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TITLE: Dog-assisted interventions in care homes: A qualitative exploration of the nature, meaning, and impact of interactions for older people.

ABSTRACT

Dog-assisted interventions (DAI) have been shown to have a wide-range of potential benefits for older adults living in care homes. Yet, there is a lack of published qualitative research which explores the experiences of care home residents, staff, and dog-owner volunteers involved in DAI to fully understand its meaning, impact, and value. This study aimed to explore the impact of a DAI on the social and emotional wellbeing of older residents living in care homes. The research employed a qualitative study design comprising overt, naturalistic researcher observation of weekly DAI sessions with 54 older adult residents across four participating care homes in the South East region of England over 3 months in 2018. Data was also collected through focus groups with 12 care home staff and 7 dog-owner volunteers. The data from the observations and focus groups was individually coded followed by thematic analysis across the three data sources. Findings demonstrated there were clear benefits for older people who engaged with DAI, as well as for dog-owners and to some extent for care home staff members. Benefits included sensory, emotional stimulation and opportunities for social interaction, reminiscence on early life experiences and these were supported by the development of some new social relationships. Whilst there were some environmental challenges to implementing DAI, the findings confirm its value for care home residents, with minimal drawbacks from an organizational standpoint. As a low cost intervention, adoption of DAI in care home settings appeared to strengthen relationships between residents and staff and enable wider relationships with an external community resource.

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Keywords: Dog assisted intervention; Care homes; Older people; participant observation.

What is known about this topic

- Animal-assisted intervention in care settings have been shown to have a wide range of benefits on wellbeing
- Previous research shows that dog-assisted intervention focuses almost exclusively on quantitatively evaluated impacts, often using a single outcome to measure changes over time or between groups.

What this paper adds

- Additional insights into the perceived effects of dog-assisted interventions in care settings from the perspective of its different stakeholders, older people, dog-owners and care home staff
- The value of dog-assisted interventions on older people's opportunities for emotional and social relationships.
- Highlights some of the environmental and challenges to measuring wellbeing in care homes using animal-assisted therapy.

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INTRODUCTION

Over 400,000 people aged 65 years and over currently live in care homes in the UK (Care Quality Commission, 2018). This population have an increased risk of social isolation, loneliness, and depression (Stewart et al., 2014; Victor, 2012). The impact of long-term conditions, multi-morbidities, and reduced opportunities for social contact in care home environments contribute to a complex range of needs requiring a comprehensive holistic approach with contributions from a range of professionals and community support (Gordon et al, 2014; World Health Organization, 2015). Innovations that foster person and community-centered ways of working, support social and emotional wellbeing of older people living in care homes and promote inclusive use of community resources and external partnerships, are highly desirable (Charles & Carstensen, 2010; Waite LJ, 2018).

Studies of Animal-assisted intervention (AAI) in care settings have reported a wide range of benefits on wellbeing (Bernabei et al., 2013; Jain et al, 2020) such as improving psychosocial and physiological functioning (Allen, Blascovich, & Mendes, 2002), and reduction in levels of stress, depression, and compassion fatigue among carers (Coleman, 2016). Yet, few studies on AAI to date have attempted to understand the experience and meaning of the animal-human interaction for older residents living in care homes (Pitheckoff, McLaughlin, & de Medeiros, 2018), particularly for people with dementia (Peluso et al., 2018). Two-thirds of older residents in care homes have some form of dementia (Prince, 2014).

Dog-assisted intervention (DAI) is one of the most common forms of AAI and is the focus of this study. A recent systematic review and meta-analysis identified over 40 research studies examining the impact of DAI on older people living in care homes (Jain et al 2020). This

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review showed that existing research focuses almost exclusively on quantitatively evaluated impacts, often using a single outcome to measure changes over time or between groups.

Only four studies used qualitative methods to provide a more holistic approach to understanding the experience and impact of DAI for older people in care homes (Coleman, 2016; Gundersen & Johannessen, 2018; McCullough, 2014; Swall, Ebbeskog, Lundh Hagelin, & Fagerberg, 2015).

This study sought to address these identified gaps by exploring the experiences of residents and other key stakeholder perspectives such as care home staff, and dog-owner volunteers through the following research questions:

- (1) What are the observed immediate impacts and perceived benefits or adverse effects of DAI programme on care home resident's overall wellbeing?
- (2) What can we learn from the different experiences of residents, staff, volunteers, and their dogs who participate in a DAI programme?

