

Literature Review

Implementing Montessori Methods for Dementia: A Scoping Review

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Abstract

Purpose of the Study: A scoping review was conducted to develop an understanding of Montessori-based programing (MBP) approaches used in dementia care and to identify optimal ways to implement these programs across various settings.

Design and Methods: Six peer-reviewed databases were searched for relevant abstracts by 2 independent reviewers. Included articles and book chapters were those available in English and published by the end of January 2016. Twenty-three articles and 2 book chapters met the inclusion criteria.

Results: Four approaches to implementing MBP were identified: (a) staff assisted ($n = 14$); (b) intergenerational ($n = 5$); (c) resident assisted ($n = 4$); and (d) volunteer or family assisted ($n = 2$). There is a high degree of variability with how MBP was delivered and no clearly established “best practices” or standardized protocol emerged across approaches except for resident-assisted MBP.

Implications: The findings from this scoping review provide an initial road map on suggestions for implementing MBP across dementia care settings. Irrespective of implementation approach, there are several pragmatic and logistical issues that need to be taken into account for optimal implementation.

Keywords: Dementia, Person-centered care, Caregiving—formal, Alzheimer's disease, Montessori-based activities

There is a dramatic increase in the number of persons diagnosed with dementia worldwide. For instance, it is estimated that over 500,000 Canadians have Alzheimer's disease or a related dementia (Alzheimer's Society of Canada, 2010). One of the challenges in dementia care is providing meaningful social activities that are reflective of the individual's interests and abilities (Campo & Chaudhury, 2012). An emerging approach for promoting prosocial behaviors and engagement in this population is Montessori-based programing (MBP; Camp, 2010; Malone & Camp, 2007). A recent review (Sheppard, McArthur, & Hitzig, 2016) reported that although the quality of the research ranged

from strong to weak, MBP improved constructive engagement and positive affect, as well as eating behaviors and cognition.

MBP typically involves (a) identifying an activity of interest that is reflective of the individual's skill level; (b) making use of familiar materials and objects; (c) breaking the activity down into small steps; and (d) inviting the individual to complete the task themselves (Malone & Camp, 2007). It is recommended that Montessori activities be taken from the everyday environment (Malone & Camp, 2007), be modifiable, and be self-correcting, wherein the activities provide cues for the individual to

know if the task was successfully completed (Orsulic-Jeras, Schneider, Camp, Nicholson, & Helbig, 2001). Individuals best suited to participate in MBP include those with spared motor learning capacity and/or the ability to communicate verbally and/or to understand task instructions (Mahendra et al., 2006; Mahendra, Scullion, & Hamerslag, 2011).

MBP has been facilitated in both one-on-one and in small and large group settings (Jarrott, Gozali, & Gigliotti, 2008; Orsulic-Jeras, Judge, & Camp, 2000; Orsulic-Jeras, Schneider, & Camp, 2000). Examples of one-on-one activities include sorting pictures into categories, or activities that make use of fine motor skills such as folding (Malone & Camp, 2007; Orsulic-Jeras et al., 2001). Group-based activities commonly include memory bingo or “Question Asking Reading” (a facilitated group discussion based on a short story), both of which can be adapted in order to alter the task complexity (Orsulic-Jeras et al., 2001).

MBP has been delivered by staff (such as social workers, recreational therapists, and nursing staff; Sterns, Sterns, & Lax, 2011), other residents with dementia (Camp & Skrajner, 2004; Camp, Skrajner, & Kelly, 2005; Skrajner & Camp, 2007; Skrajner et al., 2014), family members (Schneider & Camp, 2002), volunteers (Van der Ploeg, Walker, & O'Connor, 2014), and intergenerationally where persons with dementia served as teachers to preschool-aged children (Camp et al., 1997; Gigliotti, Morris, Smock, Jarrott, & Graham, 2005; Lee, Camp, & Malone, 2007); however, more work is needed to compare and contrast these approaches and to examine the implementation barriers to each (Sheppard et al., 2016). Although there are a plethora of activities, training resources, and guiding principles that can be used to support MBP (e.g., Camp, 2006; Ducak, Denton, & Elliot, 2016; Malone & Camp, 2007; Orsulic-Jeras et al., 2001), Sheppard and colleagues (2016) found that the type of training provided was inconsistently reported in the literature and that further work was needed to establish an effective training protocol for different facilitators.

Given the growing use of MBP for promoting well-being in persons with dementia (e.g., Bourgeois, Brush, Elliot, & Kelly, 2015), there is a need to gain a better understanding of the various types of approaches being used in order to determine ways to optimize their implementation across dementia care settings. Therefore, the present scoping review aimed to (a) characterize the approaches used to deliver MBP to persons with dementia; (b) examine implementation barriers and challenges for various MBP approaches; and (c) identify strategies to ensure successful implementation of MBP. This assessment of the literature will advance our knowledge on how to successfully apply MBP across dementia care settings. In addition to identifying the optimal implementation strategy at the clinical level, suggestions for future research and implications for policy were also derived to help improve the lives of those living with dementia.

Design and Methods

This scoping review followed the five main stages set out by Levac, Colquhoun, and O'Brien (2010). Whereas systematic reviews evaluate the quality of evidence (Rumrill, Fitzgerald, & Merchant, 2010), a scoping review maps literature on a topic to examine the nature of research activity, disseminate research findings, and identify research gaps; thus, scoping reviews identify trends and areas in need of future work at the research, practice, and policy level (Arksey & O'Malley, 2005).

Stage 1—Identifying Research Questions

The development of the research question arose from an initial review of the MBP literature, which revealed clear details about specific types of tasks and activities used in MBP (i.e., Memory Bingo), but that were being implemented in a variety of ways (e.g., staff, volunteers, resident led, intergenerational) in different settings (e.g., long-term care [LTC] homes, day centers, etc.). Accordingly, the objectives of the scoping review were to (a) characterize the approaches used to deliver MBP to persons with dementia; (b) examine implementation barriers and challenges for various MBP approaches; and (c) identify strategies to ensure successful implementation of MBP.

Stage 2—Identifying Relevant Studies

In consultation with an expert librarian, a systematic search to identify peer-reviewed literature was conducted in April 2015 and updated in January 2016 to locate additional articles recently published. Six peer-reviewed databases (PsycINFO, AgeLine, MEDLINE, CINAHL, ASSIA, and ERIC) were searched using a combination of the following search terms: “Montessori methods,” “Montessori,” “dementia,” and “Alzheimer’s disease.” Following this, a manual search of the reference list in selected articles was also conducted. Supplementary Appendix A details the search strategy used to search PsycINFO.

Stage 3—Selection of Relevant Studies

Articles selected for the scoping review included peer-reviewed qualitative and quantitative studies, reviews or commentaries, and chapters from edited books that examined the application of MBP for persons with dementia. Included qualitative and quantitative studies were required to take place in a natural setting (e.g., LTC home, nursing home, day center, etc.), to involve clinical staff (e.g., nursing or program staff), family, peers, or volunteers in the delivery of MBP, and to provide insights on MBP implementation strategies (e.g., type of training offered or modifications to materials made). Reviews, book chapters, and commentaries must have provided clear suggestions for implementing MBP to be included in the review. All included articles/

chapters were available in English and published by the end of January 2016.

Excluded articles/chapters were those that did not provide any clear recommendations related to MBP implementation (e.g., simply reporting the outcomes associated with participating in MBP), studies conducted in non-natural settings (e.g., a research laboratory), or studies using research staff to deliver the intervention. Mixed-intervention studies that examined MBP along with another intervention (such as acupuncture or music therapy) were also excluded.

Two reviewers independently screened the titles and abstracts of all located articles. Full-text reviews were then conducted on those deemed most relevant. Disagreements were resolved through discussion, and when consensus could not be reached, a third party was brought in to adjudicate.

