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The role of pets in the support systems of community-dwelling older adults: a qualitative systematic review

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ABSTRACT

Objective: Western countries face ageing populations and increasing numbers of older adults receiving long-term care at home (home care). Approximately 50% of households in Western countries own pets, and while pets impact the health and wellbeing of their owners, most healthcare organisations do not account for the role of pets in the lives of their clients. Due to the lack of research in older adults receiving home care that own pets, this study aimed to review previous qualitative research about the role and significance of pets for older adults in general.

Method: PubMed and PsycINFO were systematically searched with variations on (MeSH) terms for older adults (mean age 65 years and older), pets, and qualitative study designs. Iterative-inductive thematic analyses were performed in ATLAS.ti.

Results: We included fifteen studies and extracted twenty-eight themes within seven categories: Relational Aspects, Reflection and Meaning, Emotional Aspects, Aspects of Caregiving, Physical Health, Social Aspects, and Bidirectional Behaviour. Older adults reported not only on positive aspects of pet ownership such as the emotional support their pets provided but also on negative aspects such as postponing personal medical treatment.

Conclusion: Older adults perceived pets as important for their health and wellbeing. This implies that care workers may be able to improve home care by accounting for the role of pets of older adults receiving home care. Based on our findings, we suggest that community healthcare organisations develop guidelines and tools for care workers to improve care at home for clients with pets.

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Pets; older adults; social support; long-term care; home care; community care; human-animal interaction

Introduction

Western countries face ageing populations and concomitant increases in the number of older adults with chronic illness (Abbing, 2016; Lipszyc et al., 2012). Currently, many older adults receiving long-term care (LTC) reside in their own homes (further addressed as older adults receiving home care) (Abbing, 2016; Lipszyc et al., 2012; Spasova et al., 2018). Over 50% of Western households own at least one pet (Bedford, 2021; FEDIAF, 2019). However, estimates of the prevalence of pet ownership in older age vary (Applebaum et al., 2020; Friedmann et al., 2020; Himsworth & Rock, 2013). Himsworth and Rock (2013) found that 27% of Canadians aged 65 years and older owned a pet, while Applebaum et al. (2020) found that in the United States, 50% of adults over the age of 70 owned a pet. There is some evidence that after the age of 70, the prevalence of pet ownership may decrease by up to 50% with each additional decade of life (Friedmann et al., 2020; Himsworth & Rock, 2013). Still, this suggests that many older adults receiving home care own pets. The term pet ownership, however, may be misleading since many pet owners consider their pets as friends or family members (Amiot et al., 2016).

The scientific literature indicates that pets provide physical, emotional, and social benefits for older adults. For instance, pets are associated with reduced depression, loneliness, and anxiety, and with improved quality of life, physical activity, and social connections (Gee et al., 2017; HAS, 2015; Hughes et al., 2020). However, the results of studies on the effects of pet ownership do not provide consistent outcomes (e.g. Mueller et al., 2018; Rodriguez et al., 2020; Winefield et al., 2008), and pet ownership can also have negative effects, such as increased risk of falls, allergies, transmission of diseases, psychological dependency, and excessive grief responses after pet bereavement (Beck & Katcher, 2003; Dowsett et al., 2020; Toray, 2004). Some qualitative studies overlooked the importance of pets in the lives of people receiving home care (Ryan & Ziebland, 2015). Taken together, research shows that pets are an important factor that needs to be considered in home care.

By accounting for the role of pets in their clients' lives, care workers may be able to improve the care process and care outcomes (Rauktis & Hoy-Gerlach, 2020; Risley-Curtiss, 2010; Toohey et al., 2017). However, community healthcare organisations rarely have guidelines that account for their clients' pets. To account for clients' pets, care workers and healthcare organisations require comprehensive information on the effects and the role of pets in clients' lives (Rauktis & Hoy-Gerlach, 2020; Risley-Curtiss, 2010; Toohey et al., 2017).

To date, several qualitative studies have been conducted on the role of pets in the lives of older adults (e.g. Cole, 2019; Enders-Slegers, 2000). These studies provide rich data and help researchers better understand the significance of pets for older

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adults. The outcomes of these studies, however, have not been reviewed so far. The aim of this qualitative systematic review was to identify important themes that reflect the significance and role of pets, from the perspective of both older adults who receive home care and those who do not. By doing so, we hope to contribute to the improvement of home care and provide a basis for the future development of guidelines and tools for community healthcare organisations.

Methods

Design and search strategy

To establish common themes on experiences of older adults living at home with their pets, we conducted a qualitative systematic review (Grant & Booth, 2009). The research group consisted of a PhD student (PR), a research assistant (ID), and experts in human-animal studies (KH and ME) and geriatric care research (DG and RL). Qualified supervisors guided the research process and reflexivity during workgroup discussions.

To develop our systematic search strategy we used the PICOS-model (EUnetHTA, 2019; Frandsen et al., 2020) with the elements Population (older adults, mean age 65 years and older), Intervention (pets), and Study Design (qualitative design) to systematically search for relevant studies (EUnetHTA, 2019; Frandsen et al., 2020). See the Appendix, Table A1 for the applied search strategies. On 19 February 2021, we searched PubMed and PsycINFO, using MeSH term variations. Finally, to find additional eligible literature, we screened reference lists of systematic reviews and searched HABRI central, an index specialised in human-animal interaction literature.

Inclusion criteria and selection

Due to the language proficiency of the researchers, we limited the review to studies published in English and Dutch. There was no limitation on date of publication. Because an initial search showed a lack of qualitative studies on older adults receiving home care, we extended our focus and included studies with older adults from the general population. Since 85% of older adults (65 years and older) have at least one chronic illness (RIVM, 2021), there are many shared experiences between older adults who receive home care and those who do not. We excluded studies with a focus on animal-assisted interventions and studies with institutionalised older adults.