METHOD

Study design

Qualitative methods in a 3-month fieldwork study period comprised direct researcher observation of DAI with residents and post-intervention focus groups with care home staff and dog-owner volunteers, and a brief questionnaire to capture the views of residents themselves.

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Research team and reflexivity

The research team comprised two full time researchers experienced in health and social care and ageing research, two research assistants with social work practice experience and two older experienced peer-researchers trained in qualitative research with older people.

The involvement of people with varied expertise in the research team with knowledge of care homes and experience of working with people living with dementia, served to enrich communication between staff, residents, and family members (Willis et al., 2018). The team trained together to ensure common understanding on ethical procedures, to practice observational methods with each other and to agree standard recording techniques and later in the project, how to analyse data by following an agreed protocol. As a research group, we met prior and throughout the process at regular planned intervals, to guide and provide support and to resolve any challenges or problems that arose. Researchers worked in pairs to collect observational data collection on DAI to minimize subjectivity. Each observer recorded his or her own separate data, which was cross-referenced during data analysis.

Setting

This study was based on a single DAI programme operated by a mid-sized animal welfare organisation at four participating care homes in the South-East of England. Site selection of care homes drew on established relationships between the animal welfare organisation and the care providers, its geographical location, and the care providers' willingness to be involved in the DAI programme.

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Participant selection

All residents were invited at each care home to participate in the research regardless of their physical or cognitive abilities. Informed consent was sought through a multi-staged process to accommodate the varying degrees of cognitive awareness and mental capacity among potential participants. Ethical approval was provided by Middlesex University, Research Ethics Committee. Staff in the care home were invited to participate in focus groups by their respective management team. Dog-owner volunteers were invited to participate by the animal welfare organisation sponsoring the research. All potential participants provided informed written consent.

Data collection

Non-participatory researcher conducted observation over a 12-week period in each of the four care homes. Dog-owner volunteers and their dog were assigned to one of the four care homes and visited the same home each week. Each week 1-2 members of the research team attended the care homes for approximately 90 minutes when the volunteer and their dog visited residents in a group setting or one-on-one. The dog-owner volunteer offered one-to-one interventions to residents who for health or personal reasons needed to remain in their own private space. The number of residents observed at any one time ranged from 11-15. The researcher took field notes using a semi-structured observation guide adapted from the Social Behaviour Observation Checklist (Sellers, 2006) and the Animal Assisted Therapy Flow Sheet (Richeson, 2003). This prompted the researchers to look for and record instances of residents exhibiting certain behaviours, including smiling/laughing, looking at dog or dog-handler, talking to dog or dog-handler, touching dog, engaging in activity with dog,

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reminiscing about own or other dogs. To ensure rigour, the team met at regular intervals to debrief, with the lead researcher.

Small focus groups with care home staff (n=12) were conducted comprising four separate groups each lasting approximately 30-40 minutes in duration. A single two-hour focus group with dog-owner volunteers (n=7) were conducted. A broad topic guide was used which was developed by the research team to address the research questions. This focused on specific questions about their observations and perspectives on the impact of the DAI programme on each resident's overall wellbeing; benefits and adverse effects of the DAI programme for both residents and care home staff and management. The discussion was audio-recorded and transcribed for data analysis.

At the end of the 12 week observation period, all participating residents (n=54) were administered a brief questionnaire of 5-point Likert scale questions (Phelps, Miltenberger, Jens, & Wadeson, 2008) to assess their level of participation and satisfaction with the weekly DAI sessions (n=41, 76% completed). Members of the research team or care staff who read out the questions to the residents and recorded their responses assisted residents, who were not able to complete the handwritten questionnaires.

Data analyses

An inductive approach was taken to data analyses. Two hundred and thirty-eight pages of observational data from thirty-six sessions of observation (totalling 54 hours of data collection) were analysed manually by six members of the research team. The process involved two people individually reading each observation record overall to get a sense of the intervention and noting any common themes about the environment in which the

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intervention took place: who was there, the process of the intervention and main actions that took place. They made immediate notes about the overall themes and any differences or contradictions in the data. This was followed by a process of labelling and coding of meaningful data (Adu, 2019). Individuals then compared notes, then grouped and collated coded data and interpretation in order to identify and represent a broader theme or emerging idea. The final stage involved working together to agree summative codes and tracking these back through direct examples from the text. Focus group data was subject to a similar process. The digitally recorded content was coded for description, interpretation and sense making of what the key stakeholders said about dog therapy interventions. The final stage involved collating and discussing the three different sources of data in a team meeting to achieve consensus on major and minor themes across the three data sets. Figures 1 and Figures 2 provide a visual representation of the themes and relationships identified across the three data sets.

