



Impact of Emergency Department Visits and Hospitalization on Mobility Among Community-Dwelling Older Adults

Cynthia J. Brown, MD, MSPH,^{a,b} Richard E. Kennedy, MD, PhD,^b Alexander X. Lo, MD, PhD,^c Courtney P. Williams, MPH,^b Patricia Sawyer, PhD^b

^aBirmingham/Atlanta Veterans Affairs Geriatric Research, Education, and Clinical Center, Ala; ^bDepartment of Medicine, Division of Gerontology, Geriatrics, and Palliative Care, University of Alabama at Birmingham; ^cDepartment of Emergency Medicine, University of Alabama at Birmingham.

ABSTRACT

PURPOSE: The study purpose was to assess the effects of emergency department visits on mobility as measured by Life-Space Assessment (LSA) scores and to compare life-space trajectories associated with emergency department visit only, hospitalization, and no event.

METHODS: A total of 410 community-dwelling adults aged ≥ 75 years who were living in the community, were able to communicate by telephone, could schedule an in-home interview, and could answer questions independently were followed from June 2010 to August 2014. In-home baseline and monthly telephone follow-up interviews collected data on LSA scores, emergency department use, and hospitalizations. Life-space is measured using a validated patient-reported tool reflecting community mobility and quality of life. Trajectories of LSA before and after an emergency department visit or hospitalization were compared with no event occurrence.

RESULTS: Mean age of participants was 81.7 years (standard deviation, 4.8); 57% were female, and 35% were African American. During 3 years of follow-up, 83 persons (20%) had an emergency department visit without subsequent hospitalization and 164 persons (40%) were hospitalized. Although baseline LSA scores were similar, in the month after an emergency department visit, adjusted LSA scores decreased by 6.1 points ($P = .01$) in comparison with hospitalized participants who experienced an average decrease of 18.0 points ($P < .0001$). Neither those with an emergency department visit only nor those with hospitalization recovered to their prior level of community mobility. Moreover, those with an emergency department visit showed no significant improvement in LSA scores up to 1 year later.

CONCLUSIONS: Older adults who experienced an emergency department visit or hospitalization had an associated decrease in community mobility without significant recovery.

© 2016 Published by Elsevier Inc. • *The American Journal of Medicine* (2016) 129, 1124.e9-1124.e15

KEYWORDS: Aged; Emergency department; Hospitalization; Life-space; Mobility limitation

Funding: This study was supported in part by a grant from the National Institute on Aging (R01 AG015062) to CJB. The funding sources had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Conflict of Interest: CJB has received grant funding from the National Institutes of Health and Veterans Affairs and served as a consultant for Novartis.

Authorship: All authors had access to the data and played a role in writing this manuscript.

Data Sharing and Reproducible Research: The authors are willing to share the study protocol and statistical code used to generate the results. The study dataset is available through a data use agreement. Applications can be obtained through the UAB website at <http://www.uab.edu/medicine/aging/uab-study-of-aging/2-uncategorised/87-data-sets>.

Requests for reprints should be addressed to Cynthia J. Brown, MD, MSPH, University of Alabama at Birmingham, CH19, Room 201, 1720 2nd Ave South, Birmingham, AL 35294.

E-mail address: cynthiabrown@uabmc.edu

The annual number of emergency department visits by older adults aged ≥ 65 years increased from approximately 16 million in 2001 to 20 million in 2009.¹ Despite representing only 13% of the US population, older adults account for 36% of all hospitalizations.² By 2030, it is estimated that 19% of the US population will be aged ≥ 65 years. Given the increased numbers of this segment of the population, it is anticipated that healthcare use, particularly emergency department visits and hospitalizations, will continue to increase.^{3,4} Although the United States has seen a reduction in premature deaths over the past 25 years, disability levels have remained constant. One potential contributor to the observed disability is hospitalization.⁵ Each episode of hospitalization, regardless of the underlying medical condition, is independently associated with an increased risk of disability among older adults.^{6,7} Gill et al⁸ showed that the likelihood of developing new or worsening disability, as well as a reduced likelihood of recovery from disability, was greatly increased with hospitalization. Furthermore, hospitalization has been shown to be associated with a clinically significant decline in community mobility.⁶ However, the impact of an emergency department visit without a resultant hospitalization on function and mobility is less clear.