To identify eligible articles, the records obtained by the database searches were transferred to the Web app Rayyan (Ouzzani et al., 2016). In Rayyan, two researchers (PR and ID) independently screened titles and abstracts. Subsequently, the two researchers independently screened full-text articles. Disagreements were resolved through discussion.

The Mixed-Methods Assessment Tool (MMAT) was used to assess the quality of the included studies (Hong et al., 2019). Two researchers discussed independently conducted evaluations to reach consensus on the quality of the included studies, see the Appendix, Table A2.

Analyses

We performed a thematic analysis (Braun & Clarke, 2006; Nowell et al., 2017) in ATLAS.ti version 8 for Windows (ATLAS.ti Scientific Software Development GmbH) using an iterative-inductive approach. During the course of the analysis several work group discussions were arranged. A researcher (PR) inductively constructed an initial set of codes based on the first three studies from the list in ATLAS.ti to guide the process and approach of analysis. Subsequently, two researchers (PR and ID) independently coded all included studies using the predefined codes and by adding new codes. A set of themes was created based on the codes, inductive reasoning, and a workgroup discussion (PR, ID, RL, KH, and ME). To confirm the themes deductively the two researchers (PR and ID) independently analysed the studies once more in ATLAS.ti. Similarities and differences in interpretation were assessed using the ATLAS.ti intercoder agreement function, followed by a discussion between PR and ID. After reaching consensus, the expert members of the workgroup KH, ME, DG, and RL independently categorised the themes using an inductive approach. All authors discussed the categories and themes until consensus was reached. In addition to the thematic analysis, PR and ID extracted study characteristics such as study design, type of pet, and gender and age of participants.

Results

Search results

Initially, we identified 2525 studies. After removing 646 duplicates in Rayyan, two researchers (PR and ID) screened 1879 studies by reading titles and abstracts. Reasons to omit studies were, for instance, a different population or method (e.g. quantitative), or the use of laboratory animals. This resulted in 62 potentially eligible studies, which were assessed on their full-text content (see flowchart, Figure 1). In one case, a full-text could not be obtained through the Open University' library, and the study was therefore omitted. A final sample of fifteen studies was included in this review (Table 1).

Study characteristics

Table 1 presents an overview of the 15 included studies including a total of 340 participants ($N = 115$ male, $N = 225$ female). Three studies involved older adults who were explicitly in need of care: people with chronic pain (Janevic et al., 2020), stroke survivors (Johansson et al., 2014), and older adults with physical impairments (Williams, 2018).

Most participants were dog owners, followed by cat owners, and then birds owners (Table 1). Three studies did not describe the type of pet owned (Bunkers, 2010; Muraco et al., 2018; Putney, 2014). The studies took place between 2000 and 2021 in the United States ($n = 6$), Australia ($n = 3$), China ($n = 1$), the United Kingdom ($n = 1$), Sweden ($n = 1$), the Netherlands ($n = 1$), Austria ($n = 1$), and Canada ($n = 1$). Our searches also yielded grey literature, which we included: a dissertation (Williams, 2018), a book chapter (Enders-Slegers, 2000), and an interview published in a scientific journal (Parks et al., 2011).

Categories and themes

The analysis resulted in 28 themes, which we grouped into seven categories (Table 2) that describe various aspects of older adults' experiences with their pets. Overall, the older adults in the included studies indicated that they had a strong bond with their pets, and that they believed their pets had a positive

