myself what am I going to do, I don't want to be down there [activity room]' (R4-I-H2); 'The other volunteer or the other staff come to ask her [resident] so many times if she wants to go to bingo activity, and it makes her really angry' (Volunteer [V]-FG); 'Lifestyle people are fabulous but a lot of the stuff they do mum can't do' (F-H1); and 'Dads absolutely got no interest in the activities that go on in here' (R/F-I-H4).

Table 2. Example quotes for how PCC aligns with the Montessori approach: opportunities to engage in purposeful roles.

Participating in purposeful roles relating to previous occupation: 'we had a man here, he was a milkman. Every night he would get up five o'clock in the morning and start walking. I first approached his family what did your husband do? They said he was a milkman delivering milk. So, what we did we got a container and we gave it to him every morning. He would just put the container in front of residents' rooms. Then the staff didn't have a problem because they integrated that in the morning and it was fantastic' (S-FG-H7).
Participating in purposeful roles since admission into the home: 'I had a laugh the other night because the girl [staff] came in, seen me washing my underwear. . . I said I've done that since I've been here' (R2-I-H6).
Staff suggestions on how to support resident engagement in purposeful roles: 'A little shed put out there that has some things where residents can potter around. You know when being around those items that just might spark something' and 'I would love to have a clothesline so they [residents] could be washing the napkins and things like that, and hanging them out themselves. Things that used to be in the old-fashioned gardens and things like that' (S-FG-H6 and 8).

Residents shared several examples of how they participate in purposeful roles in the home: 'I've knitted heaps of stuff. I knit for babies, kids and mums'; 'we decorated the Christmas tree last year, it's nice that they let us participate'; 'my room is nice and I do everything myself, I clean everything up, make my own bed. I look after it'; and 'I usually go around and do anything that they need me to do' (R1, 4, and 5-I-H2).

Staff also described purposeful roles for residents when describing PCC: 'a lot of residents are still kind of independent and help make the bed, a resident can help get tea prepared, can help set the table and things like that'; 'we had a garden bed at the backyard, we got it for them to plant seedlings, do gardening' (S-FG-H3, 6, and 7).

Staff stated that it was important to get 'ideas from the family, what did the mother, father, what kind of work they did' and gave an example of how knowing the resident supports resident participation in purposeful roles relating to their previous occupation (quotes: Table 2).

Approach 3: breaking down tasks

Overall, whilst there were few descriptions of participants applying this approach, situations where the Montessori approach of breaking down tasks could have been used were described. For example, one resident spoke of his ability to get himself fully dressed, apart from only one task: 'The only thing I cannot do is put on the socks' (R5-I-H1).

Simplifying activities by breaking them down into multiple steps and supporting residents to do as many of these steps for themselves was described to promote the use of remaining skills and abilities 'I can get up, take myself to the toilet, I can walk about oh 10, 15 meters' (R3-I-H1). The approach also minimises dependence on staff 'we're even toasting, buttering and putting spreads on for the resident. We've taken their independence away' (S-FG-H6).

Approach 4: memory and visual cues

Most participants did not specifically identify using memory and visual cues in the home. However, each participant group did describe situations where residents did not participate in activities or use certain areas/equipment of the home. In each situation described, the Montessori approach of using memory and visual cues, such as cue cards, instructions, or directional signs near an activity/location in the home, may have supported participation in activities and wayfinding for residents. This was exemplified by one staff member: 'to show others what we do is we have photos on the walls of the activities and we document those things in a visual form. We find that's sometimes helpful, so residents can see what we are doing. That actually encourages more participation because people are seeing what other people are doing' (S-FG1-H4). Table 3 presents situations where the Montessori approach of memory and visual cues may have supported engagement for residents.

