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Namaste Care in nursing care homes for people with advanced dementia: protocol for a feasibility randomised controlled trial

Katherine Froggatt,1 Shakil Patel,1 Guillermo Perez Algorta,1 Frances Bunn,2 Girvan Burnside,3 Joanna Coast,4 Lesley Dunleavy,1 Claire Goodman,2 Ben Hardwick,3 Julie Kinley,5 Nancy J Preston,1 Catherine Walshe1

ABSTRACT

Introduction Many people living with advanced dementia live and die in nursing care homes. The quality of life, care and dying experienced by these people is variable. Namaste Care is a multisensory programme of care developed for people with advanced dementia. While there is emerging evidence that Namaste Care may be beneficial for people with dementia, there is a need to conduct a feasibility study to establish the optimum way of delivering this complex intervention and whether benefits can be demonstrated in end-of-life care, for individuals and service delivery. The aim of the study is to ascertain the feasibility of conducting a full trial of the Namaste Care intervention.

Methods and analysis A feasibility study, comprising a parallel, two-arm, multicentre cluster controlled randomised trial with embedded process and economic evaluation. Nursing care homes (total of eight) who deliver care to those with advanced dementia will be randomly allocated to intervention (delivered at nursing care home level) or control. Three participant groups will be recruited: residents with advanced dementia, informal carers of a participating resident and nursing care home staff. Data will be collected for 6 months. Feasibility objectives concern the recruitment and sampling of nursing homes, residents, informal carers and staff; the selection and timing of primary (quality of dying and quality of life) and secondary clinical outcome measures (person centredness, symptom presence, agitation, quality of life, resource use and costs and residents’ activity monitored using actigraphy). Acceptability, fidelity and sustainability of the intervention will be assessed using semistructured interviews with staff and informal carers.

Ethics and dissemination This protocol has been approved by NHS Wales Research Ethics Committee 5 (ref: 17/WA0378). Dissemination plans include working with a public involvement panel, through a website (http://www.namastetrial.org.uk), social media, academic and practice conferences and via peer reviewed publications.

Trial registration number ISRCTN14948133; Pre-results.

INTRODUCTION

Background Dementia is a life-limiting condition, with a median survival, decreasing with age, of 6.7–1.9 years. In advanced dementia, an individual requires full assistance with care that is chair or bed-bound, doubly incontinent and no longer able to communicate verbally (Functional Assessment of Staging of Alzheimer’s Disease (FAST) scale 6–7). People with dementia often experience a poor quality of death, preceded by a period of poor quality of life, with over and under treatment occurring. There is an increasing urgency for appropriate care that will ensure a good quality of life and dying are achieved.

Evidence for therapeutic healthcare interventions for people with advanced dementia is limited. Reviews of therapies such as music therapy indicate mixed outcomes for people with dementia, with a Cochrane review identifying equivocal evidence. More recent reviews of therapeutic interventions have identified large positive effects on behavioural, cognitive and physiological outcomes, to moderate effects on anxiety with small effects on behavioural symptoms.
and evidence for short-term improvement in mood and reduction in behavioural disturbance.\textsuperscript{9} \textsuperscript{10} In a Cochrane review of touch therapies, some evidence of an effect was identified, but not specifically for people with advanced dementia.\textsuperscript{11} A recent review indicated that massage reduced levels of agitation.\textsuperscript{12} Interventions supporting person-centred care have been shown to reduce agitation and behavioural disturbance. There is some evidence for individualised interventions, within a bio-psychosocial framework, improving behavioural symptoms.\textsuperscript{13-15}

Interventions with a single focus on reducing pain, physical symptoms or specific behavioural disturbances have been found to be effective.\textsuperscript{3} It is recognised that for people with advanced dementia there is a need for interventions that complement and enhance pharmacological interventions. This study addresses the lack of evidence available through completed research, to consider the stage-specific efficacy of non-pharmacological interventions.\textsuperscript{16} There is also a need for practical interventions that staff can learn to deliver which allow them to provide person-centred care.