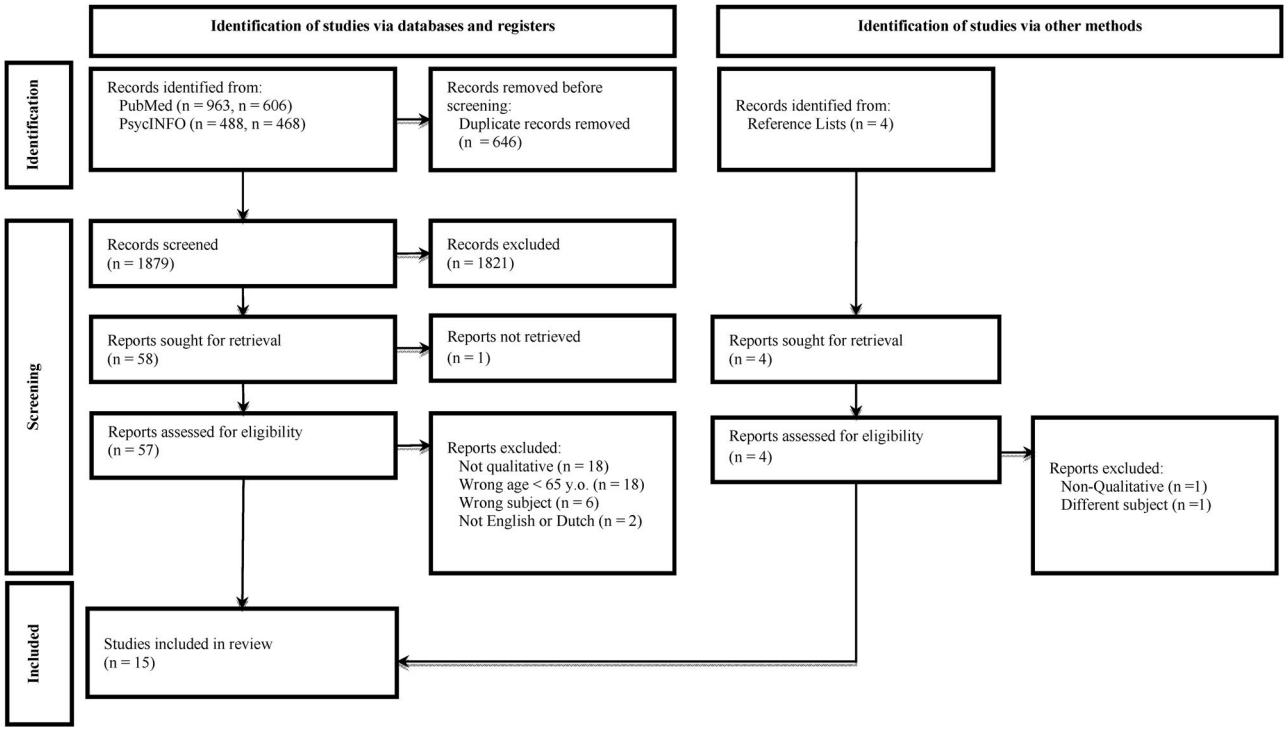


Figure 1. PRISMA flowchart.

influence on their social, mental, and physical wellbeing. However, some participants also discussed negative aspects of pet ownership.

Relational aspects

Three themes describing the relationship between older adults and their pets—*attachment*, *unconditional love*, and *interdependence*—were grouped in the category *relational aspects*. *Attachment* describes the feeling expressed by many participants that they were bonded to their pets and that they perceived their pets to be attached to them. Pets were often referred to as friends, family members, or children (Bunkers, 2010; Chen et al., 2020; Chur-Hansen et al., 2009; Cole, 2019; Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; McColgan & Schofield, 2007; Muraco et al., 2018; Parks et al., 2011; Putney, 2014; Scheibeck et al., 2011; Williams, 2018).

Participants in some studies described the bond they felt with their pet as one of *unconditional love*. Pets were perceived to be non-judgmental and always available (Chur-Hansen et al., 2009; Cole, 2019; Hui Gan et al., 2020; Johansson et al., 2014; Muraco et al., 2018; Parks et al., 2011; Putney, 2014).

Older adults in the reviewed studies indicated that their pets relied on them for care and, in return, they relied on the support and affection of their pets. Therefore, the bond with the pet can be characterised as one of *interdependence* (Chur-Hansen et al., 2009; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; McColgan & Schofield, 2007; Muraco et al., 2018; Parks et al., 2011; Scheibeck et al., 2011).

Reflection and meaning

Four themes associated with beliefs and thoughts about pets—*attribution of feelings*, *memories*, *sense of achievement*, and *meaning of life*—were placed under the category *reflection and meaning*. Some older adults *attributed (human-like) feelings* to their pets, saying, for instance, that their pets understood them when they spoke to them (Chen et al., 2020; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Parks et al., 2011; Scheibeck et al., 2011; Williams, 2018).

Some people saved mementos of their pets, such as photographs, which they considered especially valuable after the pet had died. The included publications described several examples of *memories* of pets, including descriptions of pets being associated in memory with deceased family members or children who had moved away (Bunkers, 2010; Parks et al., 2011; Scheibeck et al., 2011).

Caring for pets was perceived as meaningful and rewarding, and participants reported feeling a *sense of achievement* from taking care of their pet. They also described qualities required to be a good caregiver, like being responsible (Chen et al., 2020; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Johansson et al., 2014; Parks et al., 2011; Putney, 2014; Williams, 2018).

Some older adults perceived their pets as giving life a sense of meaning (*meaning of life*). In the studies, this was related to the responsibility of taking care of another living being and the belief that it is impossible to live without a pet's support (Chen et al., 2020; Chur-Hansen et al., 2009; Cole, 2019; Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Putney, 2014; Scheibeck et al., 2011).

Emotional aspects

The category *emotional aspects* contains four themes related to the feelings and emotions of pet owners: *responsiveness to feelings*, *emotional support*, *pleasure*, and *grief*. The studies described older adults who experienced pets as *responsive to their feelings* when they were in a bad mood, ill, or in pain (Chen et al., 2020; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Muraco et al., 2018; Parks

Table 1. Included studies.