Studies of adverse outcomes after an emergency department visit traditionally have focused on emergency department recidivism, hospitalization, or death. However, recent Australian studies have estimated that 30% to 45% of older adults discharged from the emergency department are at risk for functional decline. One study assessed basic and instrumental activities of daily living ability in the 4 weeks before the index emergency department visit and at 30 and 120 days after the emergency department visit.⁹ In this study, 10% of participants reported requiring assistance with at least 1 activity of daily living, and 20% required assistance with at least 1 instrumental activity of daily living before the emergency department visit. Participants with greater basic or instrumental activity of daily living difficulty before the emergency department visit experienced significant declines in basic and instrumental activity of daily living ability at 30 and 120 days after the emergency department visit.⁹ Older adults with 1 or more areas of dependence in basic or instrumental activity of daily living who visited the emergency department also were more likely to be admitted to the hospital regardless of symptom.^{10,11}

Although there is evidence that emergency department visits are associated with functional decline for persons already at risk, the impact of an emergency department visit on community mobility is unknown. Mobility is broadly defined as the ability to move one's body through space,¹²

and a decline in mobility often precedes activities of daily living disability.¹³ Life-space is a global measure of community mobility that captures not only physical function but also cognitive and social aspects, such as access to transportation. Limitations in community mobility can be measured using the University of Alabama at Birmingham (UAB) Study of Aging Life-Space Assessment (LSA).^{6,14-17}

The purpose of this study is to assess the effects of an emergency department visit on the community mobility of older adults as measured by the LSA and to compare potential changes in life-space trajectories associated with emergency department visits without subsequent hospitalization with the trajectories of persons with hospitalizations and persons with no event, that is, neither an emergency department visit nor a hospitalization.

CLINICAL SIGNIFICANCE

- Older adults experience decreased community mobility without recovery after emergency department visits.
- Participants with an emergency department visit did not recover to pre-event life-space level in year after event.
- Factors associated with mobility decline after emergency department visits were age and activities of daily living difficulty.

MATERIALS AND METHODS

Participants and Setting

Data from the UAB Study of Aging II, a study of community-dwelling older adults aged 75 years and older designed to examine specific factors predicting mobility decline, were used in these analyses. Participants were recruited from 2 prior studies: the UAB Study of Aging I (1999-2008)¹⁴ and the State of Alabama Long Term Needs Assessment Survey (2002).¹⁸ Inclusion criteria for the current study were that participants had to live in the community in 1 of 17 Alabama counties included in the 2 prior studies^{14,18} and be able to communicate on the telephone, schedule an appointment for an in-home interview, and answer questions by themselves.

After obtaining informed consent, in-home baseline interviews were conducted by trained interviewers between June 2010 and August 2011. A supplemental telephone interview was scheduled within 2 weeks of the in-home interview. Subsequently, telephone follow-up interviews were scheduled monthly. This analysis included data from baseline and monthly interviews but was limited to persons who completed the first monthly follow-up interview to allow calculation of the change scores from baseline (N = 410). The UAB Institutional Review Board approved the study protocol, and written consent was obtained from all participants.

Measurements

Sociodemographic Information. Sociodemographic information was collected at baseline, including age, self-defined race (African American vs white), sex, residence (urban vs rural), education, income, and marital status (married,

Download English Version:

<https://daneshyari.com/en/article/5576755>

Download Persian Version:

<https://daneshyari.com/article/5576755>

[Daneshyari.com](https://daneshyari.com)