Asian Nursing Research 9 (2015) 7–13

Contents lists available at ScienceDirect

Asian Nursing Research

journal homepage: www.asian-nursingresearch.com

Factors Affecting Mobility in Community-dwelling Older Koreans with Chronic Illnesses

Hye-A Yeom, PhD, RN, ANP-C, [1, 2, *] Carol M. Baldwin, PhD, RN, AHN-BC, FAAN, [2] Myung-Ah Lee, MD, PhD, [3] Su-Jeong Kim, RN, MS [4]

[1] The Catholic University of Korea College of Nursing, South Korea
[2] Arizona State University College of Nursing and Health Innovation, Phoenix, AZ, USA
[3] The Catholic University of Korea College of Medicine, Seoul, South Korea
[4] University of Illinois, College of Nursing, Chicago, IL, USA

ARTICLE INFO

Article history:
Received 27 February 2014
Received in revised form
21 April 2014
Accepted 23 September 2014

Keywords:
aged
chronic disease
Koreans
mobility limitation
walking

SUMMARY

Purpose: This descriptive study aims to describe the levels of mobility in community-dwelling older Koreans with chronic illnesses, and to examine the associations of their mobility with sleep patterns, physical activity and physical symptoms including fatigue and pain.
Methods: The participants were a total of 384 community-dwelling older adults recruited from three senior centers in Seoul, Korea. Measures included mobility assessed using 6-minute walk test (6MWT), physical activity behavior, sleep profiles, fatigue and pain. Data were collected from July to December 2012.
Results: The mean 6MWT distance was 212.68 meters. Over 90% of the study participants ($n = 373$) were classified as having impaired mobility using 400 meters as the cutoff point diagnostic criteria of normal mobility in 6MWT. The 6MWT distance was 246.68 meters for participants in their 60s, 212.32 meters for those in their 70s, and 175.54 meters for those in their 80s. Significant predictors of mobility included younger age, taking mediation, regular physical activity, female gender, higher income, higher fatigue and better perception on sleep duration, which explained 18% of the total variance of mobility.
Conclusions: A high-risk group for mobility limitation includes low income, sedentary older men who are at risk for increased fatigue and sleep deficit. Further research should incorporate other psychological and lifestyle factors such as depression, smoking, drinking behavior, and/or obesity into the prediction model of mobility to generate specific intervention strategies for mobility enhancement recommendations for older adults.
Copyright © 2015, Korean Society of Nursing Science. Published by Elsevier. All rights reserved.

Introduction

Mobility, defined as the ability to make a physical movement, is an important indicator of functional independence in older adults. Impaired mobility is experienced by 46% of community-dwelling older adults [1] and is associated with depression, institutionalization, and mortality in older adults [2–4]. Limited mobility is also an essential component of diagnostic criteria for sarcopenia and a major risk factor for functional disability in older adults [5]. Thus, maintaining an optimal level of mobility is important for preventing disability and improving quality of life in older adults.

Of the types of mobility, walking indicates sound exercise capacity and significantly impacts the functional independence of older adults [3,6]. The validity of walking capacity as an indicator for basic mobility function has been well established [7–8]. Due to the negative influence of impaired mobility on functional ability, the prevalence and risk factors for limited mobility in various populations have been addressed, although little research focused on reporting the levels of mobility in Asian groups, including older Koreans. For example, a cutoff of 400 meters has been established as an international consensus in 6-minute walk test (6MWT) [5]. However, its validity as a cutoff-point for screening limited mobility among Asian elderly who may have different step length and gait speed from their Western cohorts still needs to be examined for the

* Correspondence to: Hye-A Yeom, PhD, RN, ANP-C, The Catholic University of Korea College of Nursing, 222 Banpo-daero, Seocho-gu, Seoul, 137-701, South Korea.
E-mail address: yha@catholic.ac.kr

http://dx.doi.org/10.1016/j.anr.2014.09.005
p1976-1317 e2093-7482/Copyright © 2015, Korean Society of Nursing Science. Published by Elsevier. All rights reserved.

development of a more valid international standard in mobility function of older adults.

Major theories on mobility propose that disablement process from limited mobility is affected by extra-individual and intra-individual factors [9–10]. Extra-individual factors include environmental context, including access to medical care and social resources for maintaining mobility. Intra-individual factors consist of comorbidity, physical symptoms, psychosocial factors like coping skills and motivation to move, and lifestyle factors [11]. While older age and co-morbid illnesses are well known risk factors for impaired mobility, lifestyles and individual characteristics of racially diverse geriatric groups have not been widely examined of their roles in preserving mobility [11].