Figure 1: Mapping of relationships involved in DAI

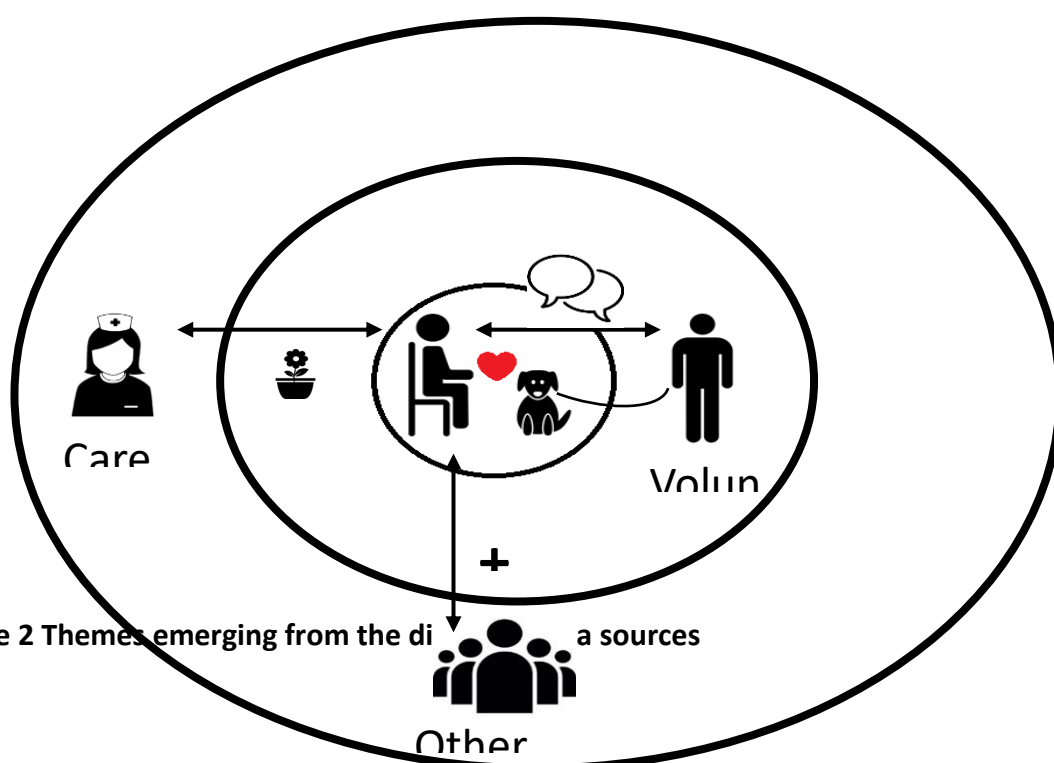


Figure 2 Themes emerging from the di a sources

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Themes about impact on the resident

- Sensory and emotional stimulation



FINDINGS

Themes about the dog

- Dog as vehicle/catalyst



Themes about the volunteer

- Compassionate nature



Themes about the care staff

- Expectations of programme



Themes about other residents and care home environment



Relationship between resident and dog

- Levels of interaction



Social interaction between resident and volunteer



Social interactions between resident and care staff



Social interactions between residents

- Positive

Tables 1 and 2 provide details on the characteristics of the participant sample.