Author (year)	Country	Study design and/or method	Participants	Type of pets	Age range (M)	Presented themes in the articles (subthemes)
Bunkers (2010)	United States	Parse's Phenomenological-hermeneutic Research Method	Older Adults who Experienced Bereavement of Pet *N*=7, 4 male, 3 female	Not reported	62–85	Penetrating Anguish, Contemplating Absent-yet Present Intimacies, Prevailing amid Misfortune
Chen et al. (2020)	China	Observation and Open In-depth Interview	Urban Empty Nesters *N*=12, 3 male, 9 female	All dogs	60–88	Multispecies Kinship (Meaning and Emotional Connectedness, Agency of Companion Dogs and Empty Nesters), Shared Outdoor Leisure Space (Rhythm and Co-discipline, Happiness and Mental Health, Outdoor Exercise and Physical Health), Negotiation in Outdoor Leisure Interaction (Scarcity of Dog Friendly Space Interaction, Responsible Ownership)
Chur-Hansen et al. (2009)	Australia	Open In-depth Interview	Older Women *N*=11	*N*=9 dogs, *N*=2 cats	66–90	Central Theme Attachment (Attachment, Family Member, Preference of Animals over People, Difficulty of Living Without the Pet, Companionship, Caring, Physical Benefits, Not Wanting to Leave the Pet, Bereavement and Grieving, Expense)
Cole (2019)	Canada	Phenomenological Study, Open In-depth Interview, Observation, and Photographs	Older Adults *N*=14, 4 male, 10 female	All dogs	60–99	Beloved Attachment, Unconditional Love, Steadfast Friendship, Joyful Responsibility
Cryer et al. (2021)	Australia	Qualitative Description Study	Clients of a Pet Support Programme *N*=14, 2 male, 12 female	*N*=11 dogs, *N*=3 cats	65–90 (81)	Attachment, Support, Social Isolation
Enders-Slegers (2000)	The Netherlands	Panel Study	Older Adults *N*=96, 25 male, 71 female	Former pet owners: *N*=22 *N*=8 dogs, *N*=6 cats, *N*=7 dogs and cats, *N*=1 bird, Current pet owners *N*=60, *N*=35 dogs, *N*=13 cats, *N*=6 cat dogs and cats, *N*=4 birds, *N*=2 dogs and birds	68–81	Weiss Social Provisions (Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, Guidance, Opportunity for *N*urturance)
Hui Gan et al. (2020)	Australia	Semi-Structured Interviews and Analysed Using Colaizzi's Phenomenological Framework	Older Adults *N*=14, 6 male, 8 female	*N*=10 dogs, *N*=1 cat, *N*=2 dogs, fish and wild birds, *N*=1 dog and fish	65–85 (74)	Comfort and Safety, Social Inclusion and Participation, Purposeful Routine, Meaningful Role
Janevic et al. (2020)	United States	Focus Groups and Deductive Thematic Analysis	Older Chronic Pain Patients *N*=25, 8 male, 17 female	*N*=15 dogs, *N*=7 cats, *N*=3 dog and cat	70–85	Cognitive-Emotional Evidence-Based Pain Management Strategies (Mood Management, Relaxation/Distraction) Behavioural Evidence-Based Pain Management Strategies (Physical Activity, Behavioural Activation, Social Activation, Sleep)
Johansson et al. (2014)	Sweden	Qualitative Descriptive Study Using Semi-Structured Interviews	Stroke Patients in Community or Primary Care Nursing *N*=17, 7 male, 10 female	*N*=9 dogs, *N*=7 cats, *N*=1 birds	62–88 (71)	Meaningful Life (Motivation for Physical and Psychosocial Recovery after Stroke, Someone to Care for Who Cares for You, Animals as Family Members, Providers of Safety and Protection)
McColgan & Schofield (2007)	United Kingdom	Reconstructed Case Study	Older Man *N*=1	*N*=1 dog	70	Not Applicable
Muraco et al. (2018)	United States	Mixed-Methods and Life Course Perspective	Older Adult LGBT with and without Pets *N*= 59, 36 male, 23 female	Not reported	54–88 (68)	Pets as Kin, Pets as Support, Pets as Companions, Reason for no Pets
Parks et al. (2011)	United States	Open In-depth Interview	Older Women *N*=5	*N*=3 dogs, *N*=1 dogs and horses, *N*=1 dogs, chicken, rabbit	78–81	Not applicable
Putney (2014)	United States	Grounded Theory	Older Lesbian Adults *N*=12	Not reported	65–80 (71)	Love (Companionship, Mirroring, Chosen Family), Caregiving (Rewards, Challenges, Symmetry/Asymmetry of Human and Animal Wellbeing)
Scheibeck et al. (2011)	Austria	Ethnographic Interview & Structured Small Talk	Older Adults *N*=23, 5 male, 18 female & *N*=16, 5 male, 11 female	All dogs	70+ & 61–76	Not applicable
Williams (2018)	United States	Phenomenological Approach	Older Males with a Physical Impairment *N*=14	*N*=4 dogs, *N*=5 cats, *N*=1 dogs and cats	65+	Adaptation, Companionship (Closeness and Proximity), Responsibility (Plan for Death of Owner), Routine (Focus on Animal Instead of Self), Caring (Humour, Love, and Affection), Physical Benefits despite Physical Limitations (Worry about Falls), Emotional Support, Social Connections because of Pet

Note. N = Number; M = Mean; LGBT = Lesbian, Gay, Bisexual, and Transgenders.
*For the study by Parks et al. (2011), we calculated the age of the participants based on the year 2010 (This study did not report ages but years of birth).

Table 2. Categories and themes.