Approach 5: physical and cognitive abilities

Across both interviews and FGs, intersections between PCC and Montessori approaches to promoting the physical and cognitive abilities of residents were identified. The four main strategies for promoting physical and cognitive abilities are presented in Figure 2, with example quotes for each approach presented in Supplementary Table 2. Overall, participants primarily described promoting resident cognitive abilities with few descriptions centring on physical abilities. Most commonly, 'multi-sensory approaches' were described: 'Sometimes they might lose their ability to be able

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Table 3. Situations where the Montessori approach of memory and visual cues may have supported engagement and understanding.

Residents not understanding how to do something: 'Mum has trouble with the shower. It's one of those lever showers. I mean, it's pretty easy to work, but she's never been able to use it' (F-FG-H6).
Residents not knowing they can do an activity: 'I know there are fridges in those areas [kitchenette], but I don't think it's been used for the residents to sort of head to'; 'I kind of feel residents need encouragement to go to these [activity] areas. They don't tend to just wander off and start doing something themselves'; 'So, we've had it [the oven] for about maybe 18 months. We've never used the oven. There's nothing in there to say that it's a kitchen-type thing' (S-FG-H5, 6, and 8).
Residents having difficulty understanding activity schedules and remembering: 'Do you do the activities here?' 'No, I don't know what they were doing. You just don't know half the time what they're going to do and what they're not going to do' (R4-I-H2). 'Because I've got a bit of dementia I really forget what I've ordered [for lunch] or whatever' [R3-I-H2].
Residents needing help to find their way: 'I don't think I could guide anybody around here. I keep getting lost. We had a walk around a couple of days ago. We ended up here outside and I haven't the foggiest idea how we got here' (R1-I-H6).
Residents needing an invitation to participate in an activity: 'I think the staff is so flat chat that they don't get the opportunity to say hey, let's head to this area and have a cup of tea or coffee or, have a look at this puzzle' and '[outside has] got some vegetable boxes, which some of the residents do grow some veggies but the rest of it doesn't get used' (S-FG1-H3 and 5).

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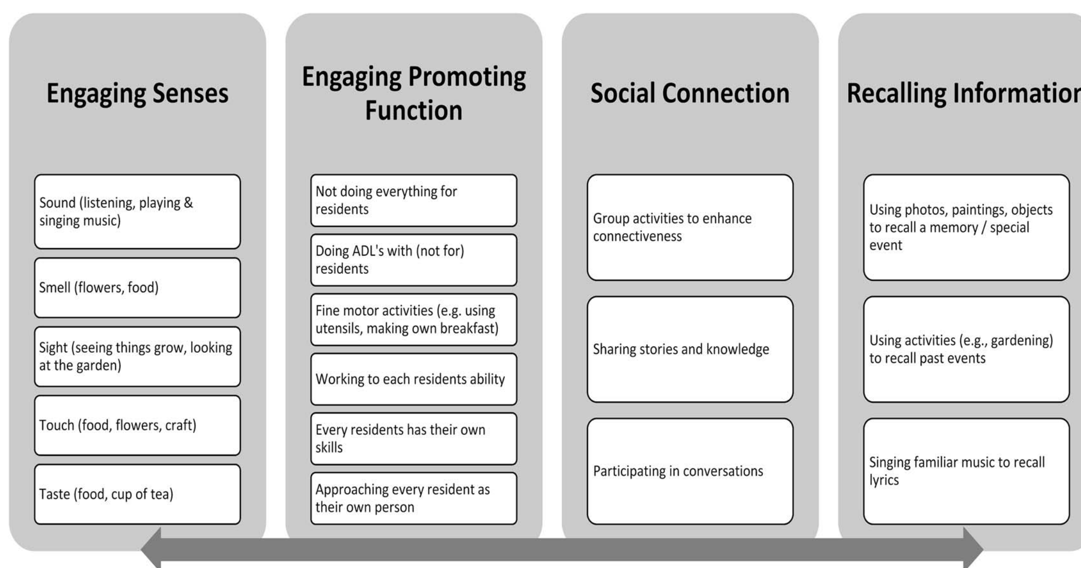