Stage 4—Charting the Data

A data abstraction form was created in order to create a descriptive numerical summary (Levac et al., 2010) of all included articles. Two reviewers abstracted data from all included articles.

Stage 5—Collating, Summarizing, and Reporting the Results

Information from the articles was organized to examine methods typically used to implement MBP. This included (a) staff-directed; (b) intergenerational programing (IGP); (c) resident-assisted programing; (d) use of trained volunteers and/or caregivers; (e) setting (individual vs. group setting); and (f) other implementation considerations. The categorization was done as an iterative process, whereby the two authors met to discuss the findings listed in the summary table to ensure that the categories were expansive to capture the core findings of each included article. This approach is consistent with a directive content analysis (Potter & Levine-Donnerstein, 1999).

Results

The search located 158 abstracts, with 81 remaining after removing duplicates. Based on the relevance of the title and abstract, 61 abstracts were selected for full-text review, of which 25 met the inclusion criteria (Table 1). Studies took place in the United States ($n = 21$), Australia ($n = 2$), Canada ($n = 1$), and one review was multinational (Bourgeois et al., 2015). Four approaches to implementing MBP were identified: (a) staff assisted; (b) intergenerational; (c) resident assisted; and (d) volunteer or family assisted. Additional sections regarding implementation strategies are also provided.

Staff-Directed MBP

Fourteen articles related to staff-directed MBP were identified. Five examined outcomes in specific domains (e.g., engagement, cognition) associated with staff-directed MBP, which were done in either one-to-one or group settings (Jarrott et al., 2008; Orsulic-Jeras, Schneider, et al., 2000; Vance & Johns, 2002; Vance & Porter, 2001). Of these five intervention studies, only Vance and Porter (2001) specifically noted staff's reactions to the MBP, which were deemed favorable. The three other studies pertaining to staff-directed MBP had an emphasis on implementation, which included examining staff perceptions on MBP (Ducak et al., 2016; Sterns et al., 2011), and the benefits of a staff-run facility-wide, sustained, coordinated activity program, Memory in Rhythm (MIR), that included MBP throughout the day (De Witt-Hoblitt, Miller, & Camp, 2016). The remaining articles were commentaries and reviews on MBP implementation approaches (Bourgeois et al., 2015; Camp, 2006, 2010; Malone & Camp, 2007; Orsulic-Jeras et al., 2001; Roberts, Morley, Walters, Malta, & Doyle, 2015).

Staff training was inconsistently described in the literature. Two studies noted that staff training consisted of workshops led by research staff focusing on dementia, the principles of the Montessori Method, and types of activities that can be offered (Orsulic-Jeras, Schneider, et al., 2000; Orsulic-Jeras et al., 2001). Another study reported having a standardized activity protocol for staff (Jarrott et al., 2008), whereas others simply stated that a training protocol was used without detailing the nature of the training (Sterns et al., 2011; Vance & Johns, 2002). De Witt-Hoblitt and colleagues (2016) did not describe the type of training staff underwent, but they did note that all frontline staff received training in the concepts of MIR with MBP and received information on Alzheimer's disease, dementia, and memory loss in general.

Two studies reported that staff had positive reactions to MBP (Orsulic-Jeras et al., 2001; Vance & Porter, 2001), whereas another reported that staff felt the activities were easy to implement and were the same or better than their favorite regular activity (Sterns et al., 2011). After implementing MBP, staff also reported higher job satisfaction (Sterns et al., 2011). Relatedly, De Witt-Hoblitt and colleagues (2016) found that staff turnover rates decreased after the implementation of MIR with MBP in skilled nursing facilities and assisted living residences.

Participant outcomes for staff-directed MBP were positive, with studies reporting increased constructive engagement and decreased passive engagement, self-engagement, and nonengagement during programing (Jarrott et al., 2008; Orsulic-Jeras, Judge, et al., 2000); one study also found that these changes in engagement were maintained after 3 and 6 months of programing (Orsulic-Jeras, Schneider, et al., 2000). Participants in other staff-directed MBP were found to show some

Table 1. Description of Included Studies ($N = 25$)

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Jarrott and colleagues (2008)	Purpose: examine effects of small-group MM on affect and engagement	MBP: staff directed; group setting	Facilitators followed a protocol when administering activities; the protocol consisted of (a) introducing activity; (b) highlighting purpose of activity; (c) model activity; and (d) modify activity as needed
Location: United States	Sample: $N = 10$ (5 males); mean age 83.4 ± 7.14 (range: 74–97); mean MMSE 18.2 ± 7.22 (range: 8–24)	Facilitator(s): care staff	Each person had their own set of materials for all activities
Design: intervention; within subjects	Comparison group: N/A Setting: adult day program	Intervention: individual activities completed in a group setting of 3–4 participants; 10 activities were presented 3 times each Duration: 20- to 30-min sessions 1x per week for 10 weeks	
Orsulic-Jeras, Judge, and colleagues (2000)	Purpose: assess the effects of MM on engagement	MBP: staff directed; group and one-to-one approach	\uparrow CE ($p < .001$) during MM than in SP; \downarrow PE ($p < .03$) during MM than in SP; \uparrow pleasure ($p < .001$) during MM than in SP; \uparrow anxiety ($p < .003$) during regular unit programming
Location: United States	Sample: $N = 16$ (2 males); mean age 88 ± 4.3 (range 79–94); mean MMSE 6.1 ± 5.9 (range: 0–19)	Facilitator(s): activity therapists and nursing staff	NE, SE, anger, and sadness rarely observed
Design: intervention; within subjects	Comparison group: N/A Setting(s): LTC facilities	Intervention: individual activities taken from everyday environment and small group activities Duration: 15- to 20-min sessions offered 2x per for 9 months	Research staff provided training for care staff that included background information on dementia, discussion of Montessori methods, and an overview of activities that can be used Benefits of MM may be less significant in larger group settings. MM more feasible in settings that value individualized and small group programming
Orsulic-Jeras, Schneider, and colleagues (2000)	Purpose: examine the effects of MBP on affect and engagement	MBP: staff directed; group and one-to-one approach	\uparrow CE at 3 months ($p < .001$) and 6 months ($p < .001$) compared to control group; \downarrow PE at 3 months ($p < .001$) and 6 months ($p < .001$) compared to control group; PE \downarrow over time for Montessori ($p < .002$) but not control group; \uparrow pleasure at 3 months ($p < .001$) and 6 months ($p < .001$) compared to control group; Montessori group displayed \uparrow CE, \uparrow pleasure and \downarrow PE during Montessori activities compared to control activities
Location: United States	Sample: $N = 25$ (2 males); mean age 88 ± 6 (range: 75–103); mean MMSE 11 ± 6 (range: 0–23); $n = 12$ selected for intervention	Facilitator(s): research assistant, volunteer, or activities staff	Necessary for Montessori activities to be supported by all care staff (not just activity staff)