Categories	Themes	Quotation
Relational aspects	Attachment	'And they love you as they don't love anyone else'. (Parks et al., 2011, p. 117)
	Unconditional love	'…their unconditional love, they're just, they're just, they just love you'. (Chur-Hansen et al., 2009, p. 284)
	Interdependence	'… they show their appreciation, what I do for them and I just dearly love them …'. (Parks et al., 2011, p. 116)
Reflection and meaning	Attribution of feelings	'… and they have unique personalities, and they're friendly and affectionate in their own ways…'. (Janevic et al., 2020, p. 1091)
	Memories	'Even if I have a new dog now, the memory of my dead dog is still alive'. (Scheibeck et al., 2011, p. 561)
	Sense of achievement	'… [The dogs] see things in me that no one else can. I'm not a very confident person but they have 100% confidence in me…'. (Cole, 2019, p. 241)
	Meaning of life	'It's not a question of wanting the relationship; it's a question of need. I wouldn't be able to survive … she is essential'. (Cole, 2019, p. 240)
Emotional aspects	Responsiveness to feelings	'The cat's affectionate; he recognizes me and my feelings by listening to my voice'. (Johansson et al., 2014, p. 14)
	Emotional support	'I'd be so depressed if I didn't have a cat'. (Muraco et al., 2018, p. 9)
	Pleasure	'They make me laugh! They're loving and really affectionate…'. (Williams, 2018, p. 113)
	Grief	'yes, I was indeed sad; just as sad as if a real person had passed away'. (Scheibeck et al., 2011, p. 561)
Aspects of caregiving	Need of caregiving	'It is awful if no-one needs you anymore, but, you see, he cannot survive without me'. (Enders-Slegers, 2000, p. 74)
	Responsibility	'It is a responsibility … to look after them and care for them as you would with a child'. (Hui Gan et al., 2020, p. 1608)
	Sense of safety	'I feel a little safer with him as he will bark when he sees a stranger coming up my driveway…'. (Hui Gan et al., 2020, p. 1608)
	Expenses	'… can they afford to keep their dog as their companion? It's not cheap…'. (Hui Gan et al., 2020, p. 1609)
	Worries	'It, it's a worry for elderly people if they've got, who've got animals as to what might happen to them'. (Chur-Hansen et al., 2009, p. 287)
Physical health	Exercise	'… Since we have her, I move around, pat her and lift her… otherwise I'd remain sitting'. (Johansson et al., 2014, p. 11)
	Daily routine	'… because he has to be walked twice a day, every day … I have to get up and because I have to get up, I have to take medicine…'. (Muraco et al., 2018, p. 9)
	Distraction from physical pain	'miss my dog right now. My leg is hurting, it's pulsating, … [If she were here,] I'd be more concerned about petting her'. (Janevic et al., 2020, p. 1091)
	Relaxation	'She's very relaxing to sit and pet, uh…an animal, you know?'. (Williams, 2018, p. 116)
	Medical detection	'… when I was sick he instantly noticed it and became extremely nervous'. (Scheibeck et al., 2011, p. 561)
Social aspects	Feelings of loneliness	'She keeps me company here. Otherwise, I'd be here alone'. (Putney, 2014, p. 7)
	Passive social facilitation	'… if we can identify isolation, we can get them involved in some of our social support groups or our friendly visiting program…'. (Cryer et al., 2021, p. 4)
	Active social facilitation	'… There was a large group of us that used to walk up in [a local] Park every Sunday morning … I've met a lot of people through the dogs…'. (Muraco et al., 2018, p. 9)
Bidirectional behaviour	Physical contact	'[The pet] likes to come up and cuddle and things like that. So, I appreciate that'. (Hui Gan et al., 2020, p. 1607)
	Proximity	'… He just wants to be near me and I love having him near me'. (Williams, 2018, p. 108)
	Responsiveness to behaviour	'They got worried when I didn't reply and they chirped louder and louder to wake me up…'. (Johansson et al., 2014, p. 15)
	Mirroring	'… They read us very well. And, they seem to know what we're going to do almost before we do it'. (Cole, 2019, p. 242)

et al., 2011; Putney, 2014; Scheibeck et al., 2011; Williams, 2018). Some participants reported that pets provided *emotional support* and comfort during times of emotional distress, such as during depression (Chen et al., 2020; Cole, 2019; Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; McColgan & Schofield, 2007; Muraco et al., 2018; Parks et al., 2011; Williams, 2018).

Pet ownership seemed to be experienced as *pleasurable,* with several participants reporting that they undertook fun activities with their pets, and that their pets made them laugh (Chen et al., 2020; Cole, 2019; Enders-Slegers, 2000; Johansson et al., 2014; Williams, 2018).

Some participants described periods of *grief* related to owning a pet—for instance, when they had to have a pet euthanised. Descriptions underscored the challenging nature of these moments, the difficulty of making such a decision, and the lack of understanding one sometimes faced when other people did not understand the grief that resulted from a pet's death (Chur-Hansen et al., 2009; Enders-Slegers, 2000; Johansson et al., 2014; Parks et al., 2011; Scheibeck et al., 2011).

Aspects of caregiving

The category *aspects of caregiving* comprises five themes related to the positive and negative aspects of caring for a pet: *need of caregiving*, *responsibility*, *sense of safety*, *expenses*, and *worries*. In the articles, older adults often displayed a *need of caregiving* and indicated that caregiving provided them with an opportunity to focus on something other than themselves (Chur-Hansen et al., 2009; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Parks et al., 2011; Putney, 2014; Williams, 2018). However, some older adults needed help from others to care for their pets (Cryer et al., 2021; Johansson et al., 2014; Putney, 2014).

Pets sometimes provide a *sense of safety*. For instance, a barking dog may warn its owner of potential break-ins (Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Johansson et al., 2014; Parks et al., 2011).

Responsibility is an aspect of caregiving. Some participants made plans for their pets in case of their own death or a possible move to a nursing home. *Responsibility* involved sacrifices, such as not being away from home for too long (Chen et al., 2020; Chur-Hansen et al., 2009; Cole, 2019; Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Muraco et al., 2018; Parks et al., 2011; Putney, 2014; Scheibeck et al., 2011; Williams, 2018).

Participants also expressed *worries* related to caregiving. For instance, some older adults considered postponing hospitalisation if they had no trustworthy person to take care of their pet (Chur-Hansen et al., 2009; Janevic et al., 2020; Putney, 2014; Williams, 2018). Other *worries* included pet health, anticipation of a pet's death, pet-related complaints (e.g. noise complaints),

and an increased risk of falls due to the pet (Chen et al., 2020; Cole, 2019; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Muraco et al., 2018; Putney, 2014).

Caring for a pet can be expensive. The studies provided examples of pet-related *expenses* such as veterinary care, food, and dog walking services. For those on a limited budget, such expenses could prove quite challenging (Chur-Hansen et al., 2009; Cole, 2019; Hui Gan et al., 2020; Janevic et al., 2020; Putney, 2014; Williams, 2018).

Physical health

The category *physical health* consists of five themes that reflect the pets' influence on the health of the owner: *exercise*, *daily routine*, *distraction from physical pain*, *relaxation* and *medical detection*. Overall, participants believed that their pets were beneficial for their *physical health*, mainly through additional *exercise*. Examples of *exercise* included walking the dog and cleaning the cat's litter box. The pet was viewed as motivator to *exercise* because pet-related 'chores' had to be performed (Chen et al., 2020; Chur-Hansen et al., 2009; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Muraco et al., 2018; Parks et al., 2011; Putney, 2014; Scheibeck et al., 2011; Williams, 2018).