Figure 2. PCC strategies described by study participants that align with the Montessori approach to promote physical and cognitive abilities.

to be physically involved but that doesn't mean they can't smell, hear, taste, all those senses' (S-FG1-H4), explaining 'it is interesting how it [multi-sensory activity] can dig below to that deep memory that's being suppressed by the deterioration of the parts of the brain' (SC [Spiritual Care]-FG). Staff described physical and cognitive decline of residents 'with dementia, we know that there's quite often a decline and that can be a cognitive or a physical decline, that they mightn't be able to do the things that they have done in the past'. But went on to say 'that doesn't mean that their QoL has to decline' (S-FG1-H4).

Discussion

In our study, participants' descriptions of PCC are consistent with the goals and approaches of Montessori presented in the Montessori Framework. Adopting Montessori for dementia and ageing has the potential to provide the RAC workforce with the practical tools, skills, and knowledge they need to be person-centred in their everyday practice and interactions with residents [20, 23, 25, 37, 44, 52]. In our study, participants most commonly described engagement in daily tasks with purposeful roles (e.g. knitting for others, looking after their room, and helping to set the table), and promoting cognitive abilities through multi-sensory stimulation (e.g. looking at the garden, listening to music, and smelling food). Previous research has shown these Montessori approaches were successful in generating constructive engagement, playing an important role in meeting the needs of residents, enhancing QoL, and reducing levels of boredom and disengagement [8, 10, 23, 24, 30, 34–36]. Importantly, research indicates the Montessori approaches can be delivered by people from a wide range of backgrounds, provided they are given sufficient training and support [52]. This is vital given the cultural diversity of the RAC workforce [58].

However, our findings also suggest that whilst staff are engaging residents in purposeful roles in the home, the availability of activities providing opportunities for meaningful engagement largely comprised of lifestyle-led activities as

part of an activity schedule. Research suggests engaging residents throughout the day in activities supports a continued sense of control and purposeful life for residents [59, 60]. By limiting activities to formal lifestyle-led programs, there is a risk that residents may not engage. This is supported by international research showing that residents spend a large proportion of their day sitting alone in their rooms, often engaging in limited social interactions and little activity [19, 61]. Investment in the Montessori approach of participating in meaningful activity should be considered as a tool for engagement throughout the day. For example, having diverse activity stations available for residents to engage with at times outside of scheduled activities. This approach may limit the ongoing and persistent disengagement and inactivity of residents that currently exist in many RAC homes.

An important finding in our study was that, whilst few references to the Montessori approaches of breaking down tasks and memory and visual cues were made by study participants in terms of applying the approaches to support PCC, situations where the approaches could have supported PCC were described, e.g. instructional signs for shower taps, invitational signs above utilities and activities, and directional signs in the home. Research indicates these approaches can be introduced into RAC homes without adding to existing staff workloads. They may in fact reduce resident dependence on staff as they promote independence, function, and self-led engagement in activities [59, 60].

For this study, the authors developed a framework of Montessori goals and approaches [36–55]. Participants' descriptions of PCC did align with many components of the framework, however, not with others. In particular, emphasising and focusing on residents' strengths and abilities, maintaining and improving functioning, using familiar objects and guided repetition, and promoting fine motor coordination and movement were not mentioned by participants in their descriptions of PCC. Future research is needed to understand if and how these Montessori approaches align with, and can support, PCC in RAC. However, concepts such as 'function', 'strength', and 'physical and cognitive ability' are complex and hence unlikely to be adopted by the RAC workforce without sufficient training that provides the knowledge and skills that staff need to understand and confidently apply them to their everyday practice. The number of people entering RAC is increasing with ageing populations, and the dependency levels of RAC residents upon entry to care are rising [62]. Hence, maintaining the physical and cognitive function of residents by investing in workforce training that can support residents to live as independently as possible using non-pharmaceutical strategies is an urgent priority and necessary for effective quality of care delivery [3, 26–30, 33].