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Design: pre/post-test with matched control	Control group: $n = 13$ from sample described earlier Setting(s): special care unit	Intervention: individual programing with familiar materials, or group-based activities (e.g., Memory Bingo); select participants received combination Duration: individual sessions lasting 10–30 min, with 2 sessions per week; group sessions lasting 25–60 min, with two sessions per week	Important for the characteristics of patients to be considered when implementing Montessori activities Those with lower MMSE scores may be unable to participate in group activities; ability to read large print words may be a necessity to participate in certain group activities
Vance and Johns (2002)	Purpose: examine the effects of Montessori activities on cognition	MBP: staff directed; one-to-one approach	DRS total score and attention subscale \uparrow after Montessori intervention ($p < .05$ for both)
Location: United States	Sample: $N = 15$ (3 males); mean age 77.80 ± 7.84 ; mean MMSE 10.60 ± 5	Facilitator(s): program staff	Compared to SP, Montessori programing slowed progression on: DRS total score ($p < .01$), attention ($p < .01$), concept ($p < .01$), and memory subscales ($p < .05$); OSPD total score ($p < .01$), object permanence ($p < .05$), and means end ($p < .05$) subscales; digit forward ($p < .05$); PGBRS social behavior ($p < .05$)
Design: intervention; within subjects	Comparison group: N/A Setting: adult day center	Intervention: sensory activities, language and math activities and activities of daily living Duration: 1-hr session twice per day for 3 months	Program staff were trained on how to use the Montessori materials Montessori materials were selected for each resident based on abilities with the aim of helping residents further develop skills. Materials were altered based on the perceived level of enjoyment residents appeared to have with them as a mechanism to promote motivation and compliance with the activities
Vance and Porter (2001)	Purpose: examine the effects of Montessori activities on cognition.	MBP: staff directed; one-to-one approach in a group setting	11 subjects benefited from Montessori activities (Montessori benefits scores = 7.40 ± 9.30 , range: +2 to +22)
Location: United States	Sample: $N = 15$ (3 males); mean age 78.40 ± 7.84 ; mean MMSE 10.60 ± 5	Facilitator(s): program staff	Resampling technique indicated that 95% CI for the Montessori Benefit = 5.18–6.69; therefore, program participants benefitted from Montessori activities
Design: intervention; within subjects	Control group: N/A	Intervention: sensory activities, language and math activities, and activities of daily living	Activities occurred in group setting but each participant had a self-contained tray with activity materials

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
	Setting(s): adult day center	Duration: 1-hr session twice per day for 3 months	Facilitators selected activities for participants based on interest and skill level; those activities completed less successfully were selected less often Program staff appeared to enjoy the activities, which may have increased their interest in completing the activities with participants
De Witt-Hoblit and colleagues (2016)	Purpose: to examine the effects of MIR and MBP	MBP: staff directed	MIR is a sustained, coordinated activities program that consists of high and low physical and mental energy times; MBP could be implemented within all energy level periods (high and low)
Location: United States	Sample: Not described	Facilitator: not described	MIR with MBP reduced (a) use of antipsychotics, antianxiety medications, antidepressants, and hypnotic medications; (b) incidences of wandering and agitation; and (c) employee turnover rates
Design: pre/post-intervention	Comparison group: N/A	Intervention: MIR program with MBP; types of MBP not described	MIR with MBP resulted in more residents gaining weight, sleeping at night, regaining ability to self-feed, and regaining or improving in activities of daily living
	Setting: $n = 9$ skilled nursing and $n = 7$ retirement communities	Duration: 1 year	Critical steps for implementing MIR with MBP included: renovating activity area, educating family, training staff, designating a staff leader whose primary focus was MBP, recruiting qualified internal caregivers to assist with implementation, and consistently and regularly offering the program (e.g., 7 days per week at the same time each day)
Sterns and colleagues (2011)	Purpose: examine the feasibility and effectiveness of staff-led Montessori activities	MBP: staff directed; one-to-one approach.	Program was rated 4.15/5(± 0.62) and 90% reported the intervention was same or better than their favorite regular activity
Location: United States	Sample: Total N not available (19% male), mean age 84.8 ± 7.4 (range 56–100); mean MMSE 15.3	Facilitator(s): $N = 40$ activity directors (35%) or activity staff (65%) aged 25–50	All staff reported that residents displayed the same or higher levels of engagement during activity compared to SP
Design: cross-sectional survey and qualitative	Comparison group: N/A	Intervention: single Montessori activity: Memory Magic Program	Ease of program administration rated 4.79/5(± 0.26) and was considered easy to administer

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
	Setting(s): assisted living facilities ($n = 6$); adult day care ($n = 14$); skilled nursing care ($n = 19$)	Duration: 2× per week for 12 weeks	No change in total DAS score over time, but item analysis revealed staff were more comfortable with persons with dementia at time 2 ($p = .05$) but felt less familiar with AD and related dementias ($p = .003$) A standardized training protocol was used for research staff to train care staff It was a challenge to find an engaging activity that holds interests and also promotes conversation and socialization The caregivers determined that the intervention was extremely easy to implement across care settings. Minimal set-up time allows for more time for the activity as well as a more enjoyable work environment
Ducak and colleagues (2016)	Purpose: examine staff perceptions of factors affecting implementation of MM in LTC	MBP: staff directed	Factors limiting ability to implement MM included limited government funding for materials and staff, unwillingness of nursing staff to participate in activities and the perception that MM lack value
Location: Canada	Sample: recreation staff ($n = 12$, 100% female; mean age 35.8) and consultants ($n = 5$, 100% female; mean age 52) who were implementing MM in LTC	Facilitator: N/A	Factors enabling the implementation included educating staff and family about the value of MM and how to deliver the activities, having staff/family notice/experience benefits of MM and having support from facility administration
Design: qualitative	Comparison group: N/A	Intervention: N/A	Those implementing MM in LTC may face struggles due to the ingrained culture of care that emphasizes residents' medical needs over leisure needs
	Setting(s): LTC	Duration: N/A	A lack of funding may limit ability to purchase materials and supplies. There may be a need to educate facility staff and resident families on the benefits of Montessori activities in order to gain their support
Bourgeois and colleagues (2015)	Purpose: to review PCC models in LTC and discuss a new model involving MM	MBP: staff directed	Need to make changes to the environment to reflect Montessori principles (e.g., use of signs and name tags, and creating homelike spaces for specific purposes)

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Location: United States/ Australia/Canada	Sample: N/A	Facilitator: N/A	Staff attitudes and beliefs about the abilities of persons with dementia present a challenge when implementing MM in LTC Successful implementation involved incorporating objectives into the LTC's strategic plan and offering training workshops for staff
Design: review	Comparison group: N/A	Intervention: N/A	
	Setting: N/A	Duration: N/A	
Camp (2010)	Purpose: personal narrative describing evolution of MM.	MBP: staff directed	Staff who are trained in MM should consider training residents' visitors in order to maximize the quality of their visits
Location: United States	Sample: N/A	Facilitator: N/A	Materials should be accessible and familiar to the older adults using them. Printed materials and modern technologies (PowerPoint, iPads, tablets, etc.) can be used to effectively administer MM
Design: commentary	Comparison group: N/A Setting: N/A	Intervention: N/A Duration: N/A	
Camp (2006)	Purpose: to discuss the dissemination of MBP in a LTC	MBP: staff directed	MBP was implemented at a LTC facility
Location: United States	Sample: N/A	Facilitator: N/A	Administrator support was needed for successful implementation of MBP
Design: commentary	Comparison group: N/A	Intervention: N/A	Regular meetings between staff implementing MBP was helpful to have "frank" conversations about challenges and successes, and how to adapt activities
	Setting: N/A	Duration: N/A	Activity stations containing necessary materials were set up and maintained daily, and activities were replaced with new ones regularly to maintain interest and engagement
Malone and Camp (2007)	Purpose: commentary on a case study involving use of MM	MBP: staff directed; one-to-one approach	Individual would not participate in the activity at first, but gradually became more involved over time
Location: United States	Sample: 85-year-old woman	Facilitator(s): activity staff	In some cases, staff may be required to ease the individual into the activity
Design: commentary on case study	Comparison group: N/A	Intervention: arranging flowers	Staff may need to offer small choices and decisions in order to promote engagement in the activity
	Setting: LTC	Duration: not specified	

