What is the evidence for the activities of Namaste Care? A rapid assessment review

INTRODUCTION

Despite an increasing number of people living and dying with dementia, dignified care for people with advanced dementia who are nearing the end of life is still lacking (Stacpoole, Hockley, Thompsell, Simard, & Volicer, 2015). Care currently provided in care homes does not meet the needs of the majority of the most dependent residents. Untreated or undertreated pain is commonplace (Corbett et al. 2012), leading to distress, disturbed behaviour, depression, decreased functioning and increased dependency (Care Quality Commission, 2015). People living with advanced dementia often become isolated, which leads to depression, withdrawal and negative health outcomes. The best-developed intervention combining physical, emotional and sensory care for people living with advanced dementia is Namaste Care. Originally developed in the United States of America (USA), Namaste Care is growing in popularity in the United Kingdom (UK), Australia and Europe. 'Namaste' is a Southeast Indian greeting meaning 'to honour the spirit within'. Namaste Care is a complex multi-component intervention described by its originator as being based on the following philosophy of care:

> "We believe that the spirit of each person lives regardless of their physical and cognitive status and that it is possible to nurture this spirit in each individual through loving touch and meaningful activities. This spirit thrives when residents are in the presence of others" (Simard, 2013, p.24).

A manual and toolkit have been developed to guide care homes towards using Namaste Care (Simard, 2013; Stacpoole et al. 2015). Although the approach is recommended for every interaction, this guidance also recommends that structured two-hour sessions take place in both

the morning and afternoon every day. Staff are allocated responsibility for up to eight residents with advanced dementia in a dedicated Namaste Care space. There is some research evidence suggesting that this approach may offer an effective means of supporting people living with advanced dementia: a study in the USA across six centres including 86 people with advanced dementia found that five hours a day of Namaste Care resulted in a significant decrease in withdrawal and agitation, and a reduction in delirium indicators and anxiolytic medication (Simard & Volicer, 2010). Family members reported that the quality of their visits improved. In a UK study, an action research programme investigated the impact of Namaste Care in nursing homes (Thompsell, Stacpoole, & Hockley, 2014; Stacpoole et al. 2015). Reductions in behavioural symptoms and occupational disruptiveness were found to be significantly lower after the introduction of Namaste Care in four out of five homes. Increased severity of behavioural symptoms occurred in one of the participating homes, which was attributed to poor pain management and disrupted leadership. Another UK study lasting nine months described outcomes for residents following the introduction of Namaste Care across three nursing homes committed to providing person-centred care (Soliman & Hirst, 2015). Each home adopted a phased introduction with three to five sessions per week, implementing Namaste Care at a less intensive level than in other studies. 71% of participants *"showed reduced challenging behaviour scores"* while 91% reduced their symptoms of depression, and there was also a marked improvement in interactions between staff and participating residents.

Implementation of Namaste Care has also been associated with a significant reduction in anti-psychotics and hypnotics for nine residents in a Scottish nursing home (Fullarton & Volicer, 2013), with a reduction in sleeping during the day and positive appraisals from families. An Australian study (Nicholls, Chang, Johnson, & Edenborough, 2013) recruited family members

and staff from three facilities implementing Namaste Care and three other facilities providing usual care. Utilising a mixed methods design, including pre- and post-intervention focus groups with staff and family members, thematic analysis suggested that benefits were apparent for people with dementia, with carers and family members also reporting marked improvements. Evidence of the effectiveness of Namaste Care is not conclusive, and there have been no randomised controlled trials that have reported although some are in progress (Smaling et al. 2018). Namaste Care has developed primarily from a practitioner evidence base of what constitutes good practice in activity for people living with very advanced dementia. Whilst this fits well with expert opinion (van der Steen, Onwuteaka-Philipsen, Knol, Ribbe & Deliens, 2013) on what needs to be delivered to meet the end of life needs of people with advanced dementia, the activity intervention components have not been subject to evidence scrutiny.

An important recent realist review by Bunn et al (2018) developed theoretical explanations of how Namaste Care and related sensory interventions might work in practice. This was based on an evidence review of 85 papers and from an expert panel of 20 stakeholders including people directly affected by dementia and care providers. The review identified three context-mechanism-outcome configurations of how Namaste Care can work to improve the quality of care for people with advanced dementia. This included Namaste Care providing a structured access to social and physical stimulation, equipping care home staff to cope effectively and responsively to complex behaviours, and providing a framework for person-centred care delivery within the care home. A key overarching theme concerned the importance of activities that enabled trust, engagement and connection between residents and staff.

The current review aimed to look at the quality of scientific evidence behind the various activity intervention components currently being implemented under the remit of Namaste Care. It forms

part of a larger UK implementation study of Namaste Care currently being conducted (Association for Dementia Studies, 2018). Prior to operationalising the intervention, the study wanted to ensure that what it was advising care homes to implement was evidence-based as well as understanding how practitioners were currently implementing Namaste Care in the UK (Bray, Atkinson, Latham & Brooker, 2019).

The approach for this review was to clarify what components were being utilised within Namaste Care and to review evidence of the effectiveness of these components and the quality of that evidence using the Rapid Evidence Assessment tool to ensure a standardised approach. Simard (2013) describes using aromas, lighting, sensory items and music to create the ambience of the Namaste Care space. Sounds, touch, objects from a variety of sources (including nature), and food and drink generate a feeling of connection and wellbeing. Two of the components of Namaste Care that focus primarily on physical wellbeing (pain management and physical posture support) were excluded from this review, as the importance of both of these topics is well-evidenced elsewhere regarding their efficacy for promoting wellbeing in advanced dementia (Schofield, 2014; McAuliffe, Brown & Fetherstonhaugh, 2012).