Older adults said that pets imposed a *daily routine,* such as getting up early in the morning to walk the dog (Chen et al., 2020; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; McColgan & Schofield, 2007; Muraco et al., 2018; Putney, 2014; Scheibeck et al., 2011; Williams, 2018).

Older adults reported that focusing attention on their pets *distracted* attention *from* their own *physical pain* (Enders-Slegers, 2000; Janevic et al., 2020; Johansson et al., 2014), and this this helped them to *relax* (Enders-Slegers, 2000; Janevic et al., 2020; Johansson et al., 2014; Williams, 2018).

Some participants reported that their pets noticed when they were not feeling well or were in pain, and some perceived their pets warning them of upcoming medical events. This is known as *medical detection* (Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Scheibeck et al., 2011). In one report, a participant perceived her dog to bark before she had an epileptic seizure.

Social aspects

The category *social aspects* refers to the pets' influence on the social environments of older adults and contains three themes: *feelings of loneliness*, and *active* or *passive social facilitation*. Older adults mentioned that pets reduced *feelings of loneliness*. A few older adults indicated that their pet was the only company they had for several consecutive days (Bunkers, 2010; Chen et al., 2020; Cole, 2019; Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Parks et al., 2011; Putney, 2014; Williams, 2018).

Additionally, the studies contained reports of *active* or *passive social facilitation*, where pets connected their owner to other people. Examples of *active social facilitation* included meeting people while walking the dog, and joining a virtual (e.g. Facebook) or physical (e.g. dog walking) community (Chen et al., 2020; Cole, 2019; Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Johansson et al., 2014; Muraco et al., 2018; Scheibeck et al., 2011; Williams, 2018). *Passive social facilitation* included receiving invitations to events from people met during activities with a pet, and visitors who stopped by to interact with the pet (Chen et al., 2020; Cole, 2019; Cryer et al., 2021; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Putney, 2014; Scheibeck et al., 2011; Williams, 2018).

Bidirectional behaviour

The category *bidirectional behaviour* describes how owners and pets behave towards one another. The four themes grouped under this category include *responsiveness to behaviour*, *mirroring, physical contact*, and *proximity*. Descriptions of interactions and routines showed that older adults and their pets were *responsive towards each other's behaviour*. Some participants said they became more aware of their surroundings because pets also responded to their environment (Chen et al., 2020; Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Janevic et al., 2020; Johansson et al., 2014; Parks et al., 2011; Putney, 2014; Scheibeck et al., 2011; Williams, 2018).

A theme related to responsiveness is *mirroring.* Some participants described seeing their own personality traits reflected in their pets (Cole, 2019; Enders-Slegers, 2000; Hui Gan et al., 2020; Johansson et al., 2014; Parks et al., 2011; Putney, 2014; Scheibeck et al., 2011).

Participants also mentioned *physical contact* with their pets. Older adults hugged and petted their animals, and pets actively sought to be touched by their owner (Chen et al., 2020; Chur-Hansen et al., 2009; Cole, 2019; Enders-Slegers, 2000; Janevic et al., 2020; Johansson et al., 2014; Williams, 2018).

Proximity is related to *physical contact*. Most older adults indicated that they liked to be close to their pets and sometimes slept in the same bed (Chen et al., 2020; Chur-Hansen et al., 2009; Enders-Slegers, 2000; Janevic et al., 2020; Johansson et al., 2014; Williams, 2018).

Discussion

This review provided themes to better understand the significance and roles of pets from the perspective of their older adult owners. We identified the following categories: *relational aspects, reflection and meaning, emotional aspects, aspects of caregiving, physical health, social aspects*, and *bidirectional behaviour*, that together comprised twenty-eight themes.

Overall, older adults reported that their pets reduced *feelings of loneliness* and helped them meet other people (*social aspects)*. Several studies support the idea that animals, mainly dogs, reduce *feelings of loneliness* and *facilitate* conversations and connections to others (e.g. Hajek & Konig, 2020; Stanley et al., 2014; Wood et al., 2015). However, there is also evidence that it may mainly be women who acquire a pet as a response to *feelings of loneliness* (Pikhartova et al., 2014). These studies imply that pets can reduce subjective *feelings of loneliness* and can help against social isolation by *facilitating* social contacts. *Feelings of loneliness* and social isolation are risk factors for experiencing psychological distress and insufficient social support (Menec et al., 2020). However, quantitative studies investigating the effects of pets on loneliness do not provide consistent evidence (Gilbey & Tani, 2015).

Regarding mental health, Stammbach and Turner (1999) found in their quantitative study that pets are a source of

emotional support (*emotional aspects)*, which is linked to the strength of *attachment* (*relational aspects)*. There is increasing evidence suggesting that the positive effects of pet ownership are mainly the result of the strength of *attachment* to a pet (Enders-Slegers & Hediger, 2019).

Older adults perceived their pets to be beneficial to their *physical health*. However, quantitative studies on this subject have contradictory outcomes. Systematic reviews and meta-analyses that investigated the effects of pet ownership on cardiovascular risks and all-cause mortality show mixed results (e.g. Bauman et al., 2020; Mubanga et al., 2017; Yeh et al., 2019). A large longitudinal study found that dogs are associated with reduced cardiovascular risk and all-cause mortality, but that the type of dog and type of household (single-household) also play a role (Mubanga et al., 2017). Studies that used an accelerometer to investigate the effects of pets on physical activity found that dog owners were more likely to meet physical activity recommendations (Coleman et al., 2008; Feng et al., 2014). However, a meta-analysis that investigated the relationship between pet ownership and obesity found no significant relationship. Nevertheless, the negative relationship between walking and obesity suggests a positive effect of walking with a pet (Miyake et al., 2020).