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Roberts and colleagues (2015)	Purpose: commentary on the successful implementation of a PCC approach including MM in a LTC environment	MBP: staff directed	Successful implementation of Montessori principles included a shift in care models from a biomedical model to a PCC model across the facility
Location: Australia	Sample: N/A	Facilitator: N/A	Two days of training on Montessori activities were provided to all memory support unit staff
Design: commentary	Comparison group: N/A	Intervention: N/A	Implementation of MM involved changes to the interior and exterior environment to make it more "homelike" and also included signage, use of name tags, and designating specific spaces to different activities such as reading or music
	Setting: LTC	Duration: N/A	
Orsulic-Jeras and colleagues (2001)	Purpose: a review of MM in LTC, with emphasis on staff training procedures	MBP: staff directed	Modifications to the activity room may be needed to facilitate participation (e.g., putting trays on wheels to accommodate reduced mobility)
Location: United States	Sample: N/A	Facilitator(s): N/A	Training staff to implement MM consisted of (a) understanding dementia; (b) the MM; and (c) presenting MM activities
Design: review	Comparison group: N/A	Intervention: N/A	Staff had a positive reaction to MM-based programing
	Setting(s): N/A	Duration: N/A	
Camp and colleagues (1997)	Purpose: examine the feasibility and effects of IGP on apathy	MBP: IGP; one-to-one approach	The number of successfully taught lessons ↑ with time Before IGP, 67% exhibited disengagement and no instances of disengagement seen during observations of IGP
Location: United States	Sample: $N = 12$ (2 males); median age 88 (range 70–95); median MMSE 18 (range 9–23)	Facilitator(s): 14 children (6 boys) aged 2.5–5 years	Participants were prepared before activities: staff worked with both older adults and children to familiarize them with activities
Design: intervention	Comparison group: N/A	Intervention: older adult and child paired for activities and older adult acted as instructor/mentor to child	Programing must be of interest to both generations in order to be successful
	Setting(s): adult day care center and special care unit	Duration: 30- to 45-min per session for 1 session per week	
Camp and colleagues (2004)	Purpose: examine effects of IGP on affect and engagement	MBP: IGP; one-to-one	↑ in CE ($p < .001$) during IGP compared to SP; ↓ PE ($p < .001$) during IGP than in SP; ↓ NE ($p < .001$) during IGP than in SP; AE rarely observed

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Location: United States	Sample: $N = 15$ (4 males); mean age 80.57 (range: 50–95); mean MMSE 17 (range: 10–25)	Facilitator(s): 13 children aged 2.5–5 years	↑ in pleasure ($p < .001$) during IGP compared to SP; anxiety/fear was rarely observed, though Group 1 (MBP first) showed less fear working with children (compared to SP) than did Group 2 (MBP second), who showed more fear with MBP than with SP ($p < .008$)
Design: cross-over design	Comparison group: half the sample ($n = 7$) assigned to SP first, followed by MBP Setting(s): adult day care	Intervention: older adults paired with children and worked on MM-based tasks Duration: SP and MBP delivered for 6 months to each group	Benefits of IGP not maintained outside of activities Overall, the participating children viewed the study as a positive and special event Further work needed to determine success of IGP with older children, in real world settings (e.g., grandparent to grandchild), and for individuals from different cultural backgrounds
Gigliotti and colleagues (2005)	Purpose: examine program staff and parents' perceptions of a summer IGP	MBP: IGP	IGP were to foster positive interactions between children and older adult
Location: United States	Sample: $N = 8$ staff (4 administrators) and $n = 10$ parents.	Facilitator(s): children aged from 2 to 10 and 14 older adults with dementia	Empathy, acceptance, and strengthening of social relationships were observed during program Administrators felt IGP attracted new program clients
Design: intervention	Comparison group: N/A Setting: adult day service and child development lab school	Intervention: children of a similar age attended program on same day each week and were paired with an older adult for tasks Duration: sessions held 4 days/week for 10 weeks	Materials were needed to run many of the activities and it became costly Children and older adults may not run on the same schedule and pairing may require additional planning to ensure a successful match between child and adult Success of the program was dependent on interdepartmental collaboration between child care staff and adult day service staff
Lee and colleagues (2007)	Purpose: examine the effectiveness of an IGP on engagement	MBP: IGP; one-to-one approach.	↑ in CE ($p < .001$) during IGP than in SP; ↓ PE ($p < .001$) during IGP than in SP; ↓ AE ($p < .001$) during IGP than in SP; ↓ SE ($p < .001$) during IGP than in SP; ↓ NE ($p < .001$) during IGP than in SP
Location: United States	Sample: $N = 14$ (1 male); mean age 90.3 ± 2.89 (range: 85–94); mean MMSE 14.57 ± 5.09 (range: 5–25).	Facilitator(s): 15 preschool children aged 2.5–5 years	Acting as a mentor provides a meaningful social role to the older adults

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Design: randomized cross-over design	Comparison group: N/A Setting(s): special care unit	Intervention: Dyads of children and older adults worked on three different Montessori activities each session Duration: Control and MBP delivered for 6 months each. Montessori sessions lasted for 20 min with 3 sessions per week	Structured environments that offer older adults the ability to show their competency lead to better results Important to not make the older adults feel as though they are being infantilized Staff were needed to facilitate introductions, selection activities and with movement from one activity to another
Camp and Lee (2011)	Purpose: review of Montessori-based IGP	MBP: IGP; group setting	Have older adult-child dyads complete team-based activities. More impaired older adults worked better with younger children
Location: United States	Sample: N/A	Facilitator: N/A	Staff were required to provide support and cues, but frequency of cueing decreased with time; in many instances, the older adult benefited from practicing with staff before being paired with a child
Design: review	Comparison group: N/A Setting: N/A	Intervention: N/A Duration: N/A	
Camp and Skrajner (2004)	Purpose: assess the feasibility and effects of RAMP on affect and engagement	MBP: resident directed; RAMP; group setting	↑ CE ($p < .01$) and ↓ OE ($p < .001$) after RAMP had been implemented. PE remained unchanged. Pleasure more frequently seen during RAMP ($p = .006$)
Location: United States	Sample: $N = 9$ (2 males); mean age 88.7 ± 4.1 years (range: 82–95); mean MMSE 8.3 ± 1.4 (range: 1–13)	Facilitator(s): one assisted living resident and three LTC residents with dementia or AD (MMSE range: 16–30). Duration: 25- to 45-min sessions 1–3 times per week	There was at least partial adherence to procedures for all leaders and all games were successfully completed The procedures most challenging for activity leaders were setting up and initiating open-ended discussions RAMP programing may require refined program materials and procedures to promote protocol adherence (e.g., cue cards to lead discussion)
Design: intervention; within subjects	Comparison group: all participants served as their own controls Setting: special care unit		
Skrajner and colleagues (2014)	Purpose: assess the feasibility of RAMP	MBP: resident directed; RAP; group setting	All trained leaders were able to successfully conduct all MM sessions
Location: United States	Sample: not described	Facilitator(s): $N = 6$ (83.3% female); mean age 75.8 ± 15.5 ; mean MMSE 24.0 ± 5.7	MMSE score was not correlated with amount of assistance needed in MM activities. More structured tasks (i.e., MM activities) were found to be more successful