METHODS

A systematic search was conducted between November 2016 and September 2018. Medline was the primary search engine used including Academic Search Complete, CINAHL Plus with Full Text, and PsycINFO. Search terms were based on activity component interventions that have been implemented within the Namaste Care Programme (Simard, 2013) (Table 1). The constant search term ensured that the articles focussed on people with dementia.

Table 1: Search terms used for rapid review of Namaste Care interventions

Search Term constant was Dementia OR Alzheimer* AND the following term(s)

Aspect of Namaste Care	Search term(s)
Aromas and scents	Aroma
Light and sensory stimulation	Light Therapy
	Sensory
	Snoezelen
Music, singing and sounds	Music AND Review
	Background Music
	Sounds
	Singing
Touch, tactile and massage	Massage
	Tactile
	Touch Therap*
Objects - Nature	Nature
	Animal OR Pet OR Dog AND Therap*
Objects - Dolls	Dolls
Food and drink	Hydration NOT Artificial
	Nutrition AND Palliative OR End of life

The focus was on articles that would yield a high-level of quality, so only those appearing in peer-reviewed journals were included. Only articles published in the English language between 2006 and 2018 were included. While it is acknowledged that this could result in excluding relevant articles, time and resources were not available for translation, and the approach of focusing on English language articles is considered to be reasonable practice (Khangura et al. 2012).

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009; Moher et al. 2015) approach was used to process the articles, first assessing whether they were relevant by carrying out an initial screening of their titles and abstracts. The full-text articles were then obtained and a further

assessment was made of their relevance to the study. Articles were only included if the researcher was able to access or obtain a copy of the full-text article within the timeframe of the search period.

For the final pool of accepted articles, the quality of each article was rated using the Rapid Evidence Assessment (REA) tool. This rating tool utilises a systematic review methodology that attempts to retain the critical rigour of systematic literature reviews, whilst standardising and simplifying the rating process (Grant & Booth, 2009; Mackenzie et al. 2010). The screening questions are summarised in Table 2.

Table 2: Rapid Evidence Assessment Screening Questions (Mackenzie et al. 2010, p.22)

REA screening questions – For each question the article is rated: 0 (no); 1 (unclear); or 2 (yes)
1. Did the study address a clearly focused issue? 2. Did the authors use an appropriate method to answer their question? 3. Is there an explicit theoretical framework/literature review? 4. Is there a clear description of the study setting/context? 5. Is there a clear description of an appropriate and robust sampling procedure? 6. Is there a clear description of data collection and discussion/justification of methods used? 7. Is there a clear description of data analysis and measurement tools where appropriate? 8. Is there evidence of critical reflection? 9. Is there inclusion of sufficient original data to mediate between evidence and interpretation? 10. Is there a clear statement of findings and discussion of the validity/reliability of results? 11. Are strengths and limitations stated?

Each article was reviewed and rated against each screening question on a scale of 0 to 2, resulting in a total score out of 22 per article. This was carried out by the third author. While utilising a single reviewer has the potential for error, it was considered to be acceptable as they provided a consistent approach and enabled immersion in the review, gaining a deeper understanding of the articles during the refinement process.

The REA scores were graded using recommended guidance from Mackenzie et al. (2010):

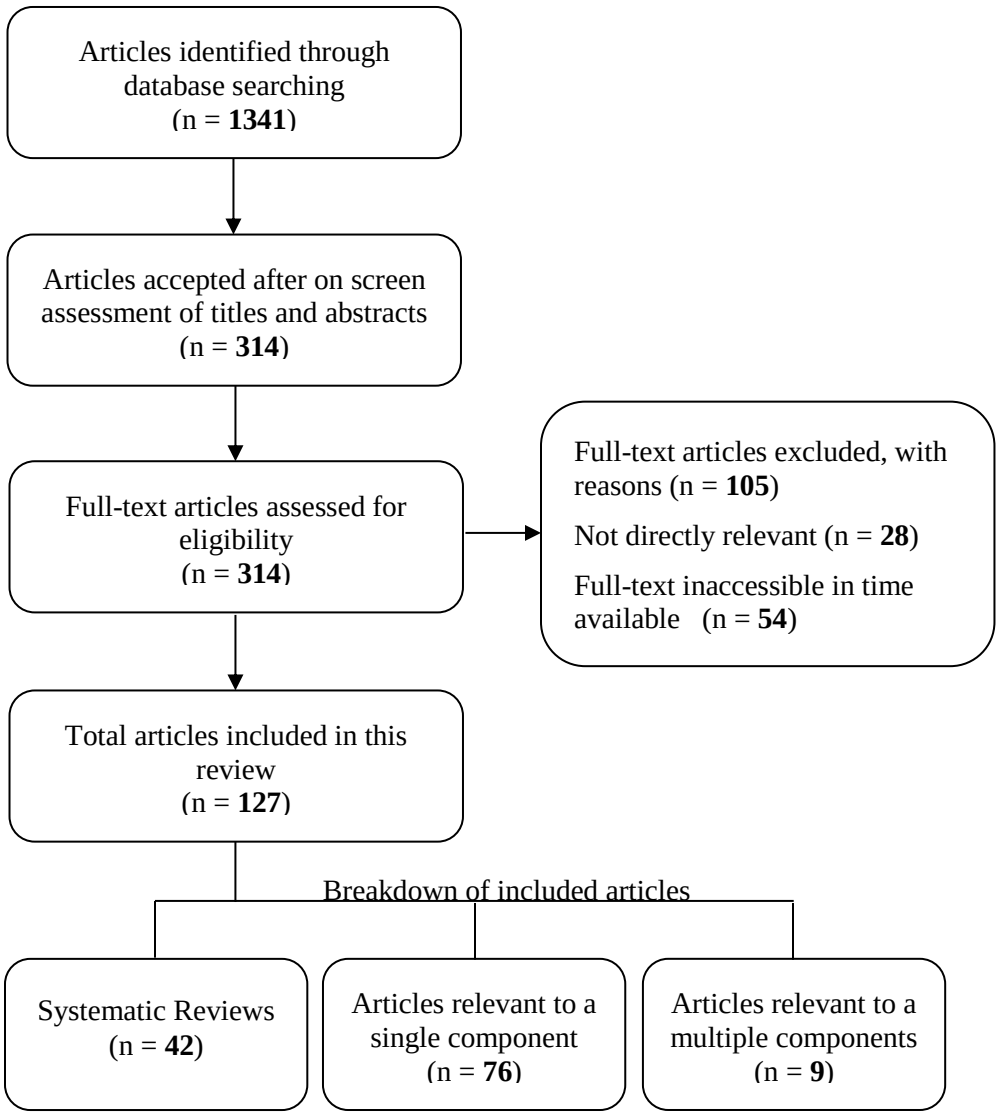
- 0-1 Rejected
- 2-8 Unreliable
- 9-12 Weak
- 13-18 Medium
- 19-22 Strong

