**Research Title:** MindArt Stage 2: Pilot testing of a dual group programme based on meditative and fine motor qualities of drawing for people with dementia and their care partners

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## **Rationale for Research:**

Dementia is a neurodegenerative disorder associated with high levels of disability, dependency and carer stress. Non-pharmacological interventions for dementia can potentially improve cognitive and psychosocial functioning without little if any adverse effects. A significant proportion of people with dementia are cared for by their family, which is often their spouse or one of their children. Dementia is often associated with behavioural and psychological symptoms (e.g. apathy, depression, agitation, restlessness) which are major stressors for caregivers and can lead to carer stress (Pancrazi, 2002). They can also increase the risk of caregivers developing both physical and emotional problems, including anxiety and depression (Peretti & Villars, 2015). There is therefore an urgent need to develop effective programs that can simultaneously target behavioural and psychological symptoms of dementia and caregiver stress.

Non-pharmacological interventions such as mindfulness meditation may help to improve behavioural and psychological symptoms of dementia (Sperduti et al., 2017). Mindfulness has also demonstrated conceptual and empirical utility in studies of psychological well-being, physical health, work and sport, and interpersonal relationships (Brown and Ryan, 2003). Mindfulness-based intervention (MBI), according to Kabat-Zinn, is defined as "a special way of paying attention to the experiences internal and external: deliberately, in the present moment and without value judgment”. The practice of mindfulness can result in a lower tendency to feel and perceive life events as stressful, fewer avoidance strategies and improved anxiety level (Weinstein et al., 2009).

The interest of combining MBI with drawing activities is based on the assumption that unlike verbal abilities, motor skills are often preserved in the early stages of dementia. By focusing on relatively preserved abilities, we could expect an improvement in the level of verbal and non-verbal communication by giving the person with dementia an opportunity to express themselves through a medium other than that of the verbal communication. According to the literature, "art therapy" has an emotional and behavioural effect by improving well-being and mood through the personalization of care, as well as improving self-esteem.

Our research team has developed MindArt, a new group programme of drawing sessions that combine the principles of maintaining fine motor skills with the meditative qualities of drawing on paper and digital tablets. MindArt was specifically designed for people with dementia and their care partners. It comprises of eight weekly 90-minutes sessions. The programme was user-tested (and subsequently modified) with a group of eight care partners of people with dementia between July and September 2019. We are now ready to pilot test this dual care programme with a group of people with dementia and their care partners.

Our first hypothesis is that MindArt will improve the quality of life and psychological well-being of people with dementia, which is consistent with the notion of living well with dementia. Our second hypothesis is that MindArt will reduce carer stress and improve the quality of life and psychological well-being of care partners.

**Study Objectives:**

The first objective of this pilot study is to examine the feasibility and acceptability of MindArt. The second objective is to measure pre- and post-intervention outcomes, which can be used to inform the design of an adequately powered trial to test our hypotheses.

**Research Design and Methods:**

Setting and participants

Eight pairs of people with dementia and their care partners will be recruited by staff at Dementia Wellington. They will invite their clients who fulfil the inclusion and exclusion criteria to join this study.

*Person with dementia:*

1. Inclusion criteria
* A diagnosis of Alzheimer’s disease or related dementia
* Age: 60 years or older
* A mini-mental state examination (MMSE) score between 16 and 26 out of 30
* A relatively intact visuospatial function as determined by a score of 13 or above out of 16 on the Addenbrooke’s Cognitive Examination (version III) visuospatial subscale.
* No significant hearing or visual impairment
* Capacity to provide informed consent
1. Exclusion criteria (for the person with dementia)
* Care partner not available for the group programme
* Physically unable to attend the group programme
* Physical disability that affect participation in drawing and/or using a tablet.

*Care Partner:*

1. Inclusion criteria
* At least once weekly contact with the person with dementia
* Provide informed consent
1. Exclusion criteria
* Not available or physically able to attend the group programme
* Physical disability that affect participation in drawing and/or using a tablet.

Basic sociodemographic data (age, gender, ethnicity, education, occupation, relationship) will be obtained from the study participants.

MindArt: A dual group programme based on meditative and fine motor qualities of drawing

MindArt will be delivered to people with dementia and their care partners separately. The two groups will meet in parallel for eight weekly 90-minutes sessions. The groups will be delivered by Emma Febvre-Richards will facilitate the group with people with dementia. Emma Fromings will facilitate the care partner group. Details of the eight sessions are described in Appendix I.

Each of the eight sessions will be combined with one digital drawing activity. The drawing activities are aimed to engage the senses (touch, feel, hear, see and taste) while keeping a link with nature. For example, listen to the sound of waves or rain falling, the smell of trees in the forest, flowers, or touch with his fingers a piece of wood or herbs before going to drawing. The digital drawing applications (available on a tablet) are intended for people with dementia and their care partners to use in between sessions.

The group sessions will be audio-recorded. The research team will listen to the audio recording and reflect on the session structure, content and process. Modification of the manual (Appendix 1) may be required for future testing of the MindArt programme.

Feasibility and acceptability evaluation:

The feasibility and acceptability of the study will be assessed by the presence of study participants at each session and by a self-reported questionnaire (Appendix 2) previously used in a similar study (Windle et al, 2018). At the completion of the programme, the experience of study participants will be explore in their respective group:

1. What worked well?
2. What did not work well?
3. How to improve the programme?

Other specific questions:

1. How would you describe MindArt to others
2. Describe YOUR OWN experience of MindArt
3. What benefit if any, do you see in in MindArt and why?

This feedback session will be recorded on a digital voice recorder for further analysis by the research team.

Outcome Measures

A research assistant will collect outcome measures at two time points: pre- and post- intervention. These outcome measures are selected to allow some comparison with a similar trial undertaken at L’Institut Claude Pompidou, Nice, France.

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| --- | --- | --- |
|  | **Person with dementia** | **Care partner** |
| Mini-mental state examination | X |  |
| Addenbrooke’s Cognitive Examination (III) | X |  |
| Rosenberg self-esteem scale | X | X |
| State-Trait Anxiety Inventory  | X | X |
| Quality of life Alzheimer’s disease Scale  | X | X |
| Quality of the carer-patient relationship | X | X |
| Zarit Burden Interview |  | X |
| Connor-Davidson Resilience Scale (10-items) |  | X |

Statistical analysis

We will obtain information on the outcome measures in terms of their scores range, improvement in scores and variability in the scores.

**References**

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