Study strengths and limitations

This study included perspectives from a comprehensive range of RAC stakeholders. We were also flexible with our qualitative approach. For example, we asked family members and residents to give consent on the day of the interview and in-person, rather than booking interview times ahead and using online digital platforms. Most residents (and some family members) have difficulty comprehending digital or virtual interviews and hence would have not been able to participate in our study if we applied this approach. This meant that people whose voices are often left out of research had the opportunity to participate in our study.

At the same time, the limitations of this research need to be recognised. Whilst all residents who were able to provide consent were eligible to participate in this study, the perspectives of those with advanced dementia were not included.

We did not collect resident or family member demographics or key characteristics so we were unable to describe the qualitative findings with this detail. We recognise that the data collection setting may have influenced people's comfort in speaking openly—for example, some residents did not feel like they could criticise any aspect of their care and some staff did not want to be overheard speaking about their workplace. Due to the lockdowns, we were unable to conduct in-person qualitative data collection with residents and family members at all eight homes. This reduced the availability of data for analysis from this participant group. Whilst qualitative research is representative of participants' experiences, our research cannot be generalised to the broader population living in, or working in, RAC. We acknowledge the potential for participant bias where those with highly positive or negative experiences or views may have been more likely to volunteer to be a part of this research. We also acknowledge that nearly half of our staff sample did not speak English as a first language. Language and country of education can be linked to understanding care concepts, we did not explore this in more detail.

Recommendations for future research

To date, most studies examining Montessori for RAC residents comprise specific Montessori one-on-one or group-based activities and focus primarily on residents living with dementia [23, 28, 29, 54]. Achieving PCC in RAC requires a 'whole-of-home approach' in which the Montessori goals and approaches apply to all staff and all residents. It is this 'whole-of-home' approach that is likely to support the embedding of PCC into practice. To achieve this, the RAC workforce must be provided with the skills and tools that are appropriate and capable of implementation into regular care routines. Future research must focus on examining the implementation of Montessori as a foundation that underpins PCC with a 'whole-of-home' approach.

RAC homes are dynamic and complex environments that encompass regulation, workforce challenges, complex and diverse needs and abilities of residents, and a long-held culture of task-based care that does not sufficiently recognise the importance of proactively supporting residents' social, cognitive, physical, emotional, and functional needs [13]. Future research must examine the resources

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that are required to support the implementation and sustainability of Montessori as a vehicle for PCC in this complex and changing environment. Further, an understanding of the types of training and knowledge staff need to apply the approaches of Montessori to their daily work.

Consistent with what is occurring in aged care more broadly [20, 25, 26, 38, 43, 44], staff were able to describe activities that promote cognitive ability and skills, and the opportunity to improve efforts to foster mobility and functional ability, which are important components of Montessori. These Montessori approaches have been identified in earlier research as protective factors for maintaining functioning and skills, higher ADL functioning, and reducing agitation (e.g. pacing and wandering) [28, 33, 48, 52, 63–69]. Future research is needed on how the workforce can support mobility and functional ability in a risk-averse RAC environment [70].

Evaluating the feasibility of the Montessori approaches in practice and their cost-effectiveness is also required. This needs to include the barriers and enablers for implementation, staff resourcing and support, and resident outcomes (e.g. QoL, engagement, agitation). Research is needed to better understand if and how Montessori gives staff the practical skills and tools they need to practice care that is person-centred [10]. Finally, The Framework goals and approaches were developed from key consumer websites and a rapid review of the academic literature, in partnership with aged care, and informed the development and subsequent implementation of education and training, and the creation of positive environments and assessment for aged care. Time and resource constraints did not allow for a robust review for framework development. Hence, we recommend that our Montessori Framework be refined and evaluated utilising the perspective of various stakeholders, such as RAC residents, families, and the aged care workforce, and that a robust review of the literature is conducted.