The scores for the articles relevant to each search term were combined to gain an overall picture of the evidence, with a mean score also being calculated per search term.

RESULTS

The literature search returned 1341 results. Accepted articles included meta-reviews, systematic reviews, systematic syntheses, randomised controlled trials, qualitative studies, overviews and small-scale studies. The PRISMA flowchart summarises the process used to refine the results (Figure 1). 314 articles were accepted for their relevance to this review following the initial screening of the titles and abstracts to ensure that they were peer-reviewed, English language articles published 2006-2018. Assessment of the full-text articles resulted in 133 of these articles being rejected as irrelevant/not meeting the inclusion criteria for this review and 54 articles being excluded as they could not be obtained within the required timeframe. In total, 127 articles including 42 systematic reviews were included.

Figure 1: PRISMA approach to the Namaste Care Components Systematic Literature Review, 2006-2018



Overall, although limited numbers of articles were available for some Namaste Care components, quality of the evidence was strong for many components (Figure 2). The mean score for each Namaste Care component is also provided in the following section.

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Aromas and scents

Simard (2013) recommends dispersing lavender and also other aromas for invoking the time of year or stimulating appetites via a diffuser.

Most of the ten 'aroma' articles (mean REA score = 19.6, strong) focused on the scent of lavender (Takeda, Watanuki, & Koyama 2017; Yang et al. 2015; Johannessen, 2013; Kimura & Takamatsu, 2013; Fu, Moyle, & Cooke, 2013; Fujii et al. 2008; Lin, Chan, Ng, & Lam, 2007) with lavender and orange, rosemary and lemon, and lemongrass and eucalyptus also being explored (Yang, Lee, Chao, Hsu, & Wang, 2016; Jimbo, Kimura, Taniguchi, Inoue, & Urakami, 2009; Kaymaz & Ozdemir, 2017). Scents were administered in various ways: a spray (Fu et al. 2013); a diffuser (Lin et al. 2007; Johannessen, 2013; Kaymaz & Ozdemir, 2017); drops on shirt collars (Fujii et al. 2008); towels wrapped around pillows (Takeda et al. 2017); aroma and acupressure (Man-Hua et al. 2015); massage (Fung & Tsang, 2018; Kaymaz & Ozdemir, 2017; Fu et al. 2013); and massage, acupressure and cognitive training (Fung & Tsang, 2018). Lavender reportedly decreased agitation and other negative behaviours (Yang et al. 2016; Yang et al. 2015; Fung, Tsang, & Chung, 2012; Fujii et al. 2008; Lin et al. 2007); improved sleep (Johannessen, 2013; Takeda et al. 2017); and reduced antipsychotic medication (Kimura & Takamatsu, 2013). Combining lavender and orange oil for slow-stroke massage reportedly decreased depression and agitation in participants with advanced dementia; however, this may principally have been due to participants receiving non-instrumental touch (Yang et al. 2016).

The effects of using lemon and rosemary in the morning, and lavender and orange in the evening via a room diffuser were slight improvements in cognitive function for participants with moderate Alzheimer's disease; however, the evidence was not robust. Lemongrass and eucalyptus oil used both via a diffuser and hand massage found notable reductions in agitation (Kaymaz & Ozdemir, 2017).

Four reviews looked at the effects of aroma, all of which found evidence to be generally promising but largely inconclusive regarding its beneficial impact for people with dementia (Fung et al. 2012; Hulme, Wright, Crocker, Oluboyede, & House, 2010; Buckle, 2007; Nguyen & Paton, 2008). Allergies to and dislike for various scents was also noted.

Light and sensory stimulation

Dimmed, soft and pleasant lighting are recommended by Simard (2013), with natural light and floor lamps being ideal. Turning the lights up prior to lunch is suggested as a way of orientating participants that the morning session is finishing.