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Design: intervention	Comparison group: N/A Setting(s): LTC facilities	Intervention: two Montessori activities: Memory Squared and Reading Roundtable Duration: N/A	Important to have designated back-up leaders in case one cannot complete the session. When training leaders, important to give different options for each task to cater to leaders' interests and expertise Montessori activities were well structured and did not require much assistance from staff members Resident characteristics associated with successful leadership include ability to read large font, ability to speak clearly and loudly, having a sense of humor, ability to follow instructions, has good hearing, and gets along well with other residents/ enjoys participating in activities
Skrajner and Camp (2007)	Purpose: examine the feasibility and effects of RAMP	MBP: resident directed; RAMP; group setting.	All leaders demonstrated partial adherence 100% of time; adherence lowest for leading discussions. The number of training session required varied by leader (range 2–8), but leaders were required to demonstrate mastery without prompts before running activity with participants. Leaders expressed high satisfaction with their roles when completing their exit interviews
Location: United States	Sample: $N = 22$ (1 male); mean MMSE 15.73 ± 6.8 .	Facilitator(s): $N = 6$ (1 male); mean age 84.8 (range 75–93); mean MMSE 17.5 (range: 13–21)	Participants showed \uparrow CE ($p < .001$) and \downarrow PE ($p < .001$) during RAMP compared to SP
Design: intervention; within subjects	Comparison group: N/A Setting(s): adult day health center and special care unit	Intervention: multiple sessions of one activity (Question Answer Reading) Duration: not described	Training for leaders involved staff demonstrating activity, staff and leader role-playing activity, and staff observing leader facilitate the activity Materials were required to be clear and easy to follow and sessions occurred in a comfortable and controlled setting. Procedures for leading the activity must be simple
Camp and colleagues (2005)	Purpose: examine a case study training a person with dementia to deliver MM	MBP: resident directed; RAMP; group setting	Participant displayed high levels of engagement and pleasure
Location: United States	Sample: not described.	Facilitator(s): 77-year-old male with early-stage AD (MMSE = 24)	Activity leader underwent two 45-min training sessions with staff; a third “real life” training session occurred, where the activity leader facilitated activities with staff assistance as needed

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
Design: clinical comments on a case study	Comparison group: N/A Setting: special care unit	Duration: not described	Activity leader was adherent to procedures 80% of time and adherence increased with time. Activity leader required some assistance from a program volunteer, but modifications to program materials and protocols may reduce the level of assistance needed
Schneider and Camp (2002)	Purpose: examine effects of MM in dyads of visitors and LTC residents	MBP: family member directed; one-to-one approach	Participants showed ↑ in AE ($p < .01$) and ↓ in PE ($p < .01$) during visits with MM but no changes in affect observed
Location: United States	Sample: $N = 12$; mean age 90 (range: 82–96); mean MMSE 10.4 (range: 1–23)	Facilitator(s): $N = 9$ family members	Family reported reduced burden when completing MM and reported seeing positive changes in participants and would continue to utilize MM
Design: intervention	Comparison group: N/A Setting(s): LTC	Intervention: individualized Duration: 2–5 sessions in total	Family underwent training from staff that included observations of activities, followed by completing the activities under staff supervision; this was completed 2–5 times until the relative was comfortable with activity Not all older adults with dementia have family members available or able to participate in Montessori programming
Van der Ploeg and colleagues (2014)	Purpose: feasibility review to determine interest and capacity of volunteers to deliver Montessori activities	MBP: volunteer directed; one-to-one approach	16 of 19 volunteers completed the intervention; those with higher knowledge of dementia and higher dementia attitude scores were more likely to complete the intervention
Location: Australia	Sample: $N = 19$ (3 men); chart diagnosis of dementia	Facilitator(s): $N = 19$ (3 males) volunteers	Nonsignificant ↑ dementia knowledge and dementia attitude scores
Design: qualitative	Comparison group: N/A	Intervention: family members provided information on residents' preferred activities that volunteers would then facilitate	Some volunteers found it challenging to engage with residents while being mindful of their abilities. Volunteers reported enjoying the activities when they were able to successfully interact with residents; feelings of disappointment and frustration were reported after unsuccessful interactions. Care should be taken when selecting volunteers for this position in order to maximize likelihood that volunteer continues within the role long-term.

Table 1. Continued

Study (location and design)	Overview	MBP description	Key results and implementation considerations
	Setting(s): nursing home	Duration: 30-min sessions 2× per weeks for 3 weeks	Training for volunteers consisted of a 2.5-hr session on the principles and application of MM and instruction on 10 different Montessori activities Getting patients' participation was challenging and volunteers reacted negatively to unsuccessful interactions, suggesting the need for more specific training

Notes: ↑ = greater/higher/improved; ↓ = lesser/lower/worsened; AD = Alzheimer's disease; AE = active engagement; CE = constructive engagement; CI = confidence interval; DAS = Dementia Attitude Scale; DRS = Dementia Rating Scale; IGP = intergenerational programing; LTC = long-term care; MBP = Montessori-based programing; MIR = Memory in Rhythm; MM = Montessori Methods; MMSE = Mini Mental State Examination; N/A = not applicable; NE = nonengagement; OSPD = Ordinal Scales of Psychological Development; PCC = person-centered care; PE = passive engagement; PGBRS = The Parachek Geriatric Behavior Rating Scale; RAMP = resident-assisted Montessori programing; RAP = resident-assisted programing; SE = self-engagement; SP = standard programing.

improvements in cognitive function (Vance & Johns, 2002; Vance & Porter, 2001). Relatedly, MIR with MBP was shown to reduce wandering, agitation, and medication use (including antipsychotics, antianxiety, and antidepressants), improve eating and sleeping patterns, and the ability to carry out activities of daily living (De Witt-Hoblit et al., 2016). The authors also speculated that the reason for the reduced staff turnover after the implementation of MIR with MBP (described earlier) may have occurred due to a reduction in work-related stress related to a decrease in heightened wandering, agitation, and poor sleeping patterns of residents.

Ducak and colleagues (2016) found that LTC staff felt limited in their ability to implement MBP due to a lack of available funding for purchasing materials/supplies, an unwillingness of nonactivity staff (such as nurses) to participate in the activities, and a general belief among facility staff that MBP held little value. This idea was supported by Orsulic-Jeras, Schneider, and colleagues (2000) who found that the successful implementation of MBP required support from all care staff (not just activity staff). De Witt-Hoblit and colleagues (2016) also reported that the successful implementation of MIR with MBP required a designated staff member whose primary responsibility was to oversee the program. Orsulic-Jeras, Schneider, and colleagues (2000) further noted that staff-directed MBP might not be feasible in all care settings, as facility staff may not have the time or resources needed to carry out the activities. However, they highlighted the need for documentation by staff on gains in function of residents undergoing MBP in LTC care settings because this would help support claims for rehabilitation services. Similarly, De Witt-Hoblit and colleagues (2016) and Ducak and colleagues (2016) noted the importance of decision makers (e.g., managers) in the adoption of MBP. For instance,

De Witt-Hoblit and colleagues (2016) discussed how the tracking of indicators deemed relevant to LTC administrators (e.g., reduction in medications) was useful for fostering a positive cultural change on the perceived usefulness of MBP.

Intergenerational MBP

Four studies (Camp et al., 1997; Camp, Orsulic-Jeras, Lee, & Judge, 2004; Gigliotti et al., 2005; Lee et al., 2007) and one review (Camp & Lee, 2011) examined IGP, where persons with dementia were paired with preschool-aged children. Matched children were typically aged 2.5–5 years (Camp et al., 1997, 2004; Lee et al., 2007), although one study included children up to age 10 years (Gigliotti et al., 2005). Prior to beginning IGP, Camp and colleagues (1997) reported that staff worked with both children and older adults separately to familiarize them with the activities and prepare them for the sessions. Lee and colleagues (2007), on the other hand, reported that during activities, staff were needed to facilitate introductions between dyads, select activities, and assist with transitioning from one activity to another. In two studies, staff provided cues to the older adult, but frequency of cueing decreased as participants became more practiced in the activities (Camp et al., 1997; Camp & Lee, 2011).