Palliative and end-of-life care interventions for people with dementia that emphasise a person-centred philosophy, and use co-design approaches, are being developed and tested.\textsuperscript{17} Namaste Care is one such intervention. Non-randomised research studies have identified that Namaste Care at the end of life reduces the severity of behavioural and physical symptoms and occupational disruptiveness and may have an impact on social interaction, delirium and agitation.\textsuperscript{18-22} The potential for cost savings with respect to reduced psychotropic medication use has also been indicated.\textsuperscript{19} \textsuperscript{23} Qualitative evidence suggests greater family and staff satisfaction with care.\textsuperscript{18} However, none of these studies have compared this intervention with other approaches to palliative and end-of-life care for this population. We do not yet know the optimum way of delivering this complex intervention and which benefits (including cost-effectiveness) can be demonstrated in end-of-life care, for individuals and service delivery.

In Phase i of this study, a realist review of 85 papers that considered Namaste Care and sensory interventions (such as music therapy or massage) for people with advanced dementia identified three context–mechanism–outcome configurations. This indicated what needs to be in place for Namaste Care to work for this population. The overarching theme was the importance of providing activities that enabled the development of moments of connection for people with advanced dementia. This can occur when the following three elements are in place: provision of structured access to stimulation (social and physical), equipping care home staff to be able to cope with complex variable behaviours and providing a framework for person-centred care.

**Intervention development**

The Namaste Care intervention is already promoted using existing resources.\textsuperscript{24-25} In this study, a four-stage approach to the development and refinement of the intervention resources was used. This entailed (1) collating the existing intervention materials and the findings of the realist review to draft an intervention description; (2) exploring the readability, comprehensibility and utility of the materials with staff unfamiliar with Namaste Care; (3) using a modified nominal group techniques with people with Namaste Care experience to refine and prioritise the intervention implementation materials; and (4) final refinement with the study’s patient and public involvement panel. This led to production of a 16-page A4 booklet. The booklet included the use of flow charts, graphics and colour-coded information supported by infographics, and a training package.

Therefore, we propose undertaking a feasibility cluster controlled randomised trial in a nursing care home context between 1 January 2018 to 31 March 2019.

**Aims and objectives**

The primary objective of this feasibility study is to ascertain the feasibility of conducting a full trial of the Namaste Care intervention.

The feasibility issues associated with the research design and data collection processes to enable the design of a full trial to determine the efficacy of Namaste Care are:

a. To understand how best to sample and recruit nursing homes into a cluster randomised controlled trial of Namaste Care.

b. To determine the most appropriate selection, timing and administration of primary and secondary outcome measures for a full cluster randomised controlled trial of Namaste Care against criteria of bias minimisation, burden and acceptability.

c. To establish recruitment, retention and attrition rates at the level of the nursing home and individual resident, informal carer and nursing home staff.

d. To establish the willingness of a large number of nursing homes representing the range of nursing homes, with respect to provider type, size, resident care needs, to participate in a full trial.

e. To assess the acceptability, fidelity and sustainability of the Namaste Care intervention.

Secondary objectives include resident levels of sleep/activity, neuropsychiatric symptoms and pain, informal carer satisfaction with care at the end-of-life staff care giving experiences and satisfaction with care in end-of-life care. Health economic and healthcare resource use will also be assessed.

**METHODS AND ANALYSIS**

**Trial design**

A feasibility study consisting of a parallel, two-arm, multi-centre cluster controlled randomised trial design with an embedded process evaluation is to be conducted. The clustering will take place at the nursing care home level. The Namaste Care programme in the intervention arm
will be compared with the standard programme of care used in the control homes.