Bright Light Therapy

'Light therapy' elicited five reviews and six studies about 'light' and 'bright light therapies' (mean REA score = 18.6, medium). Improvements in sleep, depression, and reduced agitation were the primary indicators for the effectiveness of using bright light therapy for people living with dementia. All five reviews (Scales, Zimmerman, & Miller, 2018; Figueiro, 2017; van Maanen, Meijer, van der Heijden, & Oort, 2016; van der Ploeg & O'Connor, 2014; Hanford & Figueiro, 2013) and several studies (Gibson, Gander, Dowell, & Jones, 2017; Sekiguchi, Iritani, & Fujita, 2017; Burns, Allen, Tomenson, Duignan, & Byrne, 2009) concur that bright light therapy can be effective for improving the sleep of people with dementia, although the evidence is weak and largely inconclusive. Curiously, van Maanen et al. (2016) found bright light therapy

to have a stronger effect on women compared to men living with dementia. Scales et al. (2018) found that bright light therapy can reduce agitation and depression. Onega, Pierce, and Epperly (2018) also found (weak) evidence supporting the use of bright light therapy to reduce depression in people living with dementia. An earlier study by Hickman et al. (2007) produced inconsistent results, but suggested that bright light therapy had a negative effect on depression in men while positively effecting depression in women living with dementia. Morning use of bright light therapy was seemingly more effective for people living with dementia (Burns et al. 2009; Hickman et al. 2007), while use of bright light therapy may be harmful during summer months (Hanford & Figueiro, 2013).

Useful suggestions include: making use of natural light as much as possible (Figueiro, 2017; Scales et al. 2018); providing darkness at night and light during the daytime (Figueiro, 2017; Hanford & Figueiro, 2013); and removing constant dim lighting commonly found in care homes (Hanford & Figueiro, 2013).

Sensory

'Sensory' generated articles focusing on various combinations of multisensory interventions for people with dementia (mean REA score = 20.6, strong). The four reviews agreed that sensory stimulation can positively impact on mood and level of engagement of people living with dementia (Haigh & Mytton, 2016; Strøm, Ytrehus, & Grov, 2016; van Vracem, Spruytte, Declercq, & Van Audenhove, 2016; Kim, Yoo, Jung, Park, & Park, 2012). Strøm et al. (2016) highlight the importance of taste and smell, while van Vracem et al. (2016) combined a literature review with expert review panels (family carers; professional care home carers; professional nursing home carers), who raised the need for research focussing on the impact of coloured lamps for improving sleep-wake cycles and of always maintaining an individualised approach.

Three articles also agreed on the positive impact of multisensory approaches on people living with dementia (Bédard, Landreville, Voyer, Verreault, & Vézina 2011; Safavi, Yahyavi, Farahani, Mahmoudi, & Mahboubinia 2013; Crowe, 2014). Bédard et al. (2011) focused on decreases in verbal agitation, while Safavi et al. (2013) focused on improvements in cognition for people with mild levels of dementia; both articles called for additional research. Crowe (2014) found Occupational Therapists believe that multisensory interventions were producing positive effects in their clients with dementia, despite having no hard evidence to back this up.

Snoezelen

Nine of the 'sensory' articles explored 'Snoezelen' (mean REA score = 19.3, strong) for its role in reducing sensory deprivation common to care home residents with dementia (Lopez, Bolívar, & Perez, 2016). According to a review by Haigh and Mytton (2016), Snoezelen is the most prevalent form of multisensory intervention reported within this population, as it reportedly reduces agitation (Maseda, Sánchez, Marante, González-Albrades, Buján, et al. 2014; Maseda, Sánchez, Marante, González-Albrades, de Labra, et al. 2014; Padilla, 2011; Staal et al. 2007), apathy, aggression and depression (Maseda et al. 2018; Strøm et al. 2016). Positive impacts on staff are also cited (van Weert et al. 2006). However, equipment is expensive (Anderson, Bird, Macpherson, McDonough, & Davis 2011; Padilla, 2011), and requires considerable staff training (Anderson et al. 2011). A small-scale study by Bauer et al. (2015) found no significant changes in wandering and restlessness when using Snoezelen compared with 'common practice'.

Music, singing, and sounds

Namaste Care includes music and sounds used for soothing and energising. Music which has personal meaning to participants and incorporates simple instruments (e.g. wind-chimes, rain sticks and music boxes) is recommended by Simard (2013).

The large number of articles generated using the search-term ‘music’ required a narrowing to ‘music AND review’ for people living with dementia (mean REA score = 19.1, strong). Four of eight reviews focused solely on randomised controlled trials (Ing-Randolph, Phillips, & Williams, 2015; Blackburn & Bradshaw, 2014; Ueda, Suzukamo, Sato, & Izumi, 2013; Raglio et al. 2012). Ing-Randolph et al. (2015) found that group music interventions were beneficial for people with dementia living in care homes. Similarly, Blackburn and Bradshaw (2014) concluded that group music interventions can reduce anxiety in people with dementia. Ueda et al. (2013) and Raglio et al. (2012) found that music therapy has considerable beneficial impact on behavioural and psychological symptoms of dementia.

A narrative synthesis systematic review (McDermott, Crellin, Ridder, & Orrell, 2013) reported that music therapy can improve behavioural and psychological disturbances in care home residents with dementia, at least in the short-term. Istvandity (2017) explored existing studies using music and reminiscence, finding a positive impact on elderly adults and people living with dementia although evidence is lacking. A comprehensive literature review (Daykin et al. 2018) reported strong evidence for the positive effects of music and singing on the wellbeing of older adults, suggesting that more research is needed for subgroups including people living with dementia. Lastly, a scoping review by Elliott and Gardner (2018) looking at the role of music in the lives of older people with dementia living in the community found that music reduces agitation, improves cognition, and enhances social wellbeing.