Conclusion

Montessori is used to maximise the capacity of residents and maintain a level of autonomy and participation in life by creating opportunities for meaningful engagement and redirecting strengths to remaining abilities [28, 71]. Our findings provide support for the intersection between Montessori for dementia and ageing and PCC. Implementing PCC into RAC continues to be confronted by challenges and PCC has not been fully realised in RAC. The findings have important implications for practice in RAC to use Montessori as a vehicle to improve practice and the QoL outcomes of residents.

Acknowledgements: Amelia Bevins, HSCU, School of Public Health and Preventive Medicine, Monash University, Melbourne, 3004, Australia.

Supplementary Data: Supplementary data is available at *Age and Ageing* online.

Declaration of Conflicts of Interest: None declared.

Declaration of Sources of Funding: This project was funded by Baptcare. Associate Professor Darshini Ayton is funded by an NHMRC Investigator Grant (Emerging Leader 12021-2025-APP1195357).

References

1. Oppert ML, O'Keeffe VJ, Duong D. Knowledge, facilitators and barriers to the practice of person-centred care in aged care workers: a qualitative study *Geriatr Nurs*. 2018;**39**:683–8.
2. Care Quality Commission. *Regulation 9: Person-Centred Care*. 2023. Available at https://www.cqc.org.uk/guidance-providers/regulations/regulation-9-person-centred-care (accessed 10 October 2023).
3. Royal Commission into Aged Care Quality and Safety. *Review of International Systems for Long-Term Care of Older People*. 2020, Commonwealth of Australia 2020: Online: ISBN 978–1–921730-01-6 (accessed 10 October 2023).
4. Brooker D. What is person-centred care in dementia? *Rev Clin Geron*. 2003;**13**:215–22.
5. Tierney L, Beattie E. Enjoyable, engaging and individualised: a concept analysis of meaningful activity for older adults with dementia *Int J Older People Nurs*. 2020;**15**: e12306.
6. Ballard C, Corbett A, Orrell M *et al.* Impact of person-centred care training and person-centred activities on quality of life, agitation, and antipsychotic use in people with dementia living in nursing homes: a cluster-randomised controlled trial *PLoS Med*. 2018;**15**:e1002500.
7. Markle-Reid MF, McAiney C, Forbes D *et al.* Reducing depression in older home care clients: design of a prospective study of a nurse-led interprofessional mental health promotion intervention *BMC Geriatr*. 2011;**11**:50.
8. Brownie S, Nancarrow S. Effects of person-centered care on residents and staff in aged-care facilities: a systematic review *Clin Interven Aging*. 2013;**8**:1–10.
9. The American Geriatrics Society Expert Panel on Person-Centered Care. Person-centered care: a definition and essential elements *J Am Ger Soc*. 2016;**64**:15–8.
10. Berkovic D, Macrae A, Gulline H *et al.* The delivery of person-centered care for people living with dementia in residential aged care: a systematic review and meta-analysis *Gerontologist*. 2024;**64**:gnad052.
11. Sharma T, Bamford M, Dodman D. Person-centred care: an overview of reviews *Contemp Nurs*. 2015;**51**:107–20.
12. Chenoweth L, Stein-Parbury J, Lapkin S *et al.* Effects of person-centered care at the organisational-level for people with dementia. A systematic review *PloS One*. 2019;**14**:e0212686.
13. Royal Commission into Aged Care Quality and Safety. Final Report: Care, Dignity and Respect, Australian Government, Editor. 2021: Online. p. 1–115 (accessed 10 October 2023).
14. Hobden B, Mansfield E, Freund M *et al.* Experiences of patient-centered care among older community-dwelling Australians *Front Pub Health*. 2022;**10**:912137.