Our review suggests that, next to the positive effects of pets, the negative aspects of pet ownership by older adults need to be accounted for. For example, negative *emotional aspects* such as *grief* and certain *aspects of caregiving* such as *worries* and *expenses* are issues that cannot be neglected. Another potentially negative *aspect of caregiving* is that older adults receiving home care may rely on others to care for their pets. Bibbo and Proulx (2018) found in a quantitative study that informal caregivers spent an average of 11.2 h per week on pet-related chores. This may lead to additional caregiver burden. However, a follow-up study found that additional burden in caregivers was mitigated when the care recipient and caregiver had a good relationship (Bibbo & Proulx, 2019). Nevertheless, because additional pet care may exacerbate caregiver burden this topic needs attention from healthcare organisations.

While qualitative studies report positive evaluations of pet ownership, outcomes from quantitative studies seem inconclusive and contradictory (Friedmann & Gee, 2019; Gilbey & Tani, 2015). This could be due to methodological limitations of quantitative research such as using a cross-sectional design, not matching groups of participants, and difficulty conceptualising outcome measures (e.g. pet attachment) (Friedmann & Gee, 2019; Gilbey & Tani, 2015). Also, some effects may be more profound in specific groups (Gilbey & Tani, 2015). For instance, homebound older adults receiving home care may benefit more from pet companionship than someone with an active lifestyle. This suggests that research related to the effects of pets may benefit from using mixed-methods designs, which collect both quantitative and qualitative data, adding in-depth understanding of the investigated phenomena.

Implications for practice

Our results lead to several important considerations for healthcare organisations. First of all, some older adults reported not being able to live without their pet (*reflection and meaning*). Second, some older adults had no network they could rely on to take care of their pet if they themselves were unable to do so (e.g. due to hospitalisation). This could lead to older adults delaying medical treatment (e.g. Canady & Sansone, 2019). Currently, care workers may be hindered in helping their clients in these situations due to a lack of existing guidelines and prescribed procedures (Toohey et al., 2017).

Guidelines and instruments like posters, brochures, and checklists can improve care workers' awareness of the role of pets in clients' lives. Some specific pet-related topics can be discussed with clients to explore (potential) challenges they face such as pet expenses (e.g. veterinary care), informal caregiver burden, and future health deterioration. Care workers' support in identifying and anticipating challenges could improve well-being for both clients and their pets.

Strengths, limitations, and future research

A first strength of this qualitative systematic review was that by focussing on qualitative studies regarding pet ownership of older adults, the study contributed to better understanding of older adults' everyday subjective experiences (Cypress, 2015). A second strength is that we integrated the outcomes of fifteen studies with a large total number of participants. A third strength was that the data was analysed and discussed within a team, which helped us reach consensus while allowing for reflexivity.

A limitation is that we were not able to specifically focus on studies investigating older adults receiving home care. Thus, it is uncertain if all of the findings in this review apply to older adults receiving home care. Nonetheless, we believe that broadening the scope of our study was justified. Although the results need to be confirmed in those receiving home care, the study results can be informative for the development of guidelines and instruments related to pets in the home care context. A second limitation is that most of the study participants owned dogs. Therefore, it is unclear if the experiences of the older adults are similar to owners of other types of pets.

Future research should verify our findings in older adults receiving home care specifically. However, our results are supported by a recently published case study about an older adult who owned a dog and received home care (Obradović et al., 2021). Still, more research, including longitudinal studies, are needed to explore whether the identified aspects of pet ownership indeed have causal effects—for instance, on the quality of life or functional independence of older adults receiving home care.

Conclusion

According to older adults' own experiences, pets play an important and positive role in their lives. Older adults reported additional social connections, emotional support, and physical activities resulting from pet ownership. However, the older adults in the reviewed studies also reported some negative aspects of pet ownership. Both the positive and negative experiences highlight the importance of considering pets in the care system of older adults receiving home care. More research can verify the categories and themes proposed in this review in the home care context. The outcomes can serve as a conceptual framework to develop guidelines and tools, preferably in collaboration with stakeholders such as recipients of home care that own pets, family caregivers, and representatives of home care organisations.

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Appendix

Table A1. Summary of the applied search strategies.