Background Music

Six articles were identified using the search term ‘background music’ (mean REA score = 19.2, strong). Three focused on the impact of playing background music for care home residents living with dementia during mealtimes (Tanaka & Hoshiyama, 2014; Chang, Huang, Lin, & Lin, 2010;

Thomas & Smith, 2009). Although the results from Tanaka and Hoshiyama (2014) were mostly inconclusive, playing a simple wordless tune through speakers did show a trend towards successfully creating a memorable signal that it was lunchtime for participants. Chang et al. (2010) found a reduction in 'problem behaviour' in residents exhibiting 'problematic behaviour', although this article was considerably weak in terms of detail and rigour. Thomas and Smith (2009) found that residents consumed more calories, stayed in the dining area longer, and were generally more engaged when background music was played.

Playing 17-minutes of upbeat popular music composed in 1964 as background music was reported to be a technologically simple and effective way to improve the wellbeing of care home residents with dementia (Ziv, Granot, Hai, Dassa, & Haimov, 2007). Accident/incident reports and staff absences decreased significantly during a three-month study in which stimulating background music was played from 9:00 to 12:00, and relaxing background music was played from 12:00 to 17:00 (Mercado & Mercado, 2006). Götell, Brown, and Ekman (2009) described the playing of background music during morning care of residents with dementia as *"mutual vitality infused with playfulness"* (p.426).

Sounds

The three articles for 'sounds' showed robust evidence for the effectiveness of playing familiar sounds (mean REA score = 22.0, strong). Two highly technical articles by Fletcher et al. (2016) and Golden et al. (2015) centred on how people with various types of dementia respond to hearing familiar sounds and tunes. People with Alzheimer's disease and Semantic Dementia have significantly different autonomic responses to sounds compared to the general population (Fletcher et al. 2016), and people with Semantic Dementia have greater difficulty identifying familiar melodies than identifying environmental sounds (Golden et al. 2015). A comprehensive

review by Joosse (2012) found that high levels of environmental sounds common to care homes likely contribute to levels of agitation in residents living with dementia.

Singing

11 articles, including three reviews, provide strong evidence for the benefits that singing can have for people living with dementia (mean REA score = 19.8, strong). Six articles looked at the effects of familiar group singing for people with dementia (Lesta & Petocz, 2006; Dassa & Amir, 2014; Pongan et al. 2017; Unadkat, Camic, & Vella-Burrows, 2017; Ward & Parkes, 2017; Werner, Wosch, & Gold, 2017). Good evidence was found for reductions in depression/improved mood (Lesta & Petocz, 2006; Pongan et al. 2017), at least partially due to social aspects and conversations elicited from sharing familiar songs (Lesta & Petocz, 2006; Dassa & Amir, 2014). Unadkat et al. (2017) found that group singing shared by people living with dementia and their partners provided considerable enjoyment and thus improved wellbeing for all involved. Pongan et al. (2017) also saw a reduction in pain. Ward and Parkes (2017) stress the importance that providing choices for participants (e.g. wish to engage or not and choice of content) significantly contributed to their enjoyment.

The effects of individualised singing was explored in four articles. A review by Chatterton, Baker, and Morgan (2010) suggested that because of their extensive training, music therapists can perhaps provide subtler singing sessions for people with dementia, adding that, "*Singing can be an accessible resource to most if not all [caregivers] (professional and nonprofessional), which has previously been overlooked"* (p.646). Götell et al. (2009) found that a caregiver singing to a resident *"not only leads to increased vocal lucidity and expression but to improved body posture and body awareness and an overall reduction in aggressiveness towards caregivers"* (p.429). A case study by Baird and Thompson (2018) found that a husband singing

to his wife with severe dementia was the only way he could successfully reach her. Exploring the role of singing and music for the health and wellbeing of older people and its relevance to nurses, Skingley and Vella-Burrows (2010) identified significant reductions in agitation for people living with dementia, particularly when nurses sang familiar music and sang to individuals rather than for groups.

A recent comprehensive systematic review (Daykin et al. 2018) confirmed the positive effects music and singing have on the wellbeing of adults, and highlights the need for further research focusing on sub-groups including people living with dementia.

Touch, tactile, and massage

Simard (2013) writes about the centrality of *"the power of the loving touch"* (p.93-98) on people experiencing Namaste Care, recognising that although people with high care needs may literally be frequently touched because of their care needs, it is quite different to being touched in a way that aids connection between people. Thus, Simard (2013) recommends that Namaste Care participants' faces should be moisturised using familiar smelling face creams, men can be shaved, and hair can be brushed. It is also recommended to wash participants' hands and feet, and provide hand, arm and foot massage.

Massage

Moyle, Murfield, O'Dwyer, and Van Wyk (2013) define massage as *"involving a therapist touching the participant with their hands and applying some pressure in a moving way on parts of the body (pressing, rubbing or manipulating the neck, shoulder, back, feet, hands)"* (p.602). Several of the 13 articles identified using the search term 'massage' (mean REA score = 19.8, strong) address specific forms of massage (e.g. slow stroke, Effleurage, and Tactile Stimulation), and specific areas of the body (e.g. hand, foot, back). Hand massage was found to be generally

easily accepted and enjoyed by most participants (Cohen-Mansfield, Marx, Dakheel-Ali, & Thein, 2015; Hicks-Moore & Robinson, 2008; Hulme et al. 2010), although Fu et al. (2013) found no effect using hand massage. Foot massage sometimes prompted agitation due to some participants finding it difficult, if not intolerable, to have their feet touched (Moyle et al. 2014). 'Slow stroke' back massage was enjoyed by most participants (Harris, Richards, & Grando, 2012).