**Study population**

**Nursing care homes**

Eight nursing care homes based in the northwest of England already using a recognised palliative care programme (e.g., Gold Standards Framework for Care Homes, Six Steps to Success or equivalent) will be recruited into the study. Two nursing care homes will be allocated to the control arm while six nursing care homes will be allocated to the intervention arm. To meet the eligibility criteria, the nursing care home needs to have

1. At least 30 beds.
2. Two residents eligible to join the study.
3. The space to run the Namaste Care programme.
4. A manager or a nominated person to act as the principal investigator.

A nursing care home will not be eligible to join the study if they

1. Are subject to (CQC) enforcement notices.
2. Have already introduced Namaste Care to their nursing care home.
3. Are involved in another research study that conflicts with Namaste Care.
4. Are involved in another research study that conflicts with this study.

**Individual participants**

Residents: To meet the resident eligibility criteria, a resident has to

1. Be a permanent resident living in the participating nursing care home.
2. Have formal assessment of advanced dementia based on the FAST score of 6–7 made by the nursing care home manager or another experienced member of staff.
3. Have a key worker member of staff willing to complete outcome tools.
4. Agree to participate in the study.

A resident will be ineligible to participate in the study if they

1. Are subject to (CQC) enforcement notices.
2. Are involved in another research study that conflicts with Namaste Care.
3. Are permanently bedbound.

**Sample size and selection**

As the aim of this study is to establish feasibility of a full trial, a formal sample size calculation was not carried out. A sample size of eight nursing homes (six interventions and two controls) has been selected as it offers a reasonable test of the intervention to assess the feasibility objectives. There have been a range in the sample sizes used in feasibility studies in nursing homes ranging from 2 to 14. Eligible nursing care homes will be identified through online resources such as the ENRICH database. Following the initial identification, contact will be made with managers of the nursing care home to discuss the study and confirm the eligibility of the nursing care home. Consent for the homes will be assumed when the manager of the facility signs a contract drawn up by the sponsor, Lancaster University.

**Randomisation**

The randomisation of participating nursing care homes to either the intervention arm or the control arm will be undertaken by statisticians from the Clinical Trials Research Centre (CTRC) at the University of Liverpool. The randomisation of participating nursing care homes will be undertaken by the principal investigator and the senior care team at each nursing care home. Consent for the eligible residents will be sought from a personal consultee of the resident in the first instance. If a person consultee does not reply within month of been given the invitation...
Figure 1  Flow diagram outlining the process of the study.
The Namaste Care programme.

Resource materials have been developed which provide

The Namaste Care sessions should be undertaken in

1–9). The Namaste Care sessions should be undertaken in a group setting.

Food and drink should be offered to the residents.

A minimum of two nursing home staff members or volunteers should be present to run the Namaste Care sessions.

The duration and frequency of Namaste Care delivery as proposed by its originator (2 hours a day, twice a day, 7 days a week) will be promoted.

Namaste Care champions will be appointed in each nursing care home in the intervention arm. At least two care staff (registered nurses, care assistants or activity coordinators) will attend a 1-day workshop about Namaste Care, led by an experienced external facilitator. A follow-up training session will be held at each nursing care home to train more staff and provide advice on preparing the Namaste space.

Prior to the commencement of enrolment, Namaste Care champions (eligible nursing care homes will be identified in the intervention arm) will be appointed in each nursing care home. The Namaste Care champion will be invited to a training day for guidance on Namaste Care intervention, held at a site away from nursing care homes and undertaken by members of the research team and an external trainer. A follow-up training session will be held at each nursing care home.

**Control arm**

The care home manager of nursing care homes allocated to the control arm will be asked to continue delivering the usual care programme used in their facility.

Training on the Namaste Care programme will be available to the nursing care homes in the control arm after the study has been completed.

**Intervention**

The intervention is a programme of care (Namaste Care), delivered in the intervention care homes by care staff working in the facility. The following description uses the TIDieR guidelines for intervention description (items 1–9).29

Namaste Care seeks to give comfort and pleasure to people with advanced dementia through engagement, meaningful and creative activities as well as sensory stimulation to reflect the resident’s ‘life story’.24 Supporting resource materials have been developed which provide the following guidance regarding the implementation of Namaste Care programme.