Camp and colleagues (1997) noted that the children appeared to enjoy participating in the activities with the older adult, a finding further supported by another study where the children reported that the overall experience was positive (Camp et al., 2004). Similarly, Gigliotti and colleagues (2005) noted that the relationship between the child and older adult fostered empathy and acceptance and that parents were very supportive of the program. Conversely, older adults were found to show increased

constructive engagement during IGP and decreased passive engagement, self-engagement, and nonengagement (Camp et al., 2004; Lee et al., 2007), and one study reported there were no instances of disengagement observed during IGP (Camp et al., 1997). Another study also showed that persons with dementia exhibited heightened pleasure during IGP compared to standard programming (Camp et al., 2004).

There are a number of key considerations when conducting intergenerational MBP. The importance of ensuring that the older adults do not feel infantilized (Lee et al., 2007) was emphasized, as was the need to ensure that activities offered are meaningful to both the children and the older adults (Camp et al., 1997). It is also suggested that creating a successful older adult-child dyad may require upfront planning on behalf of staff to ensure that skills and interests align (Gigliotti et al., 2005). For example, Camp and Lee (2011) suggested that more impaired older adults may be more successful working with younger children. One study noted that the success of their IGP was at least partially related to the strong collaborative relationship built between dementia care staff and child care staff (Gigliotti et al., 2005).

Resident-Assisted MBP

Four studies examined the use of resident-assisted MBP (RAMP; Camp & Skrajner, 2004; Camp et al., 2005; Skrajner & Camp, 2007; Skrajner et al., 2014), where persons with mild dementia were trained to facilitate MBP to those with more advanced dementia. Skrajner and colleagues (2014) recommended presenting the resident leader with different activity options, allowing them to select their preferred activities. Resident leaders were provided with training prior to facilitating the activities; training typically consisted of one-on-one sessions with staff to become familiar with the activities (Camp et al., 2005), observing staff lead the activities (Camp et al., 2005; Skrajner & Camp, 2007), or role-playing with staff as the participants (Skrajner & Camp, 2007). The number of training sessions required for the leader to demonstrate mastery over the activity varied from as few as two (Camp et al., 2005) to as many as eight (Skrajner & Camp, 2007). Two studies reported that during the activities, resident leaders required little assistance from staff (Camp et al., 2005; Skrajner et al., 2014); a third study also showed that the level of assistance needed was not related to level of cognitive impairment (Skrajner et al., 2014).

Skrajner and colleagues (2014) found that resident leaders of MBP were able to successfully conduct the activities, whereas two other studies demonstrated resident leaders had at least partial adherence to activity protocols (Camp et al., 2005; Skrajner & Camp, 2007). One study also reported that the procedures most challenging for the resident leaders were leading open-ended discussions (Camp & Skrajner, 2004). Skrajner and colleagues (2014) identified

a number of characteristics thought to be associated with successful resident leadership, including the ability to speak clearly and loudly, ability to read large font, ability to follow instructions, and interest in/enjoyment of activities. Participants of RAMP have been shown to display high levels of engagement and pleasure during activities (Camp et al., 2005). Specifically, participants displayed increased constructive engagement and reduced passive engagement and other engagement during RAMP (Camp & Skrajner, 2004; Skrajner & Camp, 2007).

Overall, the research suggests that RAMP programming may require more refined program materials and procedures in order to promote adherence to activity protocols and reduce the need for staff assistance (Camp & Skrajner, 2004; Camp et al., 2005; Skrajner & Camp, 2007). Furthermore, Skrajner and colleagues (2014) noted the importance of having a designated back-up facilitator in the event that the resident leader is unable to complete a session.

Family- or Volunteer-Directed MBP

Only two studies examined family- or volunteer-directed approaches (Schneider & Camp, 2002; Van der Ploeg et al., 2014). In these instances, a family member or facility volunteer was responsible for implementing MBP one-on-one with persons with dementia. In both cases, family members/volunteers underwent training to become familiar with the principles of MBP and learn the various activities that could be implemented (Schneider & Camp, 2002; Van der Ploeg et al., 2014).

In the family-directed approach, participants were shown to display increases in active engagement and decreases in passive engagement, but no changes in affect were observed (Schneider & Camp, 2002). Family members also reported reduced burden once MBP was implemented, and indicated they would continue to use the activities after the study was completed (Schneider & Camp, 2002); however, the authors cautioned that not all older adults with dementia have family members who are available or able to participate in MBP.

With regard to a volunteer-directed approach, participant outcomes have not been examined in the literature, but volunteer outcomes have been studied by Van der Ploeg and colleagues (2014). These authors reported that 16 out of 19 program volunteers completed the intervention and that volunteers enjoyed the activities when they were able to successfully engage older adults with dementia but they experienced feelings of disappointment and frustration when unsuccessful interactions occurred, suggesting the need for more in-depth training. The authors also suggested that caution should be taken when selecting volunteers for MBP in order to maximize the likelihood that the volunteer continues. For example, these authors found that those who dropped out of the intervention had more negative attitudes toward dementia and were less knowledgeable about the disease.

Group and One-on-One MBP

MBP has been offered in group settings (Jarrott et al., 2008; Orsulic-Jeras, Judge, et al., 2000; Orsulic-Jeras, Schneider, et al., 2000) and one-on-one with the facilitator (Malone & Camp, 2007; Orsulic-Jeras, Judge, et al., 2000; Orsulic-Jeras, Schneider, et al., 2000; Schneider & Camp, 2002; Sterns et al., 2011; Van der Ploeg et al., 2014; Vance & Johns, 2002). There have also been some instances of hybrid activities, wherein the participant has a self-contained tray with activity materials but completes the activity in the company of others (Jarrott et al., 2008; Vance & Porter, 2001). Although different facilitation formats exist, they all appear to provide similar benefits for program participants, including increased levels of constructive engagement and pleasure, and reduced levels of passive engagement (Jarrott et al., 2008; Orsulic-Jeras, Judge, et al., 2000; Orsulic-Jeras, Schneider, et al., 2000; Schneider & Camp, 2002). Research that employed both group and one-on-one activities, however, suggested that the benefits of MBP may be less significant in group settings (Orsulic-Jeras, Judge, et al., 2000). Similarly, providing one-on-one activities allowed care staff to engage with more reluctant individuals and to introduce the activity at a slower pace in order to more effectively engage the participant (Malone & Camp, 2007).

Other Implementation Considerations

Other broad implementation considerations include making use of materials that are familiar and accessible to the participants (Camp, 2006, 2010) and the activities should take place in a structured environment where the participant is able to demonstrate competency (Lee et al., 2007). Although Orsulic-Jeras and colleagues (2001) note that modifications to the activity room may be needed, other researchers have stressed that a true application of Montessori principles will require changes to the entire care environment, including interior and exterior rooms (Bourgeois et al., 2015; Roberts et al., 2015). This may include having everyone wear name tags, putting up large print signs, and having areas in the facility designated to specific activities (Roberts et al., 2015). Similarly, Camp (2006) suggested that activities be regularly replaced with new ones to promote engagement. Bourgeois and colleagues (2015) also recommended that individuals have continual access to activities throughout the day. Such changes typically require institutional support from administrators, facility staff, and family members (Ducak et al., 2016).

Implications

The present scoping review characterized the various MBP approaches being used to advance knowledge on how to successfully apply these programs across various dementia care settings. The search identified 25 articles/book chapters, with the majority from the United States. In terms of

studies that implemented MBP, the most popular approach was to utilize staff-directed MBP ($n = 14$), which were followed by IGP MBP ($n = 5$), and MBP facilitated by persons with dementia ($n = 4$); volunteer/family led were the least frequently used ($n = 2$). Even within approaches, there was a lot of variability with how MBP was delivered and no clearly established “best practices” or standardized protocol emerged for the various implementation approaches. The exception was resident-assisted programming (RAMP; Camp & Skrajner, 2004; Camp et al., 2005; Skrajner & Camp, 2007; Skrajner et al., 2014). The studies using RAMP, especially the one by Skrajner and colleagues (2014), provided practical suggestions related to what characteristics are needed for a resident facilitator, and strategies to promote success (e.g., back-up facilitator).