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15. Bourgeois MS, Brush J, Elliot G *et al.* Join the revolution: how Montessori for aging and dementia can change long-term care culture *Semin Speech Lang*. 2015;**17**:209–14.
16. Bhattacharyya KK, Craft Morgan J, Burgess EO. Person-centered care in nursing homes: potential of complementary and alternative approaches and their challenges *J Appl Gerontol*. 2022;**41**:817–25.
17. Cooper C, Marston L, Barber J *et al.* Do care homes deliver person-centred care? A cross-sectional survey of staff-reported abusive and positive behaviours towards residents from the MARQUE (managing agitation and raising quality of life) English national care home survey *PloS One*. 2018;**13**:e0193399.
18. Corazzini KN, Meyer J, McGilton KS *et al.* Person-centered nursing home care in the United States, United Kingdom, and Sweden: why building cross-comparative capacity may help us radically rethink nursing home care and the role of the RN *Nordic J Nurs Res*. 2016;**36**:59–61.
19. Siette J, Dodds L, Surian D *et al.* Social interactions and quality of life of residents in aged care facilities: a multi-methods study *PloS One*. 2022;**17**:e0273412.
20. Jarrott S, Gozali T, Gigliotti C. Montessori programming for persons with dementia in the group setting: an analysis of engagement and affect *Dementia*. 2008;**7**:109–25.
21. Ludlow K, Churruca K, Mumford V *et al.* Staff members' prioritisation of care in residential aged care facilities: a Q methodology study *BMC Health Serv Res*. 2020;**20**:423.
22. Australian Institute of Health and Welfare, Dementia in Australia, Australian Government. 2023. Available at https://www.aihw.gov.au/reports/dementia/dementia-in-aus/contents/summary (accessed 5 September 2023).
23. Yan Z, Traynor V, Alananzeh I *et al.* The impact of Montessori-based programmes on individuals with dementia living in residential aged care: a systematic review *Dementia (London)*. 2023;**22**:1259–91.
24. Booth S, Zizzo G, Robertson J *et al.* Positive interactive engagement (PIE): a pilot qualitative case study evaluation of a person-centred dementia care programme based on Montessori principles *Dementia (London)*. 2020;**19**:975–91.
25. Malone ML, Camp CJ. Montessori-based dementia programming®: providing tools for engagement *Dementia (London)*. 2007;**6**:150–7.
26. Erkes J, Camp CJ, Raffard S *et al.* Assessment of capabilities in persons with advanced stage of dementia: validation of the Montessori assessment system (MAS) *Dementia (London)*. 2019;**18**:1840–57.
27. Camp CJ. Origins of Montessori programming for dementia *Nonpharmacol Ther Dement*. 2010;**1**:163–74.
28. Wilks SE, Boyd PA, Bates SM *et al.* Montessori-based activities among persons with late-stage dementia: evaluation of mental and behavioral health outcomes *Dementia (London)*. 2019;**18**:1373–92.
29. Xu L, Zhang Z, Xu X. Effectiveness of Montessori-based activities on agitation among Asian patients with dementia: a systematic review and meta-analysis *Medicine*. 2022;**101**:e29847.
30. Ijaopo EO. Dementia-related agitation: a review of non-pharmacological interventions and analysis of risks and benefits of pharmacotherapy *Transl Psychiatry*. 2017;**7**:e1250.