- The Namaste Care sessions should be undertaken within a designated space in the nursing home. This space could be within another room or a room which is used for other purposes.
- The environment of the designated space must be made ‘special’ and should enable a feeling of calm that is welcoming and homely, with natural or slightly dimmed lighting, perhaps attractive scents, such as lavender from an aromatherapy diffuser, and with soft music playing.

Outcome measures to be used are listed in tables 1–4 and presented based on respondent type, that is, measures for residents (table 1), informal carers (table 2), staff (table 3) and at the level of the nursing care home (table 4). At the start of the study, descriptive data will be collected for all participating nursing care homes such as ownership and funding model, size, staffing, case mix, staff turnover, staff sickness/absence and geographical location. An interview with the nursing care home manager will also be conducted to ascertain the organisation’s readiness for change.

**Outcome and study measures**

We consider two contender primary outcomes for a full trial: (1) quality of dying (dementia) (CAD-EOLD) and (2) quality of life (QUALID) (tables 1–4).30 31

The secondary outcome measures in this trial (table 1) will measure person centeredness, symptom presence, agitation, quality of life, resource use and costs; and sleep and activity using actigraphy.32–37 Semistructured interviews with staff and informal carers will assess perceptions of Namaste Care or usual care, assessment of the fidelity, acceptability and appropriateness of Namaste Care or of usual care.


In this study, the outcome measures and process evaluation data will be gathered via five different methods:

1. **Questionnaires**: The nursing home staff participant group and the informal carer participant group will be asked to complete written questionnaires at timepoints

<table>
<thead>
<tr>
<th>Data collected and tool used</th>
<th>Pre-intervention</th>
<th>Monthly</th>
<th>At 6 months or death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-demographics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, gender, ethnicity, existing medical conditions, stage of dementia on Functional Assessment of Staging of Alzheimer’s Disease score</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Quality of dying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure to assess quality of death using CAD-EOLD (Comfort Assessment in Dying with Dementia)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Quality of life of the person with dementia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQ-5D-5L self-rated health index and visual analogue scale of current health state</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Neuropsychiatric Inventory (Neuropsychiatric Inventory—Questionnaire)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure to assess psychiatric state of resident using NPI-Q</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure to assess level of pain using PAIN-AD</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Quality of life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQ-5D-5L</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ICECAP Supportive Care Measure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health economic measure using ICEPCAP-SCM</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ICECAP-O measure (CEpop CAPability measure for Older people)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health economic measure using ICEPCAP-O</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cohen-Mansfield Agitation Inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure to assess resident agitation</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ICECAP Supportive Care Measure using Think Aloud</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health economic measure using ICEPCAP-SCM using Think Aloud</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ICECAP-O measure using Think Aloud</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health economic measure using ICECAP-O using Think Aloud</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Table 2** Summary of informal carer data collected, as assessed by informal carers, outcome measures and time schedule

<table>
<thead>
<tr>
<th>Data collected and tool used</th>
<th>Baseline</th>
<th>At 1 month</th>
<th>At 6 months or death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-demographics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, gender, ethnicity, existing medical conditions</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service use in the prior month</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client Service Receipt Inventory Calculates service and total care costs</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Quality of life of the carer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQ-5D-5L</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Satisfaction with care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWC-EOLD (Satisfaction with Care at the End-of-Life in Dementia)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ICECAP Close Person Measure of health economic evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health economic evaluation using ICECAP-CPM</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ICECAP Close Person Measure of health economic evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health economic evaluation using ICECAP-CPM completing using Think Aloud</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
outlined in tables 1–3. The questionnaires for the resident participant group will be proxy completed by nursing care home staff who are key workers for the participating residents. Note the time frame for baseline varies depending on the participant group. Data on nursing home level data about engagement with health and social care services will be collected using standardised data collection forms (table 4).