Two recent randomised controlled trials (Fung & Tsang, 2018; Kapoor & Orr, 2017) found that although there were no significant improvements in pain (Fung & Tsang, 2018) or behavioural and psychological symptoms of dementia (Kapoor & Orr, 2017) the results from each small-scale study suggest that various forms of massage including acupressure can have positive results (Fung & Tsang, 2018).

Four literature reviews were identified using the search term 'massage'. Moyle et al. (2013) found that Effleurage massage, described as *"continuous gliding or sliding movements on the skin with light to moderate pressure applied"* (p.604), was effective in reducing some forms of agitation and can be easily taught to staff. Rodríguez-Mansilla et al. (2015) cited training, vigilance, and time as potential barriers to successful and ongoing implementation of massage for care home residents living with dementia. The evidence for the positive effects of massage for people living with dementia was generally inconclusive, principally due to small cohorts of participants (Cohen-Mansfield et al. 2015), difficulty discerning impacts of combined elements such as aroma and massage therapy (Yang et al. 2016), and aromatherapy and hand massage (Fu et al. 2013), and the positive impact that human presence, touch, and special attention likely had on the recipient responses. Wu, Wang, and Wang (2017) found that massage provided a significant reduction in behavioural and psychological symptoms of dementia, but no significant

decrease in anxiety, sadness or anger in a quantitative systematic review of randomised controlled trials in Chinese and English. A review of non-pharmacological approaches for reducing behavioural and psychological symptoms of dementia by Scales et al. (2018) found that, although the sample sizes and quality of the research was low, massage was generally well accepted by participants. This review also emphasises the importance of individual preferences and responses so as to avoid increasing agitation.

Tactile

'Tactile' elicited articles about 'Tactile Stimulation' (mean REA score = 21.7, strong), a soft-touch form of massage reportedly effective in reducing stress within a variety of health settings (Suzuki et al. 2010). Although lacking robust evidence, carers trained in providing tactile stimulation reported positively about their experience (Skovdahl, Sörlie, & Kihlgren, 2007). Quell, Skovdal, Kihlgren, and Lökk (2008) and Suzuki et al. (2010) caution that some people with advanced dementia may initially be wary or unwilling to receive this unconventional form of touch, or may not like or trust the practitioner.

Touch Therapy

Two forms of touch were highlighted in the four articles identified using the search term, 'Touch therap*': 'Biofield Therapy' (Jain & Mills, 2010; Hawranik, Johnston, & Deatrich, 2008), and 'expressive' or 'therapeutic' touch (Belgrave, 2009; Doherty, Wright, Aveyard, & Sykes, 2006) (mean REA score = 19.0, strong). Biofield Therapy is an umbrella term for a form of touch whereby the practitioner transmits 'healing energy' via their hands held slightly above the recipient. A review by Jain and Mills (2010) found that although evidence is quite limited, Biofield Therapy seems to reduce 'negative symptoms' of dementia. Hawranik et al. (2008) found that Biofield Therapy decreased nonaggressive behaviours (e.g. wandering/pacing), but

had no discernible decrease in aggressive physical behaviours (e.g. shouting). Both articles cited ease of training and particular benefits for recipients who do not like being physically touched as benefits of Biofield Therapy.

Belgrave (2009) compared the effects of participants receiving no touch, expressive touch, and instrumental or practical touch. Findings were largely inconclusive, but suggest that expressive touch induced comfort and increased communication and cognition in participants with dementia. A small-scale study by Doherty et al. (2006) was inconclusive regarding staff perceptions regarding the benefits of therapeutic touch for people living with dementia.

Nature: bringing the outside in

Fresh flowers, leaves, cut grass and snow are just some of the items Simard (2013) suggests towards bringing nature into residential settings. Nature DVDs of the sea and other natural environments are also suggested, as are introducing live and robotic animals to the care home environment.

All seven articles found using the search term ‘nature’ (mean REA score = 18.7, medium) clearly articulate the importance and positive impact that nature can have on care home residents living with dementia (Bossen, 2010; Chalfont, 2007; Gibson, Chalfont, Clarke, Torrington, & Sixsmith, 2007; Wiersma & Pedlar, 2008; Hendriks, van Vliet, Gerritsen, & Dröes, 2016; White et al. 2018; Reynolds, Rodiek, Lininger, & McCulley, 2018). White et al. (2018) suggested that the time duration of exposure to nature directly corresponds with improved moods in people living with dementia. A literature-based overview by Bossen (2010) highlighted the need to appropriately educate and train staff regarding incorporating nature into the care home setting, the importance of the outdoors and of having greenery in care homes, particularly for residents with dementia. Safety issues among this population was cited as the primary barrier. A study

exploring the potential of virtual nature via large screen images found that while contact with real nature will always be preferred, virtual exposure to nature can reduce stress, improve mood, and requires little from staff (Reynolds et al. 2018).

A useful environmental checklist tool: 'PLANET (Person-Location-Architecture-Nature-Energy-Technology)' for care homes was introduced by Chalfont (2007). The importance of 'edge spaces', the areas surrounding the borders between outdoors and indoors, was also highlighted by Chalfont (2007) and Gibson et al. (2007). Hendriks et al. (2016) focused on the importance of individualising nature, with sensory activities being found to benefit people with advanced dementia more than people in earlier stages. An innovative study by Wiersma and Pedlar (2008) found that relationships between residents and staff changed significantly when resituated within a natural environment.