Several common themes related to implementation emerged across studies included the importance of having standardized training for the facilitators, degree of staff involvement when doing RAMP or IGP, addressing environmental issues (e.g., having continual access to activity stations), access to appropriate materials/resources (e.g., cost), and resident characteristics. The advent of new interventions often brings along a host of logistical issues, which if not taken into account, can undermine the desire to effectively implement the intervention into the local context (Damschroder et al., 2009). As such, the following suggestions for future research, practice, and policy are provided to help inform the planning process of implementing MBP into dementia care settings.

Recommendations for Research

There is a glaring lack of research on MBP outside of the United States, with only a few studies being identified from Canada ($n = 1$) and Australia ($n = 2$), and therefore requires that implementation considerations be largely derived from the United States ($n = 21$). Although comparable in some instances, research done in other countries (e.g., Canada or Australia) would better highlight facilitators and barriers to implementing MBP across different health care delivery models, which has implications for program funding, staffing types and levels, and care settings. Furthermore, much of the literature cites a need for studies containing more subjects, as well as studies using standardized outcome measures (Sheppard et al., 2016). Hence, there is a need for larger scale studies using more robust designs to facilitate the comparison of findings across studies. Such research would allow for comparisons to be made between different implementation approaches, and to identify what approaches work best for which participants. An ideal study would be a randomized controlled trial (RCT) design whereby a group of persons with dementia are randomly assigned to different MBP interventions (e.g., resident assisted vs. staff led vs. a wait-list condition), which would provide insights on how outcomes vary as a result of implementation strategy. This type of design might be of particular value for

learning how social engagement outcomes are affected by facilitator type. For instance, resident-directed activities might have better outcomes for social engagement given the group processes involved between the older adults with dementia might parlay a greater degree of meaning to them (Cohen-Mansfield, Dakheel-Ali, Marx, Thein, & Regier, 2015).

In addition, data with regard to costs of implementation could be collected to help illustrate the economic value of adopting a particular MBP approach. This would not only include the cost of the intervention but also how it might affect costs in other areas of care, such as reduced need for additional staff and/or medications to manage aggressive behaviors. For instance, De Witt-Hoblit and colleagues (2016) noted a reduction in staff turnover following the implementation of MBP, which reduces costs around hiring and training of new staff. Data on the costs of caregiving interventions, their cost-effectiveness or cost-benefits are sorely lacking in the field (Gitlin, Marx, Stanley, & Hodgson, 2015), which if obtained, might facilitate uptake of MBP. Although an RCT would be considered the "gold standard" for obtaining evidence on the effectiveness of MBP, even quality-based improvement initiatives could be used to compare implementation approaches, which would have value for informing the effectiveness and feasibility of adopting MBP within a specific setting. The key factor would be to collect costs related to implementation as well as similar types of indicators (e.g., medication usage, resident behaviors, etc.) noted by De Witt-Hoblit and colleagues (2016), which successfully demonstrated the value of their MBP, and held implications for its economic value.

Qualitative data collected from both the perspectives of persons implementing and receiving MBP (where possible) would also be of further use to examine what aspects of implementation worked well and which could be improved on. For instance, the findings by Ducak and colleagues (2016) provide a micro- and macro-level viewpoint on the implementation of MBP in LTC settings, which provide a useful road map on how to overcome barriers while maximizing enabling factors.

One commentary (Camp, 2010) discussed the use of modern technologies (e.g., iPads) for administering MBP. Overall, the literature appears to be supportive of further exploring how technology can be used to foster better outcomes in dementia care (Tak, Zhang, Patel, & Hong, 2015; Topo, 2009), and thus, further work on how to integrate technology with MBP is warranted. In addition to the actual programming, there may be opportunities for technologies to enhance facilitator training (e.g., e-learning modules, discussion boards to communally discuss challenges and successes, etc.). For instance, Skrajner and colleagues (2014) highlighted the need to develop means to effectively disseminate their resident-assisted MBP on a large scale, which might include interactive Internet-based training or development of an instructional DVD. Thus, an implementation study to explore the most effective and efficient

means of delivering training to various groups, including the use of learning technologies as a standard part of MBP, would be invaluable for advancing the state of the field.

Recommendations for Practice

A strong theme that emerged from the literature was the issue of training. Formal training of MBP should be provided to staff designated to implement MBP in dementia care settings. Ducak and colleagues (2016) highlight that there are training programs (in Canada and the United States) that can offer standardized approaches for implementing MBP; however, issues of cost need to be taken into account to determine which staff should receive this training. High staff turnover is also problematic, especially in LTC settings (Donoghue, 2010), which will likely affect how resources are allocated for training.

Although MBP has been reported as easy to use in a variety of settings, the selection of who to implement the program requires considerable planning. Volunteer-led programming, including intergenerational approaches, will likely be far more challenging to implement than staff-directed programs, regardless of available financial resources, as volunteers and students have to undergo background checks to in order to work in formal care settings and also may not have the necessary background training to readily learn MBP practices. However, a strength of MBP is the tailored aspect of the activities for the individual, and the importance of having the person engage with and utilize materials that are deemed relevant to them (Malone & Camp, 2007). Therefore, the inclusion of a family caregiver might further heighten the perceived meaning of the activity to the individual. There is evidence that the involvement of caregivers and volunteers in psychoeducational initiatives for persons with dementia holds a number of benefits (Costa Guerra, Holtum Demian, Pias Figueiredo, & Marques De Sousa, 2012; Zarit & Femia, 2008); at the same time, it is important to take account the potential frustrations that may arise if the planned activities do not go according to plan or if negative interactions arise, which were concerns noted by Van der Ploeg and colleagues (2014) in their volunteer-directed MBP, and are issues that have also been reported in other volunteer-led interventions (Costa Guerra et al., 2012). These types of issues should be monitored with volunteers in order to inform and better optimize training opportunities. Regardless, the preliminary evidence from volunteer-led MBP (Schneider & Camp, 2002; Van der Ploeg et al., 2014) is positive, showing improved outcomes for caregiver burden (Schneider & Camp, 2002), but highlights the importance of training and the challenges in identifying volunteers to participate in this process.

Similarly, there are both positive benefits and challenges with having people with milder levels of dementia implement MBP with persons who have more severe dementia (Camp & Skrajner, 2004; Camp et al., 2005; Skrajner & Camp, 2007). A main benefit to RAMP is that it provides

resident leaders with a meaningful activity that may stem from issues of boredom, which can have negative outcomes for persons with dementia (Hayes, 2014). A recent study found that the three most common unmet needs in people with dementia were boredom/sensory deprivation, loneliness/need for social interaction, and need for meaningful activity (Cohen-Mansfield et al., 2015). Thus, the engagement of persons with dementia in supporting others through the use of MBP may serve to address these concerns, while also promoting prosocial behaviors and improved cognition. In turn, this may lead to a reduction in agitation and aggressive outbursts, which is an ongoing concern for formal and informal caregivers (Bédard, Landreville, Voyer, Verreault, & Vézina, 2011; Cohen-Mansfield, Thein, Marx, Dakheel-Ali, & Freedman, 2012). The findings from RAMP studies appear to have a sufficiently detailed protocol for implementation that could be referred to as the basis for programs across different settings. However, the authors of these studies (Camp & Skrajner, 2004; Camp et al., 2005; Skrajner & Camp, 2007) note that further work is still required to refine materials to reduce the need for staff support during activities and promote protocol adherence.

