

AGE-RELATED DISABILITY IN BATHING: A REVIEW OF THE RESEARCH LITERATURE

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Abstract

Disability in bathing is an important problem for older adults, affecting their daily lives and turning a pleasurable activity into a challenging task. In respond to it, modifications are being made either in bathing task or in bathing environment. The purpose of this review of the research literature is to answer some key questions about the nature of the modifications made in respond to disability in bathing and the efficacy of these modifications, to inform the new product design processes, and to set an agenda for future research. This article presents a review of literature on age-related disability in bathing and the modifications mentioned in published literature related to disability in bathing in older adults either by changing the environment to improve the ability of older adults to perform specific subtasks or by altering the bathing task, or both. Across sources, modifications that are made in respond to disability in bathing in older adults were listed and broad list of arguments both for and against these modifications were identified. Based on the review, it is being argued that environments need to be designed to prevent from disability, not modified in respond to it. Moreover, preferences of older adults needed to be taken to account more when designing aids and products for the bathroom. Disability in bathing needs to be researched with a focus on culture and religion, since they are important variables affecting older adults' decisions.

Keywords: Disability, bathing, bathroom, older adults

Introduction

Disability in bathing is an important problem for older adults, affecting their daily lives and turning a pleasurable activity into a challenging task. This paper reviews the published literature on age-related bathing disability, defined as “the gap between personal capability and the environmental demand” (Verbrugge & Jette, 1994) when performing the task. The purpose of this review of the research literature is to answer some key questions about the nature of the modifications done to fill this disability

gap in bathing and the efficacy of these modifications, to inform the new product design processes, and to set an agenda for future research.

Ageing studies published in academic journals covered by Science Citation Index (SCI) were included in this review. The reason is that they met the high standards of an objective evaluation process that eliminates confusion and are more appropriate for the investigation of ageing research from both theoretical and methodological perspectives than other sources. Conference papers, contribution to edited books, dissertations, theses, editorials in journals written by journal editors or visited editors, comments and notes were excluded. All journals covered by SCI related to ageing, gerontology and geriatrics were searched for papers with the keyword “bathing” in their abstract.

While focusing on studies targeting bathing disabilities in community-living older adults who are disabled or nondisabled in activities of daily living (ADLs), the review does not cover studies on older adults with mental impairments or who are bedridden. Additionally, although they are related to the subject, studies focusing on falls, fall prevention and ADLs are not included in this literature review.

Across sources, modifications to overcome the disability in bathing in older adults were listed and broad list of arguments both for and against these modifications were identified. Based on the review, it is being argued that modifications are nothing but improvised solutions to a crucial problem.

Age-related disability in bathing

Bathing is described by older adults as an important and meaningful activity. These individuals express several different reasons for the personal importance of bathing: for certain older adults, bathing is a means to cleanliness, the importance of which was instilled at earlier ages and is often related to notions of well-being and virtues; others express concerns about odor and describe a social expectation to bathe; several describe the pleasure and relaxation that they derive from bathing; and others state that the personal importance of bathing is based on the need to have a daily routine (Ahluwalia, Gill, Baker, Fried, 2010). Studies have shown that there is significant variability in older adults’ bathing and showering habits, attitudes and preferences (Cohen-Mansfield & Jensen, 2005; Ahluwalia, Gill, Baker & Fried, 2010).

Despite its importance and meaning to older adults, one of the first basic ADLs that the elderly have difficulty with is bathing (Jagger, Arthur, Spiers & Clarke, 2001; Verbrugge & Yang, 2002). The term “disability” is being defined as “the gap between personal capability and the environmental demand” (Verbrugge & Jette, 1994) and the insuppressible changes in older adults’ personal capabilities reveals bathing disability in older adults. For

community-living older people, disability in bathing is common, involves many subtasks and causes a set of physical and psychological problems (Naik, Concato & Gill, 2004).

The disability in bathing can be attributed to a combination of predisposing factors that make community-living older people vulnerable and intervening illnesses or injuries that precipitate the process (Gill, Han & Allore, 2007). Naik, Concato and Gill (2004) stated that more than half of the participants in their study identified more than one reason for bathing disability. The most common reasons for bathing disability are falls, problems related to balance, anxiety about loss of balance and fear of falling, fear of getting stuck in the bath or fear of slipping (Naik, Concato & Gill, 2004; Murphy, Nyquist, Strasburg & Alexander, 2006). There is a high occurrence of overall disability in bath transfers which is getting into and leaving the bathing position (Naik, Concato & Gill, 2004). A study used trained video coders in order to record “Environmental Feature Utilization” (defined as upper-extremity contact with features of the environment) and rated performance difficulties (defined as a lack of fluid movement or difficulty negotiating the environment) for a sample of 89 independently bathing older adults during a bath transfer and showed that one third of the participants experienced one or more performance difficulties during bath transfer, and difficulties positioning onto a tub seat or into the tub were common bathing disabilities (Murphy, Nyquist, Strasburg & Alexander, 2006).

Disability in bathing can be stated as a primer event in the age-related disablement process. A 6-year continued study showed that over the course of the research, 58.4% of more than 750 participants had at least one episode of bathing disability and that 34.0% had multiple episodes, with the duration of each episode averaging approximately 6 months (Gill, Guo & Allore, 2006). The beginning of bathing disability increased the possibility of developing disabilities in other essential ADLs (Gill, Guo & Allore, 2006). In Gill, Han and Allore’s (2007) study, over the course of nearly 8 years, 44.2% of more than 750 participants developed continuous disability in bathing, and nine predisposing factors were independently associated with the disability. The strongest associations, which more than doubled the risk of persistent bathing disability, were an inability to stand from a chair, low bathing self-efficacy and low physical activity. Among community-living older people, although the occurrence of persistent disability in bathing has no effect on short-term admissions, this disability is independently associated with a risk of long-term nursing home admission (Gill, Allore & Han, 2006).

Modifications intended for disability in bathing

In order to adjust environmental demand to changing personal capabilities of older adults, modifications are being made either in bathing task or in bathing environment.

Task modifications

Task modifications are basically the changes done in performing the bathing task. Older adults typically modify their usual bathing task in response to bathing difficulties (Ahluwalia, Gill, Baker, Fried, 2010) and fear. These individuals consider difficulty in bathing as an inevitable experience (Ahluwalia, Gill, Baker, Fried, 2010) and due to age-related changes, one of the most common changes that they make is to switch from taking a bath to taking a shower (Naik, Concato & Gill, 2004; Cohen-Mansfield & Jensen, 2005; Ahluwalia, Gill, Baker & Fried, 2010).

In anticipation of future disability, modifying their frequency or mode of bathing is more preferable for some older adults than trying to find out and implement strategies to sustain or improve their full bathing ability (Ahluwalia, Gill, Baker & Fried, 2010).

Environment modifications

Environmental modifications can be defined as the changes in the bathing environment to adjust the demands of it to meet older adults' abilities and these modifications disrupt the customary arrangement in the bathroom. In certain cases, environmental modifications impose a radical reordering of the bathroom. Most of the environmental adaptations result with a modification in a subtask.

In a study, participants who were not currently receiving caregiver services for bathing expressed considerable variability in their preferences for environmental modifications and this variability was based on how useful these aids were (Ahluwalia, Gill, Baker & Fried, 2010). Environmental modifications that are widely available commercially are tub stools, transfer benches, shower seats, bath chairs, long-handled washing aids (such as sponges), grab bars, nonskid mats or abrasive strips, bath boards, hydraulic bath lifts, and walk-in showers. An adjustable, removable showerhead with a flexible hose is not commonly listed as an environmental adaptation in studies; but in a qualitative study, participants commonly expressed handheld showers as an environmental adaptation for bathing (Ahluwalia, Gill, Baker & Fried, 2010).

Results of a qualitative research study showed that for bathing, older adults decide the use of an environmental adaptation on their own after receiving information from sources such as catalog advertisements or recommendations from friends (Ahluwalia, Gill, Baker & Fried, 2010).

According to the literature, environmental adaptations are not common at the homes of older adults. A quantitative study of 566 community-living adults aged 73 and older revealed that no environmental adaptation for bathing was present in the homes of more than half of the participants, with the exception of nonskid mats or abrasive strips (Naik & Gill, 2005). When the homes of participants with bathing disability were compared with the homes of those without bathing disability, grab bars, shower seats, tub stools, bath chairs, tub/transfer benches and handheld shower sprays were significantly more likely to be present (Naik & Gill, 2005). Moreover, when the homes of participants who were independent in bathing were compared with the homes of individuals who had difficulty, environmental adaptations were more likely to be present, with the exceptions of a long-handled brush or sponge and an emergency rescue device (Naik & Gill, 2005).

A study showed that with the exception of nonskid mats or abrasive strips, the presence of bath aids (grab bars, bath seats, nonskid mats or abrasive strips, hand-held showerheads and long-handled brushes or sponges) did not stop the consequent development of bathing disability (Gill, Han & Allore, 2007).

Instead of using the aforementioned environmental adaptations, older adults often use already available products in their homes as aids. In one study, to prevent slipping, 72% of participants were observed to use throw rugs, and 24% of the participants reported always keeping a towel on the floor or putting down their towel during bath transfer, which could actually increase the possibility of slipping or tripping (Murphy, Nyquist, Strasburg & Alexander, 2006). Additionally, several participants were observed to place chairs in the tub that were not designed to be used as tub seats (Murphy, Nyquist, Strasburg & Alexander, 2006). The sliding glass door was the most used unsafe feature, followed by the use of a towel bar for entry (Murphy, Nyquist, Strasburg & Alexander, 2006).

Results

The research literature on age-related bathing disability in community-living older adults mainly focuses on exploring the reasons for and consequences of age-related bathing disability and on discovering the effectiveness of environmental adaptations.

Based on this literature review on age-related bathing disability, the following conclusions can be drawn:

- Despite its importance and meaning to older adults, disability in bathing is common, involves many subtasks and causes a set of physical and psychological problems.

- The most common reasons for bathing disability are falls and fears of falling, getting stuck in the bath or slipping and getting into or leaving the bathing position.
- The current solutions and suggested ways to solve age-related disability in bathing include modifications of the bathing task, modifications of the bathroom.
- As a task modification, the most common change for older adults is switching from taking a bath to taking a shower.
- Although there are many suggested environmental modifications to help older adults while bathing, the elderly prefer not to make these modifications; instead they prefer to use their current bathroom components, including using towel bars as grab bars and towels as non-skid mats.

Conclusion

In most of the previous studies, the designs and characteristics of available bathroom products and environmental modifications are considered as constant, as if these features cannot change or are perfect. Future research studies need to question available bathroom products and modifications to direct the industry to develop better products that are supportive of all people, regardless of their capabilities.

Although it is clear that interventions focused to the prevention of bathing disability potentially can reduce the burden and expense of long-term care services (Gill, Allore & Han, 2006), especially the environmental modifications are being made in respond to disabilities not to prevent from them. In fact, conventional bathroom products have failures and unsolved problems that cause disability in old ages and modifications can only be temporary solutions to them. Not only developing better bathroom products but also effective and stylish aids for bathing-like those available for seeing, eyeglasses are more than aids today- are strongly needed. This can only be achieved by considering the bathing preferences and habits that older persons have. Otherwise, they regret to use products or aids with reasons such as no need or feeling inconvenient. Furthermore, design, installation and maintenance of bathing environments need modified standards to make sure their effectiveness and safety for all ages.

Older adults' responses to different types of solutions vary dramatically according to their culture and religion. In one study in the UK, respondents intensely rejected performing a private act such as bathing in a public place where people come and go and in a setting that would normally be regarded as outside (Twigg, 1999). Conversely, in Japan, where public bathing is common and where the bath is an important location for social interaction, public baths are offered as the central feature of Japan's

approach to community-based care of the elderly (Traphagan, 2004). Traphagan (2004) described these baths as a culturally shaped, successful social service to address a specific problem. As Kira (1976) stated, the complex cultural and psychological attitudes surrounding major personal hygiene activities must be included analyses of the subject. Disability in bathing needs to be researched with a focus on not only culture but also religion, since these are important variables affecting older adults' decisions on issues related to bathing.

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