31. Douglas N, Brush J, Bourgeois M. Person-centered, skilled services using a Montessori approach for persons with dementia *Semin Speech Lang*. 2018;**39**:223–30.
32. Camp CJ, Skrajner MJ. Resident-assisted Montessori programming (RAMP): training persons with dementia to serve as group activity leaders *Gerontologist*. 2004;**44**:426–31.
33. Douglas NF, Brush J. Person-centered memory care through Montessori for dementia and ageing: a quality improvement study *J Geront Nurs*. 2022;**48**:6–9.
34. Hitzig SL, Sheppard CL. Implementing Montessori methods for dementia: a scoping review *Gerontologist*. 2017;**57**:e94–114.
35. Dementia Australia. *Purposeful Activities for People with Dementia: A Resource*. 2022. Available at https://www.dementia.org.au/resources/purposeful-activities-for-people-with-dementia (accessed 22 February 2022).
36. Ducak K, Denton M, Elliot G. Implementing Montessori methods for dementia™ in Ontario long-term care homes: recreation staff and multidisciplinary consultants' perceptions of policy and practice issues *Dementia (London)*. 2018;**17**:5–33.
37. Orsulic-Jeras S, Judge KS, Camp CJ. Montessori-based activities for long-term care residents with advanced dementia: effects on engagement and affect *Gerontologist*. 2000;**40**:107–11.
38. Raghuraman S, Tischler V. 'The jigsaw culture of care': a qualitative analysis of Montessori-based programming for dementia care in the United Kingdom *Dementia (London)*. 2021;**20**:2876–90.
39. Janssen TL, Lodder P, de Vries J *et al.* Caregiver strain on informal caregivers when providing care for older patients undergoing major abdominal surgery: a longitudinal prospective cohort study *BMC Geriatr*. 2020;**20**:178.
40. Cartwright J, Roberts K, Oliver E *et al.* Montessori mealtimes for dementia: a pathway to person-centred care *Dementia (London)*. 2022;**21**:1098–119.
41. Erkes J, Camp CJ, Bayard S. Don't bother trying, they won't do it! Effect of responsive behaviors on the Montessori assessment system *Clin Gerontol*. 2022;**45**:870–7.
42. Campbell P, Bain B, Furlanetto DL *et al.* Interventions for improving oral health in people after stroke *Cochrane Database Syst Rev*. 2020;**7**:CD003864.
43. Lin L-C, Huang Y-J, Watson R *et al.* Using a Montessori method to increase eating ability for institutionalised residents with dementia: a crossover design *J Clin Nurs*. 2011;**20**:3092–101.
44. Gaspar PM, Westberg K. Evaluation of the Montessori-inspired lifestyle as the foundation of care in assisted living memory care *J Gerontol Nurs*. 2020;**46**:40–6.
45. Gerritzen EV, Hull MJ, Verbeek H *et al.* Successful elements of intergenerational dementia programs: a scoping review: research *J Intergener Relatsh*. 2020;**18**:214–45.
46. Roberts G, Morley C, Walters W *et al.* Caring for people with dementia in residential aged care: successes with a composite person-centered care model featuring Montessori-based activities *Geriatr Nurs*. 2015;**36**:106–10.
47. Morley JE, Philpot CD, Gill D *et al.* Meaningful activities in the nursing home *J Am Med Dir Assoc*. 2014;**15**:79–81.
48. Giroux D, Robichaud L, Paradis M. Using the Montessori approach for a clientele with cognitive impairments: a quasi-experimental study design *Int J Aging Hum Dev*. 2010;**71**:23–41.