2. Objective measures: The participating residents will be asked to wear an actigraph watch-like device for 28 days from the baseline visit. This actigraph will be placed on the wrist or ankle of the resident and will be used to continuously measure sleep and activity.

3. Interviews: Semi structured interviews will be undertaken at the baseline with the nursing home manager and at the end of the data collection period with family carers and care staff.

4. Observations of the residents will be undertaken intermittently during the delivery of the care programme and during the delivery of usual care in the control sites.

5. Data logs will be completed in the intervention sites using a proforma to record intervention delivery.

Feasibility work for economic evaluation

The use of a number of potential outcome measures will be explored in terms of feasibility and acceptability of proxy completion with the particular population, evaluated through the Think Aloud technique. The chosen measures are included in the National Institute for Health and Care Excellence-recommended measures for health and social care: EQ-5D-5L (five items), the ICECAP-O (five items) and the ICECAP-Supportive Care Measure (ICECAP-SCM) (seven items).38–40 A Think Aloud technique will also be used with the ICECAP-O, ICECAP-SCM and ICECAP-CPM tools for a proportion of participants at 2, 4 and 24 weeks, to obtain 20–30 Think Aloud interviews across a range of timepoints.41 This Think Aloud

Table 3  Summary of staff data collected as assessed by care home staff: outcome measures and time schedule

<table>
<thead>
<tr>
<th>Data collected and tool used</th>
<th>Preintervention</th>
<th>6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff socio-demographics</td>
<td>Age, gender, ethnicity</td>
<td>X</td>
</tr>
<tr>
<td>Staff characteristics</td>
<td>Highest qualification, role in care home, length of service</td>
<td>X</td>
</tr>
<tr>
<td>Organisational support for person-centred care</td>
<td>The Person-Centred Care Assessment Tool</td>
<td>X</td>
</tr>
<tr>
<td>Organisational support for readiness for change</td>
<td>The Alberta Context Tool Questionnaire</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4  Summary of nursing care home level data collected, outcome measures, time schedule and the type of person assessing the outcome measure

<table>
<thead>
<tr>
<th>Data collected and tool used</th>
<th>Pre intervention</th>
<th>Monthly</th>
<th>At 6 months only</th>
<th>Postintervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care home occupancy level</td>
<td>Number of available beds to new residents</td>
<td>S</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Cost of living in the care home</td>
<td>Fees to live in the care home</td>
<td>S</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Contributions from local government</td>
<td>Fees paid by the local government for each resident</td>
<td>S</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Staffing levels</td>
<td>Number and type of staff</td>
<td>S</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Number of GP practices the care home works with</td>
<td>Number of GP practices the care home works with</td>
<td>S</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Number of GPs the care home works with</td>
<td>Number of GPs the care home works with</td>
<td>S</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Level of need of residents in the care home</td>
<td>Amount of support each resident needs</td>
<td>S</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Staff turnover and sickness levels</td>
<td>Number of staff in the care home and monthly sickness record</td>
<td>S</td>
<td>S</td>
<td>–</td>
</tr>
<tr>
<td>Ambulances and hospital use</td>
<td>Number and length of hospital admissions (days), A&amp;E attendances and readmissions</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Number of hospital admissions</td>
<td>Respiratory infections, urinary tract infections, dehydration, congestive heart failure?</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Out of hours GP contacts</td>
<td>GP visits or telephone contact</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
</tbody>
</table>

Measure assessed by S: care home staff; R: researcher.
To assess carers’ perceptions of Namaste Care (intervention arm) or carers’ perceptions of the effectiveness of usual care (control arm)

Staff members’ perceptions of Namaste Care (intervention arm) or perceptions of the effectiveness of usual care (control arm)

To assess the fidelity, acceptability and appropriateness of Namaste Care (intervention arm) or assess effectiveness of usual care (control arm)