Animals

Although care home residents engage with a variety of animals, all articles identified using the search term 'animals' concerned dogs (mean REA score = 20.3, strong). All 17 articles agreed that the presence of dogs evoked positive responses from care home residents with dementia. Swall, Ebbeskog, Lundh Hagelin, and Fagerberg (2017) reported that feelings of empathy, joy and tenderness evoked led to improved self-worth in participants. Swall, Ebbeskog, Hagelin, and Fagerberg (2015) also cited notable improvements in memory, communication, and mood. Travers, Perkins, Rand, Bartlett and Morton (2013) also saw improvements in depression. Wood, Fields, Rose, and McLure (2017) and Travers et al. (2013) found good evidence of Animal Therapy improving quality of life for care home residents living with dementia. Reductions in aggression and agitation were also reported (Peluso et al. 2018; Charry-Sánchez, Pradilla, & Talero-Gutiérrez, 2018; Majić, Gutzmann, Heinz, Lang, and Rapp, 2013; Perkins, Bartlett,

Travers, & Rand, 2008; Sellers, 2006). Social behaviour was reportedly improved for most participants (Peluso et al. 2018; Thodberg et al. 2016; Swall, Ebbeskog, Lundh Hagelin, & Fagerberg, 2016; Nordgren & Engström, 2012; Marx et al. 2010; Perkins et al. 2008; Kramer, Friedmann, & Bernstein, 2009; Filan & Llewellyn-Jones, 2006; Sellers, 2006). The presence of a skilled dog handler also impacted positively on many participants (Swall et al. 2016; Perkins et al. 2008). Thodberg et al. (2016) found that people with more advanced dementia interacted considerably more with the dog than with the human.

Some of the articles compared the impact of the presence of a live dog with that of other related stimuli. Marx et al. (2010) found that a puppy video, robotic dog, and plush dog toy also elicited positive interactions. Kramer et al. (2009) and Thodberg et al. (2016) found that a robot dog generated almost as much engagement and touch as a live dog. These findings are helpful due to some residents and staff having allergies to, or fear of dogs.

Dolls

Simard (2013) provides many examples of using meaningful objects in terms of culture and the seasons, as well small objects such as chattering false teeth, snow globes, and sports items. She also discusses the use of dolls and soft toys within Namaste Care.

Twelve articles assessed as having medium to strong quality evidence were identified using the search term ‘doll’ (mean REA score = 19.5, strong). Despite some staff and family members viewing dolls as patronising or infantilising (Hubbard & Olsen, 2016; Braden & Gaspar, 2015; Shin, 2015; Hahn, 2015; Mitchell & Templeton, 2014; James, Mackenzie, & Mukaetova-Ladinska, 2006; Alander, Prescott, & James, 2015), all 12 articles agreed regarding the positive impact of offering dolls to care home residents with dementia, including: improved communication and social interaction (Ng, Ho, Koh, Tan, & Chan, 2017; Mitchell, McCormack,

and McCance, 2016; Alander et al. 2015; Shin, 2015; Bisiani & Angus, 2013; Cohen-Mansfield, Marx, Dakheel-Ali, Regier, and Thein, 2010); reduced anxiety (Alander et al. 2015; Bisiani & Angus, 2013); and reduction in behavioural and psychological symptoms of dementia (Cantarella, Borella, Faggian, Navuzzi, & De Beni, 2018). Mitchell et al. (2016) reported an improvement in eating, however, Cantarella et al. (2018) did not. Dolls also provided a tangible object to be cared for, offering companionship and a sense of connectedness and inclusion (Alander et al. 2015), and reducing loneliness (Bisiani & Angus, 2013). Helpful suggestions towards assuaging previously noted negative attitudes towards using dolls within this population were provided by Hubbard and Olsen (2016), Alander et al. (2015), and Mitchell and Templeton (2014). The importance of providing the *option* of dolls to residents was also highlighted (Mitchell et al. 2016; Bisiani & Angus, 2013; James et al. 2006; Alander et al. 2015), as it is impossible to predict who will choose a doll on any given day. Two additional potential obstacles included the over-possessiveness of a doll (James et al. 2006; Mitchell et al. 2016), or confusion of a doll for a real baby (Hubbard & Olsen, 2016; Shin, 2015; James et al. 2006).

Food and drink

Simard (2013) recommends that Namaste Care include a continuous beverage service of easy to swallow delicious tasting drinks, using small sips and straws. Small snacks such as crushed pineapple, ices, lollipops, smoothies and yoghurt are also recommended.

Most research addressing dehydration in people with dementia focuses on artificial means of hydration. Thus, only three articles were found using the search term ‘hydration NOT artificial’ (mean REA score = 10.3, weak), two of which were overviews looking at hydration in older people living in Spain (De la Cámara Serrano, 2015) and promoting hydration in people with dementia within healthcare settings (Archibald, 2006). Both overviews emphasised the

importance of keeping older people properly hydrated, as dehydration can cause serious health issues and perhaps increase confusion. Archibald (2006) suggested prompting people with dementia to drink liquids by making sure there is always a glass of liquid available, and offering a variety of drinks whenever possible. Lea, Goldberg, Price, Tierney, and McInerney (2017) interviewed 11 staff members at one care home to learn more about their views and practices regarding fluid (and food) care. Although data collected for this study was from only one care home and no managers participated, useful information regarding staff perceptions was collected: education is viewed as vital to successful nutrition and hydration of residents, and having a pleasant non-distracting eating environment plus ongoing communication with residents about nutrition and hydration was also found to be critical.