It has been proposed that physical symptoms, such as chronic pain and fatigue, decrease physical performance in community-dwelling older adults [12]. Significance levels of fatigue limit an older adult's physical capacity and the energy needed to maintain optimal daily function [13]. While their impacts on the overall health of older adults are substantial [14], their specific link with mobility has not been clarified, with mixed research findings. For example, increased levels of fatigue have been found to relate to slower walking speed [15], but fatigue has also been reported to be not associated with ambulatory mobility [16]. Research on the role of physical symptoms in mobility is still limited, and therefore, a specific relationship has not been identified.

Of the lifestyle factors, sleep disturbance is one of the most common complaints of older adults, and is negatively associated with their physical and mental health. The prevalence of sleep disturbance is about 30% in the general public [17] and 40% in older adults [18]. Sleep disturbance is a multidimensional geriatric syndrome that is closely related to health-related quality of life, activities of daily living, and frailty in older adults [19–21]. It is generally known that chronic illnesses and daytime inactivity may trigger chronic sleep disturbance [18,21]. However, in the field of mobility, the relationship between sleep duration and mobility is still controversial. For example, shorter night sleep duration in older adults has been associated with both increased and decreased gait speed, suggesting an incomplete conclusion on their link [22–23]. Underlying mechanisms for the interplay between sleep profiles and mobility function still need to be further identified [22]. Particularly, further research on the sleep of frail older adults remains to be conducted [24].

A gap in the literature is ways in which older adults' perceived sleep patterns are associated with their physical activity behavior and mobility function, and which aspects of sleep disturbances are linked to declines in their mobility. Known correlation between symptoms and function [25] also leads to the belief that physical symptoms such as pain and fatigue could be associated with daytime frailty, possibly resulting in reduced mobility in older adults. An understanding of the symptom and lifestyle correlates of mobility in older adults, which are modifiable factors, is necessary to develop effective intervention strategies that would improve the mobility of this cohort group. Thus, this study aims to describe the levels of mobility in community-dwelling older Koreans with chronic illnesses, and to examine the associations of their mobility with lifestyle factors (sleep patterns, physical activity) and physical symptoms (fatigue, pain).

Methods

Study design

This study used a cross-sectional descriptive study design.

Setting and sample

The participants were a total of 387 community-dwelling older adults recruited from three senior centers in Seoul, Korea. This sample size was estimated based on a significance level of .05, a power of .80, and effect size of 0.15 [26]. This sample size also meets the minimum requirement of the ratio of 15:1, the ratio of valid cases to a predictor variable for multiple regressions [27]. The total number of predictors used in this study was 11. For inclusion in the study, a participant had to be aged 65 years or over, community-dwelling, diagnosed with one or more chronic illnesses, and have the ability to understand oral instructions. Persons who met the eligibility criteria reviewed and signed the informed consent form. The final data analyzed included a total of 384 participants after excluding three incomplete surveys with missing values over one third of the total number of variables.

Ethical consideration

This study was approved by the Institutional Review Board of the Catholic University of Korea (IRB approval no. MC12QISI0105). All participants voluntarily agreed to participate in the study. Data confidentiality and survey procedures were reviewed with each participant before the interview. Researchers assured participants that the contents of the interview would be used solely for research purposes. The data were collected after the approval from the Institutional Review Board.

Measurements

General characteristics included gender, age, religion, education, monthly income, and number of family members. Number of medication was not included as a variable. Disease-related variables included prevalence of heart and lung diseases, type and number of chronic illnesses, and medication status. Specifically, participants' medical problems or chronic illnesses were assessed using a self-reported single question: “Please tell us all types of chronic disease that you have been diagnosed with at hospitals or clinics.”

Mobility was measured using the 6MWT [28]. It is a performance-based assessment that measures the maximum distance one can walk within 6 minutes at a usual gait speed. The 6MWT incorporates both gait speed and step length into the result and is a reliable and valid measure for assessing the level of mobility in community-dwelling older adults [5,8,29]. A participant's 6MWT was assessed by multiplying the person's stride length and number of walking steps. A walking step was counted using a pedometer. Each participant was instructed to perform the 6MWT in the flat hallway of the senior centers. The participants were allowed to rest or stop the test at any time.

Physical activity behavior was measured with a binary category (regular physical activity vs. sedentary). Participants were classified as engaged in regular physical activity using the classification of American College of Sports Medicine that defined a regular physical activity as engagement in a moderately intense walking or aerobic exercise at least three times a week for 20 minute at a time [30].

Sleep profiles, assessed with four categories including main sleep period, sleep hours, and perception on sleep quality in depth and duration, were measured using components of the English/Spanish translated and validated Sleep Heart Health Study Sleep Habits Questionnaire [17,31]. Main sleep period was assessed by asking a single question “When is your main sleep period?” with possible responses of “night”, “day”, or “sometimes in the day and sometimes at night”. Sleep hours were assessed by hours of sleep per night during the week. Perception of depth of sleep as a component of sleep quality was measured by the question “In

دانلود مقاله

http://daneshyari.com/article/2644974


daneshyari
دانشیاری

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات