Dementia Gateway: The environment

This summary highlights key messages from the research on the environment and dementia.

Key messages

- A 'dementia care environment' compensates for the normal changes of ageing that are difficult for a person with dementia to manage.[1]

- Design aims of a dementia care environment include: involve people in activities; connect to nature; help people find their way around; reduce behaviours such as aggression and wandering; and improve things like sleep patterns.[2]

- The natural world is a major part of the dementia care environment with many benefits for people with dementia, including better sleep patterns, appetite, mood and memory.[2]

- Most people in the early to moderate stages of dementia spend their lives in their own homes, but there is little research on how changes can be made to the home and how to use technologies for people with dementia and their carers.[5]

- There is very little advice and information about how best to design an environment for people with dementia and sight loss.[6]

- While carers can become freer and more flexible if technologies are used, such as the monitoring of a person with dementia remotely, there is concern that these technologies undermine privacy and dignity, especially those that use cameras.[7]

Introduction

This summary highlights key messages from the research on the environment and dementia. It is not intended to be a comprehensive review of the literature on this topic. The material on which this summary is based was identified through focused searching of the literature published from 2008 to 2012. Some material pre-dating 2008 is also referred to, to illustrate a point that was not covered in the identified literature.

What is the issue?

The importance of the environment

The environment refers not just to buildings, as described in the following definition: 'A care environment is not simply about the physical aspects of space, buildings, fixtures and fittings ... it is also about aspects of people, the built world, the natural world and care practice'.[2]

There are major challenges in creating suitable, healthy and supportive living environments for people with dementia.[3] These challenges apply across all care settings and spaces, from people's own homes, care homes and other forms of institutional care, to the neighbourhood and outdoor environment.

The environment is an important part of person-centred care in dementia (that is, care that takes into account the person's preferences, likes, dislikes, religion and so on). The environment may need to be changed so that it can support them in a positive and meaningful way and help them to be involved in community life and activities that they enjoy.[4,9,10]

Principles of a dementia care environment

The principles of a dementia care environment are that it compensates for the normal changes of ageing that are difficult for a person with dementia to manage.[1] It is home-like in size and ambience, and it lets people have privacy and the chance to put their individual stamp on the space around them.

The design aims of a dementia care environment include the following: to involve people in activities; to connect to nature; to help people find their way around; to reduce behaviours such as aggression and wandering; and to improve things like sleep patterns.[2] In practice this may include introducing grab rails, ramps and assistive technology (see the description below) in a person with dementia's own home to help them get around if they have physical impairments; changing the layout of a care home; providing an outdoor space in a care home setting; and providing suitable and adequate lighting.[8]

Assistive technology

'Assistive technology' can help people to remain in their own homes with support and can also be used in a care home environment. Assistive technology is 'any device or system that allows an individual to perform a task that they would otherwise be unable to do or increase the ease and safety with which the task can be performed'.[9] It includes telecare, telehealth and electronic technology. Products range from simple 'low-tech' items such as walkers, grab rails and bath benches, through mechanical and

electrical equipment such as manual and powered wheelchairs, to electronic and information and communication technology systems such as telecare sensors to detect movement, a flood and falls.[11,12,13]

The status of research

The subject of the environment is complex and technical as it relates to all the different settings in which care is provided, the different ways in which that care is provided and the different providers of the care.

Many published design principles, design goals and things that can be done to the environment to help people go about their daily business, are based on only a few systematic studies of how effective they are.[14]

The impact of the environment on people with dementia is often most apparent in care homes and research in these settings provides most information.[8]

Most people in the early to moderate stages of dementia spend their lives in their own homes, but there is not much research on how changes can be made to the home and how technologies can be used to meet the needs of people with dementia and their carers, and small numbers of people have taken part in those studies that have been done.[3,6] But there is some guidance on design at home,[1] based on research that brought together ideas from various publications by the Dementia Services Development Centre.

There is not much evidence to support the use of assistive technology devices such as the Global Positioning System (GPS), either in a person's own home or in an institutional setting such as a care home,[15] and how these devices can reduce carer stress and increase quality of life for people living with dementia.[16] Larger studies, which also include the views of people with dementia, are needed to assess the safety and medical value of GPS tracking and other networked technologies.[7,15]

It can be a challenge to find out how useful technologies in the home are and what works best for people because there are many different devices available, and people who use technologies and their particular circumstances are so varied. But progress in this area is being made.[17] And some studies show promising results, but these are generally small to medium-scale studies of particular projects that have used different approaches, and results are therefore difficult to combine or compare with each other.[18]

There is very little in the way of advice and information about how best to design an environment for people with dementia and sight loss.[6]

Overall, the evidence shows that research into the design of the environment for people with dementia and also the practice of designing these environments are becoming more important and should be continued so that people with dementia get the best possible care.[19]

The person's own home

The desire to continue living at home

Living at home supports a person's ideas of what they think is normal and helps them to keep a sense of who they are.[3] Even when their health is getting worse, most older adults want to continue living independently at home,[14] with or without professional home care, and this presents major challenges.[3,18] One challenge to independent living is managing the home environment where the quality of housing is poor, especially for people with dementia who have disabilities.[18] For example, people with dementia and sight loss face particular challenges and yet guidance on things that need to be thought about when designing the right environment for people tends to focus on people with either dementia or sight loss and not on people with both conditions.[6] But, the advantage of staying in a familiar setting despite its drawbacks may outweigh the advantage of moving: risks and benefits must be thought about carefully.

Changes that can be made to the home

Changes that can be made to the home are often talked about in relation to a task or activity, such as toileting, bathing or eating.[14] Examples of changes that can be made include: providing signage for toilets such as pictures of a toilet bowl for people with moderate dementia; moving the bathroom downstairs so that people do not need to climb the stairs; setting up a separate bedroom for a partner where a person with dementia gets agitated at night; and making sure that the dining area is well lit and background noise is kept to a minimum as this will encourage people to eat.[14] Telecare can help people to live independently at home as people can be given care and support through the use of information and communication technology.[20]

There are simple ways to improve lighting and reduce noise such as: regularly changing energy saving bulbs, as they give out less light over time; keeping windows clean and making sure that curtains are not blocking daylight out; turning off the TV or radio when not in use to help the person with dementia to think more clearly; and using soft furnishings such as cushions to absorb sound.[1]

What carers say they value

Carers of people with dementia living at home say that they benefit from ample living space, a simple layout, open floor plans, safe bathrooms/kitchens and access to the outdoors. They also say that a home should be compact, that they should be able to get to things easily and that they should be able to see around them so that they can keep an eye on the person they care for.[21] Telecare also has a lot of potential as it can help to reduce the isolation that carers feel; it can ease the burden that carers feel; and it can mean that the person who is being cared for can be kept an eye on remotely.[7]

Some dilemmas with assistive technology

Generally, there is a positive attitude among carers towards using certain telecare devices, such as tracking devices.[7] However, some carers are concerned that network technologies are impersonal and isolating as they limit the amount of human contact, which they value.[7] While some carers feel freer and are able to be more flexible with the use of technologies such as remote monitoring, some are

worried that these technologies undermine privacy and dignity, especially those that use cameras, while others think that the safety of the person with dementia is the most important thing and turn a blind eye to such ethical dilemmas.[7,20]

The care home environment

Care home design

There is no single environment that is right for everyone: some people will need more security, while others will need more freedom – so an environment needs to be flexible to allow this.[22]

Telecare can expand opportunities for people with dementia, for example by allowing care home staff to accept residents with higher care needs.[23]

It is often challenging to preserve residents' feeling of their own sense of identity in residential care, because major roles that they had in life do not exist anymore, and activities often revolve around the interests of the organisation rather than the residents.[10]

If care homes for older adults with dementia are designed with a focus on having 'home-like' features, this is therapeutic for residents as it increases their sense of wellbeing and ability to do things.[3] A good living environment can decrease residents' feelings of confusion and agitation, help them to find their way about and increase the amount of time they are involved with other people.[3,10]

The design of care homes can also be improved by ; using colour; allowing residents to put their own stamp on the space around them; having some outdoor space; making better use of lighting; and

giving residents more opportunities for getting involved with their environment.[19] In one home in Glasgow where similar changes were made, resident quality of life was noticeably improved through, for example, a 71 per cent reduction in falls over a six month period; a drastic reduction in medication for three residents; and a 60 per cent reduction in challenging behaviour, which indicated a fall in distress and frustration.[24]

The neighbourhood

Getting around

One study found that people with dementia regularly go out alone and this improves their health, wellbeing and independence[25]. Familiar places help people to find their way around. Popular spots include the shops, the park and the post office[25]. People with dementia have a number of strategies to find their way, including using landmarks such as church spires or street furniture such as post boxes. In busy places or when startled by loud noises, people with dementia may get anxious or disorientated.

Using GPS

The Global Positioning System (GPS) is a telecare system that can help people with dementia and their carers, offering them greater peace of mind and a better quality of life.[26] Like a 'sat nav' device used in cars, it is a way finding the person with dementia who has the device if they get lost,[15,16] so it offers a way of safe walking for the person in that respect, but it does not of course reduce other hazards, such as the danger of negotiating traffic. People with dementia and their carers are less likely to accept the

use of the GPS device as the person with dementia's cognitive (thinking, knowing and reasoning) abilities decline. The earlier a person can try out the device after being diagnosed with dementia, the more likely they will be able to use it successfully.[16]

Nature and outdoor spaces

Nature is an important part of the care environment as it has many benefits for the individual, including better mood, memory and communication and being able to concentrate better.[2,27] Outdoor spaces can make care home residents feel less agitated and if designed well they can encourage people to walk more.[28] Other benefits include: fresh air; being exposed to bright light, which helps with regulating a person's 'body clock' and increases the body's ability to produce vitamin D; better mental health; and providing a way of passing time.[29] People with dementia whose disabilities mean that they cannot take part in outdoor activity can still enjoy the outdoor environment from a window, terrace or balcony.[8,29]

Implications from the research

It appears that the voice of people with dementia and their carers is still not heard and more attention should be given to this in future research.

A person's own home seems to be a largely ignored area in research and government policies, which implies that many problems concerning ageing at home and things that can be done to the environment to help people with dementia are not given proper consideration.[14] Guidance that includes advice that has been based on research with people with dementia is very helpful.[1]

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By its very nature, a care environment can help or hinder people.[2] If the culture of a care home is one that encourages residents to be dependent, where the management of risk is overprotecting of residents and residents are treated like children, then even the best in environmental design will not have much impact.[10] On the other hand, poor physical environments can be compensated for by strong leadership, and approaches that are imaginative, open and where people work together.[10]

As far as the future development and refurbishment of existing buildings for people with dementia are concerned, planners and builders need to make sure that the buildings are dementia-friendly and increase people's opportunities to engage with their environment if they are to increase people's quality of life.[19]

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