

Understanding why older adults use mobility devices: A systematic review of the literature

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Su & Mejía (2020). *Gerontechnology* 19(suppl); <https://doi.org/10.4017/gt.2020.19.s.70040>

Purpose Population aging is accompanied by a growing number of older individuals with mobility impairments. Studies have shown that impaired mobility is associated with reduced physical activity, lower functional status, and increased fall risk (Crawford et al., 2008; Barker et al., 2012). To promote functionality and independence, Mobility Devices (MDs), such as canes, walkers, wheelchairs, and scooters have long been advocated and prescribed to older adults having ambulation difficulty. Although there is an upward trajectory in the number of MD users, not all older adults in need are willing to adopt or continue to use MDs (Gell et al., 2015). To better increase the rate of MD use and enable more older adults to gain benefits from MDs, it is essential that both healthcare providers and mobility device designers are aware of facilitators as well as barriers to adoption of MDs among these older populations. On the basis of this background, the aim of this study is to integrate the findings from two decades of research and identify key factors that may affect older adults' use of MDs. **Method** Studies published in English between January 1998 and October 2019 were searched in PubMed. Studies with quantitative, qualitative, or mixed-methods approach are eligible to represent in our study. Searching strategy was based on using key words pertinent to older adults, mobility device, mobility assistive device, attitude, acceptance, perception, and combinations of these words. Review articles and assistive-technology-related studies that failed to incorporate MDs were excluded. Twelve studies were ultimately selected for in-depth re-view. Findings from the included articles were scrutinized and grouped into distinct categories based on sharing features and attributes. **Results and Discussion** Among the literature we included, half of the articles (6/12) were employing qualitative approach. Significant factors influencing older adults' use of MDs were categorized into three emerging themes: user's psycho-physiological resources (USER), mobility device design (DEVICE), and environmental & societal factors (CONTEXT). Within USER domain, functional status, self-perceived need, and awareness of MDs were repeatedly brought up and emphasized in the literature (Roelands et al., 2002). Regarding DEVICE category, factors associated with older adults' attitudes toward MDs use include product's appearance, functionality, choice of equipment, ease of use, and safety (Resnik et al., 2009). As for CONTEXT, social stigma, physicians' advice, user-supportive environment, as well as service delivery and reimbursement system are critical factors related to older people's use and non-use of MDs (Hedberg et al., 2007). While the overall findings from the literature are consistent and appear to be conclusive, readers should remain conscious that factors affecting older adults' use of MDs may be situational, dynamic, and evolving over time. The fundamental purpose of our article is to consolidate and present potential factors that may contribute to older adults' use of MDs. More research and interventions targeting these factors are needed to further verify the relationship.

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Keywords: Older adults, mobility device, acceptance, user perspective

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