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49. Camp CJ. From efficacy to effectiveness to diffusion: making the transitions in dementia intervention research *Neuropsychol Rehabil*. 2001;**11**:495–517.
50. Lee MM, Camp CJ, Malone ML. Effects of intergenerational Montessori-based activities programming on engagement of nursing home residents with dementia *Clin Interv Aging*. 2007;**2**:477–83.
51. Mbakile-Mahlanza L, van der Ploeg ES, Busija L *et al.* A cluster-randomized crossover trial of Montessori activities delivered by family carers to nursing home residents with behavioral and psychological symptoms of dementia *Int Psychogeriatr*. 2020;**32**:347–58.
52. van der Ploeg ES, Eppingstall B, Camp CJ *et al.* A randomized crossover trial to study the effect of personalized, one-to-one interaction using Montessori-based activities on agitation, affect, and engagement in nursing home residents with dementia *Int Psychogeriatr*. 2013;**25**:565–75.
53. Lin LC, Yang MH, Kao CC *et al.* Using acupressure and Montessori-based activities to decrease agitation for residents with dementia: a cross-over trial: using acupressure and Montessori-based activities *JAGS*. 2009;**57**:1022–9.
54. Yuen I, Kwok T. Effectiveness of DementiAbility methods: The Montessori way on agitation in long-term care home residents with dementia in Hong Kong *Int J Geriatr Psychiatry*. 2019;**34**:1352–8.
55. Janssen LM, Kinney JM, Farfsing KM. Through the Montessori looking-glass: barriers to implementing a Montessori-based intervention *J Appl Gerontol*. 2021;**40**:1105–9.
56. Storen R, Corrigan N. *COVID-19: A Chronology of State and Territory Government Announcements (Up until 30 June 2020)*. 2020. Available at https://parlinfo.aph.gov.au/parlInfo/download/library/prspub/7614514/upload_binary/7614514.pdf (accessed 6 June 2022).
57. Thomas S, Bolsewicz K, Latta R *et al.* The impact of public health restrictions in residential aged care on residents, families, and staff during COVID-19: getting the balance right *J Aging Soc Policy*. 2022;**10**:1–20.
58. Chen L, Xiao LD, Han W *et al.* Challenges and opportunities for the multicultural aged care workforce: a systematic review and meta-synthesis *J Nurs Manag*. 2020;**28**: 1155–65.
59. Du Toit SH, Shen X, McGrath M. Meaningful engagement and person-centered residential dementia care: a critical interpretive synthesis *Scand J Occup Ther*. 2019;**26**: 343–55.
60. Poland F, Birt L. The agentic person: shifting the focus of care *Aging Ment Health*. 2016;**20**:771–2.
61. Stewart C, McCloskey R, Donovan A. How do residents spend their time in nursing homes? *Can Nurs Homes*. 2014;**25**:13–7.
62. Gibson D. Who uses residential aged care now, how has it changed and what does it mean for the future? *Aust Health Rev*. 2020;**44**:820–8.
63. Sheppard CL, McArthur CM, Hitzig SL. A systematic review of Montessori-based activities for persons with dementia *J Am Med Dir Assoc*. 2016;**17**:117–22.
64. Desai AK, Grossberg GT. Recognition and management of behavioral disturbances in dementia *Prim Care Companion J Clin Psychiatry*. 2001;**3**:93–109.
65. Qazi A, Spector A, Orrell M. User, carer and staff perspectives on anxiety in dementia: a qualitative study *J Affect Disord*. 2010;**125**:295–300.
66. Judge KS, Camp CJ, Orsulic-Jeras S. Use of Montessori-based activities for clients with dementia in adult day care: effects on engagement *Am J Alz Dis*. 2000;**15**:42–6.
67. Krueger KR, Wilson RS, Kamenetsky JM *et al.* Social engagement and cognitive function in old age *Exp Aging Res*. 2009;**35**:45–60.
68. Cohen-Mansfield J, Golander H, Parpura-Gill A. Utilization of self-identity roles for designing interventions for persons with dementia *J Gerontol B Psychol Sci Soc Sci*. 2006;**61**:202–12.
69. Cohen-Mansfield J, Dakheel-Ali M, Marx MS *et al.* Which unmet needs contribute to behavior problems in persons with advanced dementia? *Psychiatry Res*. 2015;**228**:59–64.
70. Woolford MH, Lacy-Vawdon C, Bugeja L *et al.* Applying dignity of risk principles to improve quality of life for vulnerable persons *Int J Geriatr Psychiatry*. 2020;**35**:122–30.
71. Dementia Australia. *Montessori Principles Prove Promising in Improving Quality of Life for People Living with Dementia*. 2019. Available at https://www.dementia.org.au/about-us/media-centre/media-releases/montessori-principles-prove-promising-improving-quality-life (accessed 20 February 2019).

Received 6 April 2024; editorial decision 28 September 2024

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