Table 1:

Organisation	Residents/observations	Stakeholder focus groups
Care home 1	Participating residents (n=14) 8 days of observation	Staff focus group 1 (n=3) Staff focus group 2 (n=4)
Care home 2	Participating residents (n=11) 9 days of observation	
Care home 3	Participating residents (n=15) 9 days of observation	
Care home 4	Participating residents (n=14) 10 days of observation	Staff focus group 3 (n=3) Staff focus group 4 (n=2)
DAI service provider		Volunteer (Dog owner) focus group (n=7)

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Table 2: Overview of Care Home resident participants

	n=	%
Care home resident participants	54 *	
Gender		
Male	14	26%
Female	40	74%
Cognitive status		
Diagnosed with dementia	38	70%
No dementia diagnosis	16	30%
	Range	Mean
Age (years)	57-100	82
Duration of residence (months)	0.1-24.9	3.8

*approx. 11–15 per care home)

Visible and perceived impacts and benefits of DAI for older people

Themes regarding the visible impacts and benefits of DAI for residents included sensory and emotional stimulation, and reminiscence of past lives. The sensory element was particularly evident for residents with impaired vision or dementia, who would light up with a smile or laughter at the touch of the dog. The following extract from the observation notes exemplifies this:

A female resident who is visually impaired and uses a wheelchair was encouraged by the volunteer and care staff to put her hand out to touch the dog's nose. She called out in surprise 'oh it's a dog' and immediately came to life laughing saying repeatedly, 'is it really a dog'? (OBS, CH4)

With regard to emotional stimulation, researchers frequently documented changes in residents' demeanour during sessions. Some residents appeared to be in a negative or neutral emotional state at the beginning, but as they started to interact with the dog, they

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began smiling and socialising with others. Residents frequently recalled memories from their past lives, about previous pets they had owned or known, places they had lived, or people they had known. For example, one resident, often observed to be quiet and non-responsive, began interacting with the dog-owner volunteer and care-worker – discussing both her childhood growing up and her current life. This interaction was stimulated by a discussion around the type of biscuits fed to the dog. The clarity of these memories appeared dependent on residents' dementia status.

Physicality and intimate expressions was a key theme discussed during the focus group with care home staff. Descriptions were recorded of the residents' physical and emotional interactions with the dog during the visits, such as holding, stroking, kissing, and holding the lead. These positive interactions were interpreted as having a calming influence for some residents, particularly for those with sensory loss, where isolation can be a factor without assertive interaction. The physicality of the dogs' presence provided opportunities to stimulate those senses that remain:

“[Resident] is partially blind and the dog therapy is very therapeutic and overcomes some of those barriers...for example if you have like a film club, they are excluded because of their impairments. [...] But a dog is something very therapeutic and very interactive, you can touch and feel, you're using different senses and it's a living thing, it's really nice to hold something that's alive [...] It has a really powerful effect, not just on the day, but it can last hours after.” (SFG participant, CH4)

Carers observed residents expressing feelings of love, care, joy and contributing physically, verbally and emotionally through words and tactile interactions. This appeared to illicit a

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feeling that residents were flourishing from the statements made by residents on how they looked forward to interactions:

"I think it is definitely a positive part of their life. It's something to look forward to, they know [the dog] is coming, they have that joy in the moment, when he's there. They are loving him, patting him, feeding him. And it's a happy moment." (SFG participant, CH1)

Dog-owner volunteers also discussed the importance of the physical contact and sensory stimulation that DAI provided. Residents openly invited physical affection from the dog and responded to physical contact by 'lightening up'; 'opening up' and 'blossoming'. This response was identified as being particularly important for residents at increased risk of 'isolation' (e.g., those with sensory deficits or cognitive impairments). Tactile contact offered by the dogs appeared to increase residents' sense of control and 'engagement with the world', and 'feeling human'. Aligned to observation data, volunteers suggested that visits offered a point of reflection and reminiscence for residents, evoking past (usually positive) memories and creating a renewed connection to their past.

Role and meaning of the dog interactions

Themes in this area suggested that the dog's presence acted as a vehicle or catalyst for conversation, enabling social interaction that otherwise may not have occurred or been prioritised. The intuitive nature of the dogs promoted interaction or activities between people particularly for residents with advanced dementia or physical limitations who tended not to initiate contact. The dog was observed to tune in to these residents' needs by lying down beside or leaning on residents who were less mobile or interactive.

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The dog visits held different meaning for different groups of residents. While some residents did not really mind, either very if the dog came or not, the meaning of the dog and the DAI sessions were extremely important to many. These would manifest in asking when the next session would be, displaying a picture of the dog in their rooms, and strong emotional expressions of love and warmth directed towards the dog:

'Lovely dog – I love her' (OBS, CH2)

'Ahh doggy [...] you're my best friend' (OBS, CH1)

This desire for physical contact and showing unconditional love and attachment was exemplified by one disabled resident who used a wheelchair and who appeared not to interact with other residents in the room, nor with the volunteer or the care worker. However, she paid detailed attention to the dog, stroking his back constantly, and laughing aloud and smiling whenever she made eye contact with him. The dog's presence had strong visible effects on residents' emotional expressions.