Similarly, little research has looked specifically at improving the nutrition for people living with dementia through non-artificial means. The search term 'nutrition NOT artificial' generated only two articles (mean REA score = 13.3, medium). Aliani et al. (2013) posited that declines in taste and smell directly relate to the decreasing appetites of people who either have dementia or have had a stroke, though little research has investigated the underlying causes or potential solutions. Acreman (2009) suggested that because the meaning of food is quite personal and individual, it is important that both physical and psychological reasons are explored when seeking reasons for a lack of appetite. This article also provided useful suggestions towards improving nutrition, such as adding a small glass of preferred alcohol alongside each meal. As discussed in the 'background music' section of this review, Thomas and Smith (2009) found that residents consumed more calories and stayed for longer timespans in the dining area when background music was played, and were generally more engaged and had more uplifted moods when background music played during mealtimes.

In retrospect, the lack of papers in this section may have been improved had a wider range of search terms been used including food, drink and snacks.

Summary

The REA scores indicated strong or medium evidence supporting the use of most of the activity components recommended for use in Namaste Care, with food and drink having the weakest evidence based on the articles included (although this may have been an artefact of the search terms utilised). All of the components suggested by Simard (2013) had at least some support from these research articles. However, the scores for many components are based on fewer than ten articles and so should be treated with some degree of caution.

Positive outcomes for people with dementia were seen in many cases, including social, emotional and physical benefits. However, the results were often based on small studies. The strength of the outcomes was also less conclusive, with some articles showing at best a slight improvement and others seeing no improvement or even a negative impact. Many of the articles did not fully describe the interventions and/or used inconsistent outcome measures. However, there is no evidence to suggest that any of the components suggested by Simard (2013) should be excluded from Namaste Care.

DISCUSSION

Namaste Care developed as a practice response to the needs of those living with advanced dementia. This review sought to ensure that the component parts of the complex Namaste Care intervention had a reasonable research evidence base and were not considered harmful, which has not previously been conducted for Namaste Care. Each person living with dementia has a unique experience dependent in part on symptom severity but also on a long life experience that

has shaped their preferences and reactions. Namaste Care focuses on people living with advanced levels of dementia, meaning that verbal communication is often severely curtailed. A person with dementia may live for many years, sometimes long after verbal modes of communication have declined. This means that it is particularly important for practitioners to ensure their practice is evidenced based, as it is particularly difficult for people with advanced dementia to communicate directly that they do not like an activity or it is causing them discomfort. This literature review sought to critically appraise activities that are commonly utilised as components of Namaste Care to ensure that practitioners are providing interventions that are suited to the person's needs.

This review had a number of limitations: articles were restricted to English Language only and to publications published within a twelve-year time span; restricting inclusion to peer-reviewed journals meant that some search terms elicited very few articles; and a limited timeframe meant that articles not available were also excluded. However, it still identified reasonably strong findings from research studies for many of the included components regarding their positive impact for people living with dementia. Aromas (especially lavender), engaging with dogs, dolls, various forms of music (e.g. background music, singing, personalised music, one-to-one and within groups), nature, lighting, various forms of touch/massage and sensory interventions (including Snoezelen) all appear to be effective. However, the overall amount and level of evidence for each component was inconsistent. This may in part be due to difficulties around capturing quantitative outcome data with a complex cohort of participants, especially for interventions where the focus tends to be on improving outcomes 'in the moment' rather than over longer periods.

Most articles considered the components as separate interventions, but Namaste Care is designed to implement multiple components during the same session. The interaction between components has largely been overlooked, with only nine articles being identified through more than one search term as they combined different components. Using components together, such as aroma and massage or background music and food, saw positive impacts but it is unclear if this was due to one component over the other, or the combination of both. Combining different interventions may increase the potential for benefit or it may decrease the potency of each intervention. This may be an area for further investigation.

However, one of the strengths of Namaste Care is that it provides practitioners with a range of options that can be utilised with a group of residents who may have various and different needs. Within the same Namaste session for example, one resident may be engaging primarily with personalised music and aromas whereas another maybe engaging with a doll and flowers from the garden. Both would be partaking in Namaste but would be engaging with different components according to their needs and preferences.

Even when components were considered separately, the presence of the person delivering the intervention, such as a dog handler or therapist, could be a compounding factor. Virtually all of the articles agreed upon the importance of human presence and attention, and of caring touch as perhaps the most consistently influential element contributing to a positive impact on the wellbeing of care home residents with advanced dementia.

For many of the interventions, researchers highlighted the need to tailor delivery to the individual. In particular, observing personal preferences by offering choice (singing, massage and dolls) and being aware of allergy issues (aromas and animals). When delivering interventions such as dolls and less traditional forms of touch, there is also a need to be aware of

the perceptions of both staff and families, which should be acknowledged but not seen as a reason to deny offering the intervention as an option for the person with dementia. Helping staff and families to understand the rationale behind such interventions and the potential benefits could be a useful approach for addressing some of these negative perceptions. Additionally, some interventions were less expensive and easier to deliver than others, both in terms of equipment and time and the skills required by staff members or practitioners. It is therefore not surprising that many articles raised the need to ensure that individuals were adequately trained to deliver interventions.

Delivering interventions that engage and improve the quality of life for people living with advanced dementia is a challenge. Namaste Care appears to provide a vehicle for doing this and the activity components all have an evidence base that should improve well-being. The question of how this can be implemented as part of regular care home practice needs to be addressed, alongside a more in-depth understanding of what components of Namaste Care are most impactful for individuals and groups living in different contexts.

Ethics

The research project that this work is part of has been approved by the NHS Research Ethics Committee (Ref 17/SC/0430).

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Included within the review (** denotes when articles were accepted for more than one search term)

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Declaration of conflicting interests

The Authors declare that there is no conflict of interest