To assess the fidelity, acceptability and appropriateness of the Namaste Care (intervention arm)

Interviews conducted by the researcher

Interviews conducted by the researcher

Observations conducted by the researcher

Data log completed by the staff delivering the Namaste Care session

Approximately 16–24 weeks after the first resident is recruited at the nursing home (If a resident dies during the trial then the informal carer will be approached at least 8 weeks after the resident’s death)

Approximately 24 weeks after the first resident is recruited at the nursing home

Approximately 2, 4 and 24 weeks after the start of the intervention for nursing homes in the intervention arm

Approximately 2 and 4 weeks after the first resident is recruited for nursing homes in the control arm

Throughout the intervention

The process evaluation elements of the study (Table 5) will address staff members’ perceptions of Namaste Care (intervention arm) or perceptions of the effectiveness of usual care (control arm) using interviews approximately 24 weeks after the first resident is recruited at the nursing home. Family carers’ perceptions of Namaste Care (intervention arm) or carers’ perceptions of the effectiveness of usual care (control arm) will be ascertained using interviews between 16–24 weeks after the first resident is recruited at the nursing home.

To assess the fidelity, acceptability and appropriateness of Namaste Care (intervention arm) or assess effectiveness of usual care (control arm) observation will be conducted at approximately 2, 4 and 24 weeks after the start of the intervention for nursing homes in the intervention arm and approximately 2 and 4 weeks in the control arm.

A data log will be completed by the staff delivering the Namaste Care session throughout the intervention delivery.

Data management

Data management is provided by the CTRC at the University of Liverpool. Paper-based case report forms will be written to record data in a consistent way and ensure anonymisation of the data. Data stored at the CTRC will be checked for missing or unusual values (range checks) and checked for consistency within participants over time. Any suspect data will be returned to the site in the form of data queries. Data query forms will be produced at the CTRC from the trial database and sent either electronically or through the post to a named individual (as listed on the site delegation log). Sites will respond to the queries providing an explanation/resolution to the discrepancies and return the data query forms to CTRC. The forms will then be filed along with the appropriate data collection forms and the appropriate corrections made on the database. The process of database lock, unlock and closure will be followed according to the CTRC policy.

Data analysis plan

Three types of data will be analysed: quantitative data from surveys and the actigraphs, qualitative data from interviews and economic data.

Quantitative analysis

Outcomes at baseline and follow-up will be summarised using descriptive statistics and will be used to make a decision on undertaking a full trial. Analysis of the outcome data will focus on recruitment, response and completion rates, and missing data. Reasons for non-consent and missing outcome data will be reported. Estimates of SD and proxy agreement will be determined, and construct validity estimated intraclass correlation coefficient will be made.

The sleep/activity data from the actigraph will be analysed using summary statistics for the sleep analysis data (sleep/wake ratios, total sleep time, sleep efficiency, wake after sleep onset and total activity); participant’s rhythm fragmentation and synchronisation will be estimated via intradaily variability (IV) and interdaily stability (IS). The actigraph will be used to ascertain the feasibility of using this outcome measure to collect data in a full trial.
Qualitative analysis
Semistructured interviews will be audio-recorded, transcribed and anonymised. Framework analysis will be used in the analysis of qualitative data, with data collection, management and analysis rigorously conducted to enable reporting against COREQ guidelines. Group/individual interviews and observation sessions will be digitally audio-recorded and fully transcribed. NVivo will be used to facilitate data management and analysis as this supports framework analysis techniques.

Analysis of economic data
Economic assessments of relevant outcome measures will combine qualitative assessments of feasibility of use for the outcome measures gained through the think aloud techniques and more quantitative assessments of agreement between proxies, and assessments of construct validity for the measures.44 Response and completion rates will be assessed. Constant comparative analytical methods will be used to provide a more in-depth assessment of both the questionnaire completion and respondents’ perceptions of the measures in the Think Aloud interviews.