Care workers also described this uplifting effect and commented on its sustainability, which led to an increased good mood in the resident for several hours after the dog had left. This made it easier to carry out routine care tasks:

"You can tell as soon as the dog comes in, you see smiles on their faces. People remembering their names, calling for [the dog], and just happiness really." (SFG participant, CH1)

These elicitations of 'happy' memories and emotions for these residents were seen as contributing to a more positive, relaxed atmosphere within the care home:

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"It brings the person back. [...] all the good moments that a person has had with a dog before in the past, those moments come back to life and it makes them feel really good and it brings their senses alive and makes them happy." (SFG participant, CH4)

Dog-owner volunteers speculated that offering 'engagement outside of the usual self' was one meaning of the dog visits for residents. That is, it creates an opportunity for residents to develop relationships with the dog and the volunteer and care about something bigger than their 'world', providing something to look forward to each week. Descriptions relating to the nature of the relationship between the residents and the dog included 'bridging'; 'connections'; 'non-judgemental'; 'easy/relaxed distraction from self, circumstance, trauma, pain' (VFG participants). They talked about the dog acting as a 'bridge' or a conduit between the inner world of the resident and the external world the dog is operating within. This trigger and anchor for communication exchange or enabling connections might otherwise be difficult. Dog-owner volunteers used expressive language to describe the nature of the interactions between dogs and residents and the impact this had on residents. This centred on descriptions such as: 'lights up'; 'joy'; the patient/client 'blossoms'; and 'giving back'. The latter refers to the positive impact and reciprocal nature of participating in the DAI programme for volunteers. Having a sense of fun and light relief in the face of some very serious personal circumstances for residents whilst temporary gave them a tool which acted as an 'ice-breaker' with residents who were initially distant. Their dog however provided a catalyst for conversations to begin in a natural, un-forced manner:

"They start talking to you and they remember their dog experiences whenever they had dogs. So it does bring memories [...] I feel like from the dementia it does bring

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quite a benefit to them. Then they start talking, the communication and interaction with humans not only with dogs is very important as well.” (VFG participant)

Social interactions and relationships facilitated and supported by DAI

The researchers observed that the nature of conversations between residents and dog-owner volunteers covered a range of topics including but not limited to: the dog and its behaviour/care; reminiscing about the resident's life and experiences and dogs they had previously owned; shared interest such as music, books, and travelling; the local community; and current affairs. Through these conversations the residents engaged in reciprocity and exchange (i.e., interactions were no longer based on simply having something done to or provided for them), and experienced a connection to the world outside their care setting. The personality of the volunteer was central to these more detailed discussions and the dynamics that followed.

According to care staff, the DAI sessions provided opportunity to expand the care relationship and for staff to get to know the resident as a person as opposed to a patient. Observational data supported this. These conversations were often reciprocal with residents and staff asking each other questions and getting to know each other as individuals rather than providers of the care-to-carer relationship where the resident is having something done or provided to them by the carer.

“By the end of the session, the room was very lively with music and conversation among staff and residents.” (OBS, CH3)

A key theme noted by care workers related to the potential offered by the dog's visit to forge relationships that are more diverse with other residents, the care staff and dog-owner

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volunteers. Residents' anticipation and recall of visits initiated new conversations between residents and care staff, and relatives and care staff. The dog became a focal point for eliciting discussion between the residents, and residents were more forthcoming in sharing their personal experiences, history and interests. The social effects of the DAI intervention were therefore reported to extend beyond DAI, helping to create a more positive, social community environment within the care home.

"You can see the effects some days after the session, they talk about it [...] it lasts longer than the session." (SFG participant, CH4)

Some reported a more positive atmosphere in this respect, bringing residents together with a purpose that had both a group and individual effect:

"They get isolated as they feel excluded, not just within the building, but in the wider community and anything that encourages them to participate in a group and interact with others and feel part of something, is really hard and this is an example of something that really works well." (SFG participant, CH4)

Carers also reported that the residents spoke to them more after the dog had left and residents also remembered the DAI appointment. They compared this to other appointments, which tended to be forgotten by residents. Without exception, the carers observed that this was important, as they, some residents were challenged and resistant to the idea of group living:

"He doesn't socialise, he very much keeps himself to himself [...] the fact that he's coming down, not spending time sort of isolated, alone, and enjoys interaction even if

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it is with the animal as opposed to other people, it will lead him to speak to other people a little about his history with animals and his life here and that interaction is something he's not getting regularly... So it's quite important for people like that."