From a practical standpoint, staff-directed approaches are more likely to be easier to integrate into an existing program. The findings from Sterns and colleagues (2011) indicated that staff found it easy to implement MBP and that the activities also contributed to higher job satisfaction. Similarly, De Witt-Hoblitzel and colleagues (2016) noted that MIR with MBP resulted in lower staff turnover. Tracking rates of job satisfaction and staff turnover following the adoption of MBP are likely valuable indicators for evaluating the benefits of the approach adopted. Furthermore, there is support for therapeutic benefits in terms of social engagement and cognition for persons with dementia who participated in staff implemented MBP (Jarrott et al., 2008; Orsulic-Jeras, Judge, et al., 2000; Orsulic-Jeras, Schneider, et al., 2000; Schneider & Camp, 2002). As well, the use of staff trained in these approaches would easily lend itself to implementing MBP in a variety of formats (group and individual), and potentially to other implementation approaches. For instance, highly qualified staff with experience implementing MBP could work to foster resident-assisted approaches given the existing evidence and supporting materials available to enable staff to “train-the-trainer” (e.g., Skrajner et al., 2014).

One issue that was highlighted by the included literature was the issue of the environment, which holds several implications for successful implementation. One environmental issue from a sociocultural viewpoint is the one of “organizational readiness,” which suggests that a proper assessment of the receptivity of using MBP (irrespective of implementation approach) be conducted. At the organizational level, Ducak and colleagues (2016) noted there were significant concerns about the perceived usefulness of MBP by staff and that any person-centered program required support from key decision makers (e.g., managers).

A similar suggestion was put forth by Camp (2006) who recommended that support from facility administration was needed for the successful implementation of MBP. Overall, if the organizational support is not present, especially from that of managers, then the likelihood of effectively putting programs into practice will be very poor (McCormack et al., 2010; McCormack, Manley, & Walsh, 2008). However, findings by De Witt-Hoblitzel and colleagues (2016) showcase how effective implementation with the right indicators being monitored can serve to circumvent this issue (see *Recommendations for Research* section).

In terms of the physical environment, the literature (Bourgeois et al., 2015; Camp, 2006; Roberts et al., 2015) describes a number of simple changes that can be made to facilities that would not be overly costly, such as having large print signs or having persons wear name tags. These types of modifications can work to reduce the task demands of the environment, which can lead to reduced disability in the individual with dementia (Camp, 2006). At the same time, having environmental conditions that are stimulating and have activities that are sufficiently challenging will also serve to reduce the disability associated with dementia (e.g., inappropriate behaviors, frustration, apathy, etc.; Camp, 2006; Jao, Algase, Specht, & Williams, 2014). The evidence of the MBP approaches included in this review (e.g., Camp, 2006; Orsulic-Jeras, Schneider, et al., 2000; Orsulic-Jeras et al., 2001) highlight how the right physical environment and stimulating activities can be beneficial to persons with dementia and those who care and work with them.

Recommendations for Policy

In terms of policy, Ducak and colleagues (2016) note that policies at the “governmental” level might impede implementation of MBP due to regulations put forth to facilities on monitoring the care persons with dementia receive. For instance, qualitative findings from Ducak and colleagues (2016) describe the fearfulness of nursing staff to implement MBP because it may not be considered an activity approved by the government agency monitoring care in LTC. Similarly, the medical model embedded within the LTC system (Doyle & Rubinstein, 2014) pushes staff to look at treatment options for difficult behaviors (e.g., medication) rather than examining underlying causes or ways to prevent their occurrence (Ducak et al., 2016). As a result, mandated regulations foster a “hierarchy” in LTC settings, which makes some activities viewed as being more important than others (Ducak et al., 2016). One approach for potentially addressing this issue is to continue efforts to improve the quality of research to help support the widespread application of MBP. As noted, a recent review on MBP (Sheppard et al., 2016) highlighted that despite the initial promise of the approach, the quality of studies is uneven, which if not improved, will continue to create barriers to adoption.

In addition to fostering pathways to adoption, more research on the effectiveness of MBP (as well as on

implementation approaches) may translate into more funding opportunities across the research and practice domains. Obtaining adequate levels of funding is an ongoing issue facing the health care system, which creates barriers for implementing person-centered care approaches for persons with dementia. A recent economic evaluation on dementia highlighted the importance of investing in interventions to minimize the societal burden associated with this disease (Wimo et al., 2013).

In general, the cultural shift toward person-centered care appears to be well aligned with several of the underlying philosophies of MBP, but the policy landscape is lagging behind this movement (Koren, 2010), and greater efforts are needed to create mechanisms to better bridge the two so that innovative and new approaches to dementia care can be more readily implemented. Increased advocacy and introduction of MBP approaches in education and training programs across disciplines (e.g., nursing, personal support workers, social work, etc.) might serve to change policies in the local context and eventually lead to an upward effect on regional policies related to the care of persons with dementia. A key tenet to promote within education and advocacy efforts, as described in the *Recommendations for Practice* section, is to highlight how MBP serves to reduce the demand placed on the person with dementia, which is often present in the task environment (Camp, Cohen-Mansfield, & Capezuti, 2002). Thus, making modifications to the environment so that tasks can be successfully performed regardless of the deficits allows for the person with dementia to feel more in control and to have higher levels of enjoyment when performing different tasks (Camp et al., 2002). When successfully designed and implemented, this not only benefits persons with dementia but also reduces the demand on caregivers because involvement in meaningful activities results in reduced agitation, improved mood, and better levels of social engagement (e.g., Camp et al., 2004; De Witt-Hoblit et al., 2016; Jarrott et al., 2008; Lee et al., 2007; Orsulic-Jeras, Judge, et al., 2000). Emphasizing how this philosophy is congruent with several well-established theoretical frameworks in the field (e.g., Lawton's environmental press model; Lawton & Nahemow, 1973) would serve to facilitate its adoption across practice and policy levels. Furthermore, the associated environmental and practice changes observed with MBP might minimize or eliminate the perception that MBP as being "extra work" or that it can only be administered by care staff and not others (such as nursing staff). Hence, adopting the principles underlying MBP as a philosophy throughout the facility may accelerate the person-centered culture change currently being pursued in LTC and other dementia care settings.

Limitations

A main limitation of the present review was the possibility that not all relevant articles were identified for inclusion. As

well, scoping reviews do not assess the quality of included studies but rather provide a broad overview of the type of work done in an area.

Conclusion

Overall, the findings from this scoping review provide an initial road map on key considerations on implementing MBP across dementia care settings. The evidence supporting the efficacy of MBP is growing (Sheppard et al., 2016), but there are still several pragmatic and logistical issues that need to be taken into account for optimal implementation. This includes the adoption of standardized approaches on training for MBP, identifying practical and effective ways to involve staff, family, and other volunteers; making changes to the physical and social environment to reduce task demand for persons with dementia and to promote positive attitudes and practices of staff toward MBP, the ability to secure resources to implement MBP (materials, funds, etc.); and fostering an understanding of the characteristics of the person with dementia by those providing care. Although the noted merits of MBP for increasing engagement is promising, there is a strong need for more clarity on implementation protocols (and not on individual Montessori-based tasks per se, which are well described in the literature) to better evaluate what implementation approach would work best for who and under what conditions. Staff-directed MBP appears to be the most feasible but exploring other approaches, in particular RAMP, might have some additional value for promoting social engagement in persons with dementia. There is also a concurrent need to actively engage in advocacy to raise awareness of the potential benefits of MBP. Given the significant behavioral issues associated with dementia, further exploration of how to optimally implement MBP across care settings is warranted because it may hold significant implications for improving the work environment for staff while also improving the quality of life of persons living with dementia.

Supplementary Material

Please visit the article online at <http://gerontologist.oxfordjournals.org/> to view supplementary material.

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