Unit cost information will be generated using bottom-up costing for the Namaste intervention itself, ensuring that a cost for the intervention will be available in a full trial. Other sources of unit cost information will be identified and collated for use in a future full trial and will be applied to the collected resource use data to enable the preliminary assessment of costs and benefits, and the main cost drivers for a full evaluation. All data will be costed using unit cost data in pounds sterling, and from a single year, as close as possible to the end of the feasibility study.

Public and patient involvement (PPI)
Two carer representatives from the Alzheimer’s Society Research Network UK were co-applicants as part of the core study/trial management group. They will be present at all project teleconferences and meetings. A Public Involvement Panel will be established in the north west of England. This will comprise of six to eight members, co-chaired by the PPI co-applicants. The members have personal experience of family members living with dementia in care homes. The panel members will work alongside the research team to assist in different areas of research including reviewing participant information sheets and other documentation, five face-to-face meetings are proposed during the study, and communication between meetings will be by regular updates. There will also be PPI representation on the research advisory group and Trial Steering Committee (TSC).

Monitoring and trial management
For this research population there is a relatively high risk of death, hospitalisation or progression of disease for participants during the course of the study but which are not anticipated to be related to the receipt of the intervention. This level and type of risk will be treated as an acceptable risk for the purposes of the study and will not constitute adverse events or serious adverse events unless concern is raised by anyone associated with the study that these events could be directly related to participation in this study.

The Trial Management Group is responsible for (1) protocol completion, (2) obtaining ethical approval for phases I and II, (3) obtaining ethical approval for phase III plus nursing home approval process; (4) appointing and facilitating the TSC; and (5) working with the dissemination partners. The group will meet for a ‘kick off’ meeting face to face at the start of the project. Thereafter there will be monthly teleconferences and twice yearly face-to-face meetings. The TSC, with an independent chair, will provide overall supervision of the trial including trial progress and participant safety. Membership will be drawn from experts in health services research, nursing home research and PPI. They will meet prior to the start of the trial phase and then twice during the second year of the project. The TSC will have the role of a traditional Data Monitoring Committee as this a feasibility study with a low-risk intervention. A TSC charter based on the guidelines published by the National Institute for Health Research (NIHR) will be used to identify the remit of the TSC. An International Advisory Group will also be established to provide external expert advice on the overall progress of the study. There is a data management plan (held by the sponsor) which outlines data storage periods and future access to data.

DISCUSSION
This protocol describes the Namaste Care programme for residents with advanced dementia who are living in nursing care homes. The Namaste Care programme is a multisensory care programme conducted on a daily basis in a group setting. This study will provide information on implementation, cost and acceptability of a defined intervention. In addition, this study will provide information on usefulness, practicality and acceptability of the selected outcome measures and processes used in this study. In conclusion, the findings of this study will inform future research on the Namaste Care programme in nursing care homes.

ETHICS AND DISSEMINATION
The study has been approved by the Wales Research Ethics Committee 5 (ref: 17/WA/0378; V.04. 9 February 2018). As resident’s eligible for the study will lack capacity to consent, consent for residents will be taken from either a personal consultee or a nominated consultee following the Mental Capacity Act (2005) guidance.28 45 A procedure for reporting issues of concern in the care setting has been written.

The following dissemination channels will be used: a project website (http://www.namastetrial.org.uk), a leaflet summarising the study, summaries of findings, publications/articles for general as well as scientific media and social media such as Twitter (@NamasteResearch).
All publications will follow the relevant reporting guidelines for reviews and trials.16

**Twitter** @NamasteResearch

**Contributors** KF, GPA, FB, GB, JC, CG, JK, NJP and CW were involved in the conception and design of the trial. SP and KF were involved in the drafting of the article. GPA, FB, GB, JC, LD, CG, BH, JK, NJP and CW were involved in critical revision of the article for important intellectual content. All authors were involved in the final approval of the manuscript.

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