(SFG participant, CH4)

Finally, in discussing the value of the programme, carers noted that older people's previous unique personal lives and backgrounds were not sufficiently surfaced and 'tapped into' in their day-to-day care practices. They found this reflection insightful and useful in that it supported their own greater understanding of the person-centred needs of older people.

Environmental factors and challenges experienced

Several environmental factors associated with the care home formed a theme particularly within the observational data and how these may have affected the duration or quality of the DAI with residents. This included the television frequently being on in the background, often with the volume turned up high or competing with music being played during DAI. This made it challenging sometimes for people to hear each other. On some occasions, the dog-therapy session clashed with other events (choir performance) or appointments (nail cutting) meaning the session had to be rushed or cut short, or that fewer people were able to interact with the dog on that day. Observers frequently noted that the space used for the group sessions with dogs was not set up or prepared well and that this was significant given that it was intended as a therapeutic intervention and not an ad-hoc activity.

Care staff raised concerns and considerations about safety, hygiene and authority. Not every member of staff was comfortable around dogs and therefore not mandated to participate.

Similarly, not all residents are necessarily 'dog friendly', hence establishing boundaries and a

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controlled environment was important before the intervention took place. Some staff expressed conflict between their training in strict hygiene policies whilst witnessing the interactions between dogs and residents (i.e. kissing or feeding biscuits mouth to mouth) without intervening.

“Because the organization has very strict rules and policies on health and hygiene. So for us as carers, the first thing that comes to our mind is a hygiene issue.” (SFG participant, CH1)

Dog-owner volunteers provided unique insights into the experience for the dogs participating in this programme and challenges encountered by dogs. These included the notion of “love overload”, the importance of being aware of and attending to the dogs needs to “allow them to do their best work”. Attending to other common needs of the dog included: adjusting the room temperature, providing drinking water and suitable treats, limiting the number of people present at any one time, and monitoring the dog’s mood and wellbeing for the duration of the session. The character and nature of the individual dog and their ability to engage positively with residents was a key element to the success of such programs.

Resident questionnaires

Of the 54 residents across four care homes, 41 (75.9%) completed a self-report questionnaire at the end of the 12 week observation period. The residents viewed DAI positively and used a Likert Scale rating from 1 to 5 to rate how much they enjoyed the sessions, how much they look forward to them, and how the sessions made them feel.

Table 3 shows the results from these ratings.

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Insert Table 3 about here: Residents' questionnaire

In the free comments section twelve residents (29.3%) provided positive comments on how much they enjoy the sessions and loved the dog. Seven residents (17%) requested more frequent sessions, or for sessions to be held on a different day of the week or time of day so they could attend more often and three expressed their indifference as to whether the dog visits occurred or not (7.3%).

DISCUSSION

Summary of key findings

This study comes from a relativist paradigm using interpretation of combined data from direct observation and participant feedback to address a gap in the literature (Jain et al, 2020). It revealed a number of immediate and short-term impacts of the DAI on care home resident's overall wellbeing. As a qualitative study, it specifically explored a wider range of stakeholders' perspectives and highlighted issues relating to how these engage with the concept of personhood. These focused on sensory and emotional stimulation, reminiscence of past memories, and increased frequency or quality of social interactions.

Participants with dementia and sensory impairments were among those to benefit most from the dog visits "in the moment" and experienced some of the most positive effects on emotional wellbeing. DAI provided a vehicle for reminiscence on experiences – typically related to memories about animals and pets owned. DAI fostered the development of new social relationships, confirming previous research findings on its impact on increasing social interaction (Bernstein, Friedmann, & Malaspina, 2000; Berry et al., 2012; Thodberg, Sørensen, Christensen, et al., 2016; Thodberg, Sørensen, Videbech, et al., 2016) and

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improving social functioning among care home residents (Sellers, 2006). The research team suggest that these changes in interactions further challenge the 'professional gift model' of care (Duffy, 2010) through encouraging more empowered residents. This gives emphasis on enabling residents to exercise agency where the individual is making choices around the relationship with the dog and its handler, which in turn facilitates their citizenship potential through their direct engagement with external visitors (Duffy, 2010).