	Search terms for PubMed searches		
	Population	Intervention	Study design
1**	Aged [MeSH Terms] OR Aged [tiab] OR Health Services Needs and Demand [MeSH Terms] OR Health Services for the Aged [MeSH Terms] OR Homebound Persons [MeSH Terms] OR Independent Living [MeSH Terms] OR Caregivers [MeSH Terms] OR Long-Term Care [MeSH Terms] NOT Nursing Homes [Mesh Terms] NOT Residential Facilities [MeSH Terms]	Animals, domestic [Mesh] OR Pets [tiab] OR Dogs [tiab] OR Cats [tiab] OR Human-animal bond [tiab] OR Human-Animal Interaction [MeSH Terms] OR Pet Attachment [tiab] OR Pet Ownership [tiab] OR Attachment to Animals [tiab] NOT Animal Assisted Therapy [MeSH Terms] NOT Hoarding [Mesh Terms] NOT Therapy Animals [Mesh Terms] NOT Service Animals [Mesh Terms]	Focus Groups [Mesh Terms] OR Focus Group* [tiab] OR Interview, Psychological [Mesh Terms] OR Interview [Mesh Terms] OR Interview* [tiab] OR Qualitative Research [Mesh Terms] OR qualitative [tiab] OR Single-Case studies as topic [Mesh Terms] OR case study [tiab] OR Narrative [tiab] OR Phenomenological [tiab] OR Storytelling [tiab] OR Stories [tiab] OR Grounded Theory [tiab] OR Phenomenology [tiab] OR Ethnography [tiab] OR Integrative [tiab] OR Opinion [tiab] OR Experience [tiab] OR Discussion [tiab]
2	Aged [MeSH Terms] OR Aged [tiab] OR Homebound Persons [MeSH Terms] OR Independent Living [MeSH Terms] OR Long-Term Care [MeSH Terms]	Animals, domestic [Mesh] OR Pets [tiab] OR Dogs [tiab] OR Cats [tiab] OR Human-animal bond [tiab] OR Human-Animal Interaction [MeSH Terms] OR Pet Attachment [tiab] OR Pet Ownership [tiab] OR Attachment to Animals [tiab] NOT Animal Assisted Therapy [MeSH Terms] NOT Hoarding [Mesh Terms] NOT Therapy Animals [Mesh Terms] NOT Service Animals [Mesh Terms]	Focus Groups [Mesh Terms] OR Focus Group* [tiab] OR Interview, Psychological [Mesh Terms] OR Interview [Mesh Terms] OR Interview* [tiab] OR Qualitative Research [Mesh Terms] OR qualitative [tiab] OR Single-Case studies as topic [Mesh Terms] OR case study [tiab] OR Narrative [tiab] OR Phenomenological [tiab] OR Storytelling [tiab] OR Stories [tiab] OR Grounded Theory [tiab] OR Phenomenology [tiab] OR Ethnography [tiab] OR Integrative [tiab] OR Opinion [tiab] OR Experience [tiab] OR Discussion [tiab]
	Search terms for PsycINFO searches		
1***	Caregivers*.mp OR Caregiver burden*.mp OR Interpersonal Relationships*.mp OR Long-Term Care*.mp OR Homebound*.mp OR Aging*.mp OR Aging in Place*.mp OR Cognitive Aging*.mp OR Healthy Aging*.mp OR Physiological Aging*.mp	Companion Animals*.mp OR Companion-animals*.mp OR Pets*.mp OR Interspecies Interaction*.mp OR Pet Attachment*.mp OR Pet Ownership*.mp OR Dogs*.mp OR Cats*.mp NOT Therapy animals*.mp NOT animal assisted intervention*.mp NOT service animals*.mp NOT robo*.mp	Experience*.tw OR interview:.tw OR qualitative.tw OR Focus Group*.tw OR Ethnography.tw OR phenomeno*tw OR Grounded Theory.tw OR Discussion.tw
2***	Geriatrics*.mp OR Older Adults*.mp Or Elderly*.mp OR Long-Term Care*.mp OR Homebound*.mp OR Aging*.mp OR Aging in Place*.mp OR Healthy Aging*.mp	Companion Animals*.mp OR Companion-animals*.mp OR Pets*.mp OR Interspecies Interaction*.mp OR Pet Attachment*.mp OR Pet Ownership*.mp OR Dogs*.mp OR Cats*.mp NOT Therapy animals*.mp NOT animal assisted intervention*.mp NOT service animals*.mp NOT robo*.mp	
2***	Geriatrics*.mp OR Older Adults*.mp Or Elderly*.mp OR Long-Term Care*.mp OR Homebound*.mp OR Aging*.mp OR Aging in Place*.mp OR Healthy Aging*.mp	Companion Animals*.mp OR Companion-animals*.mp OR Pets*.mp OR Interspecies Interaction*.mp OR Pet Attachment*.mp OR Pet Ownership*.mp OR Dogs*.mp OR Cats*.mp NOT Therapy animals*.mp NOT animal assisted intervention*.mp NOT service animals*.mp NOT robo*.mp	

Notes. *The Elements were separated by the Boolean-operator AND. **The following filters were applied in the first PubMed search: Journal Article, Other Animals, Dutch, English, AIDS, Cancer, Complementary Medicine, MEDLINE, Nursing journals, Aged: 65+ years. ***For PsycINFO, search expanders were used: Age: Aged 65& Older; Methodology: Longitudinal study, interview, follow-up study, prospective study, qualitative study, literature review, focus group, systematic review, meta-analysis.

Table A2. Quality assessment (mixed-methods appraisal tool).

	Bunkers (2010)	Chen et al. (2020)	Chur-Hansen et al. (2009)	Cole (2019)	Cryer et al. (2021)	Enders-Slegers (2000)	Hui-Gan et al. (2020)	Janevic et al. (2020)	Johansson et al. (2014)	McColgan & Schofield (2007)	Muraco et al. (2018)	Parks et al. (2011)	Putney (2014)	Scheibeck et al. (2011)	Williams (2018)
S1. Are there clear research questions?	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes	No	Yes	Yes	Yes
S2. Do the collected data allow to address the research questions?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	Can't tell	Yes	Yes	Yes
1.1. Is the qualitative approach appropriate to answer the research question?	No	Yes	Can't tell	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes
1.2. Are the qualitative data collection methods adequate to address the research question?	Yes	Yes	Can't tell	Yes	Yes	Yes	Can't tell	Yes	Yes	Can't tell	Yes	Can't tell	Yes	Yes	Yes
1.3. Are the findings adequately derived from the data?	No	Can't tell	Yes	Can't tell	Can't tell	Yes	Yes	Yes	Yes	Can't tell	Yes	No	Can't tell	Can't tell	Yes
1.4. Is the interpretation of results sufficiently substantiated by data?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	No	Yes	Yes	Yes
1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?	Yes	Can't tell	Yes	Yes	Can't tell	Yes	Yes	Yes	Yes	Can't tell	No	No	Can't tell	No	Yes

Note. Assessment has been conducted by two researchers independently followed by a discussion until consensus was reached.
The assessments of Enders-Slegers (2000) and Williams (2018) are based on a dissertation.