Research also shows that important psychological components of personhood such as safety and comfort, inclusion, occupation and a valued identity are key to well-being (Kitwood, 1997; McCormack and McCance, 2010) and the DIA programme facilitated expression of personhood by residents in the way they shared aspects of their unique identities and circumstances.

Few studies on AAI or DAI in care homes have explored staff perceptions or dog-owner volunteers experiences of being involved with such programmes (Fossey, 2013; Gundersen & Johannessen, 2018). DAI provided a conduit to developing new social relationships and increased connection within social groups loosening boundaries that exist between carers and those they care for and offering new insights. For some residents with dementia, sensory loss, memories and emotions are unlocked and experienced with intensity through DAI, which may not usually be experienced enabling these to be spontaneously and more naturally shared with receptive volunteers, other residents, relatives and carers.

The findings support previous research that DAI are perceived by care home staff to have a range of benefits for residents, despite some practical barriers (Fossey, 2013). It may have also been beneficial for care home staff and volunteers (Gundersen & Johannessen, 2018).

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The positive impact of DAI on resident's emotional wellbeing appeared to translate to the care home environment, whereas previous research found a limited effect of DAI interventions on aspects of emotional wellbeing (Le Roux & Kemp, 2009; Thodberg, Sørensen, Christensen, et al., 2016). However, previous research has generally limited assessments to quantitative measures of a single aspect of wellbeing, such as anxiety or depression. In contrast, the detailed, multi-source qualitative approach used in the present research, allowed for a deeper investigation of the effects of the DAI intervention on emotional wellbeing, and addressed an identified gap in the literature (Jain, Syed, Hafford-Letchfield, & O'Farrell-Pearce, 2020).

From the perspective of dog-owner volunteers, DAI is a mechanism for allowing the personhood, uniqueness, and sense of identity of the individual to be maintained, particularly for people living with dementia. The success of the intervention also depended on dog-owner volunteers being fully trained, approved and supported by the organisations sponsoring DAI. Both volunteers and the organisation were able to moderate the impact on the dog and the resident and to advise accordingly to ensure that no disadvantages occur. The inclusion of the voice of the dog-owner volunteer has not been a key feature of previous qualitative research. Overall, the findings from this study suggest that dogs provide an opportunity for residents, care staff, and dog-owner volunteers to connect at an emotional level and allow expressions of affection, care and compassion.

Strengths and limitations

A major strength of this research is its comprehensiveness in using multi-source qualitative measures to assess the impact of DAI, as well as the inclusion of dog-owner volunteer and

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care home staff perspectives to address gaps in the literature on the fidelity of DAI (Jain et al., 2020). The advantages of using direct observation as a methodology lay in the opportunity to witness the effects of DAI in its natural setting with least obtrusion to those experiencing it and in close proximity to the participants.

There were limitations to this approach, firstly in the potential influence of the researchers' presence on the behaviours of the participants due to evaluation apprehension on the part of the dog handler or care home staff. These were noted during observation and discussed amongst the research team to highlight and minimize interpretation bias. Further limitations arose from the need to be flexible with the care homes, and the volunteers, in that the researchers had less control of dates and times of visits, who was present at each session, and where the sessions were held. As with any truly naturalistic observation study, there are always challenges in achieving robust and transferable findings. The research team initially introduced a pre and post intervention validated measure for residents wellbeing but due to the rapidly changing and lack of stability in the populations health and circumstances and in some care home environments, the challenges associated with implementing standard procedures for recruitment and data collection were insufficient. Regular communication with the partner organisations, internal communication and training within the research team, attempted to standardize processes as far as possible. It is important that the research addressed the direct needs of older people in care home settings. However, researchers were aware of the recruitment difficulties and the need for a flexible approach in engagement with participants and collecting data. No single approach can be appropriate requiring researchers need to be adaptable and willing to adjust to changing circumstances (Johnstone & Donaldson, 2018). As a research team, our sense was

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that some residents really enjoyed the interaction with the research team and vice versa.

The drive to improve the quality of life for care home residents requires every effort to collect high quality evidence, which may help drive changes in practice and improve care standards. The care homes and residents involved were supportive of research taking place and their involvement in its design helped to minimise disruption in the process. A copy of the project report was shared with the participating care homes by the participating animal welfare organisation providing an opportunity for them to be informed and reflect on its findings providing reciprocal learning for those involved.

Implications for practice

This research confirms the value of the DAI programme for care home residents as well as for care home staff, with minimal drawbacks from an organisational point of view. Overall, the findings support the adoption of dog-assisted interventions in care-home settings to enhance social interaction and emotional wellbeing of residents with, and without, dementia. Care homes should never be viewed as isolated communities but need to find new ways of offering person-centred care for residents that keeps them integrated in their community and vice versa (Johnstone & Donaldson, 2018).

The sensory stimulation for residents observed in this study is something that is unique to live AAI compared to alternatives such as AAI using robotic pets (Banks, Willoughby, & Banks, 2008), doll therapy including soft toys (Mitchell, McCormack & MCance, 2014, Alander, Prescott & James, 2015), and human visitors (Kaiser, Spence, McGavin, Struble, & Keilman, 2002). Observational studies of doll therapy have shown benefits in reducing behavioural and psychological symptoms for people with dementia (Mitchell & O'Donell,

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2013) and in increasing communication particularly between women and caregivers in relation to their experiences of motherhood and caregiving (Ng , Ho , Koh Tan & Chan, 2017). All three of these intervention types are successful in stimulating social interaction among residents, but that those involving live or robotic animals in addition to the human visitor are most effective (Kramer, Friedmann, & Bernstein, 2009). The authors of this research concluded that robotic AAI may provide a viable alternative to live AAI and without any of the limitations associated with using live animals (e.g. bites, infections, fear of animals etc.). However, the sensory stimulation that residents experienced in this study such as the warmth of the dog's body, the feeling of real fur, and the dog licking their fingers as residents provided treats, is unlikely to be replicated by a robotic AAI, nor is the level of positive reminiscence brought about through interactions with the live dog and its owner.

Care home managers looking to improve social interaction and emotional wellbeing for residents would benefit from engaging with DAI service providers to introduce the programme in their homes in lieu of or in addition to resident pets. Research also indicates that the value of touch enhanced by live DAI is influenced by individual experiences, cultural, gendered, historical and social norms. It is associated with attachment and emotional wellbeing throughout the life course and has individual meaning (Green, 2017). Touch in residential care is often instrumental and connected to physical or personal care needs also involving staff in emotional labour, as opposed to touch more singularly conveying social and emotional connection in friendship or familiar relationships. Touching and receiving responses from the dog provided residents and opportunity for touch outside the parameters of care and affirms the ongoing need to connect on an emotional level through the medium of touch.

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Care homes may consider having their own pet as a permanent resident to provide continuous ongoing benefits. Whilst there are no formal national guidelines for providers, West Berkshire Local Authority (Stace, 2014) have made available an example of comprehensive guidelines for providers. Having an interface between care homes and other community-based services such as animal welfare organisations that provide DAI is also one example of a low cost, high contact intervention when taking into account any resource challenges. The findings of this study demonstrate the positive impact on a range of stakeholders. It is crucial that we look at ways to bring practical, achievable and effective innovations into residential homes. The Community Circles (Social Care Institute for Excellence, 2017) is a model which can inform ways of improving people's experiences through personalised, relationship-centered support, which allows people to blossom, have a sense of ownership of their environment, be awakened and take an active and visible part of their community through having a sense of purpose. DAI is also one such example of trends towards social prescribing when thinking about the costs of adverse wellbeing in community settings. (Smith, Jimoh, Cross, Allan, Corbett, Sadler, Khondoker, Whitty, Valderas, & Fox, 2019).

With people living longer and the needs of older people intensifying within residential care, it is important to consider how research relevant to this setting can contribute to evidence of what helps to improve care, wellbeing and mental health thereby avoiding conceptions of wellbeing which might appear simplistic or limited (Higgs & Hafford-Letchfield, 2018).

Care homes themselves may struggle with balancing person-centred care with the resources allocated, and older people may have needs that do not always sit easily with care home

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organisational priorities (Gleeson, Hafford-Letchfield, Quaife, Collins, & Flynn, 2019). These considerations may also be relevant in palliative care settings and hospices.

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