Middle-Aged and Mobility-Limited

Prevalence of Disability and Symptom Attributions in a National Survey

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BACKGROUND: Lower limb mobility disabilities are well understood in older people, but the causes in middle age have attracted little attention.

OBJECTIVES: To estimate the prevalence of mobility disabilities among noninstitutionalized adults in England and to compare the disabling symptoms reported by middle-aged and older people.

DESIGN: Cross-sectional data from the 2002 English Longitudinal Study of Ageing (ELSA). Mobility disability was identified by level of reported difficulty walking a quarter mile.

PARTICIPANTS: Eleven thousand two hundred sixteen respondents aged 50 years and older living in private households in 2002.

RESULTS: The prevalence of difficulty walking a quarter mile increases sharply with age, but even in the middle-aged (50 to 64 years age-group) 18% (95% confidence interval [CI]: 16% to 19%) of men and 19% (95% CI: 17% to 20%) of women reported some degree of difficulty. Of the 16 main symptoms reported as causing mobility disability in middle age, 2 dominated: pain in the leg or the foot (43%; 95% CI: 40% to 46%) and shortness of breath/dyspnea (21%; 95% CI: 18% to 23%). Fatigue or tiredness, and stability problems were cited by only 5% and 6%, respectively. These proportions were slightly different from those in the 65 to 79-year age group: 40%, 23%, 6%, and 8%, respectively.

CONCLUSIONS: Mobility (walking) disabilities in the middle-aged are relatively common. The symptoms reported as causes in this age group differ little from those reported by older groups, and are dominated by lower limb pain and shortness of breath. More clinical attention paid to disabling symptoms may lead to disability reductions in later life.

KEY WORDS: mobility-limited; middle-aged; symptoms.

DOI: 10.1111/j.1525-1497.2006.00564.x

J GEN INTERN MED 2006; 21:1091-1096.

Difficulty in walking medium distances is thought of as common only in the elderly. However, Iezzoni et al.¹ showed that 9% of noninstitutionalized people aged 50 to 69 years in the United States reported mobility difficulties, based on difficulties moving unassisted around the community, walking a quarter mile, or walking up 10 steps. These functions are integral to everyday life; yet, little attention has been paid to them in middle-aged people.

A number of diseases have been linked to disability in older people, including arthritis, diabetes, stroke, and cardiovascular disease,² and Iezzoni et al.¹ presented disease and

injury data suggesting that similar causes are important in younger groups. However, the disease functioning relationship is complex, as patients with the same disease often have different levels of disability. Analysis of symptoms as well as disease can provide greater insight into the disablement process. For example, Adamson et al.³ found that frequency of lower limb pain was an important factor independent of reported disease in models of mobility impairment. Similarly, Leveille et al.⁴ reported that musculoskeletal pain was the most frequently reported symptom causing disability in older women, followed by weakness, unsteadiness, and fatigue.

In this paper, we address 3 key questions: (a) how common are mobility impairments in middle-aged men and women? (b) what symptoms are cited as causing these impairments? and (c) and how do these differ from the symptoms cited in older age groups with the same impairments? The English Longitudinal Study of Ageing (ELSA),⁵ with its national sample aged 50 years and over, provides a rare opportunity to explore the symptomatic causes of disability across the middle and older age range.

METHODS

Sample

Data were from the first wave of ELSA. The sample was from households responding to the Health Survey for England (HSE), an annual government-funded survey (details published⁵). Individuals were eligible if they were living in a responding HSE household in 1998, 1999, or 2001, were born on or before 29 February 1952, and were, at ELSA interview, still living at a private residential address in England. Face-to-face interviews were in respondents' homes, using structured computerized questionnaires. Participants gave their informed consent to take part in the study. International Review Board (IRB) number for the ethics approval of the ELSA study: IRB00002308 and the latest MREC approval for ELSA, Ref: MREC/04/006.

Mobility was assessed by self-reported difficulty in walking a quarter mile due to health problems (i.e., any long-term physical, mental, or emotional problem or illness), with responses of "no difficulty, some difficulty, much difficulty or unable to do this." For the main analysis, those reporting any difficulty were classed as limited. The validity of the measure and dichotomization was supported by comparing the mean

No conflicts of interest to report.

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Manuscript received April 20, 2005

Initial editorial decision June 24, 2005

Final acceptance May 19, 2006

gait speed of participants over 2 8-foot walks and the proportion of participants who reported having difficulty doing at least 1 activity of daily living (ADL) (see section below). The mean (SD) speed with limited mobility was 0.63 (0.25) m/s compared to without 0.94 (0.25) m/s, a difference of 0.31 m/s (95% confidence interval [CI]: 0.30 to 0.32 m/s, $P < .001$ in 2-sided t test). Fifty-five percent of participants with limited mobility had at least 1 ADL difficulty compared with 7% of the nonlimited (difference 48%, 95% CI: 46% to 50%, $\chi^2 P < .001$).

Sociodemographic Factors

The official Occupational Social Class (NS-SEC)⁶ categories were used, covering the following: “managerial and professional” (those supervising others, including professional, or higher technical occupations); “intermediate” (no general planning or supervisory powers, e.g., clerical, service, and intermediate technical occupations); “routine and manual” (lower supervisory or technical occupations, and routine or semi-routine); and “other.” Nonworkers were classified according to their last main paid job.

Educational qualifications were grouped into: “degree/higher” (university degree or higher National Vocational Qualifications); “intermediate” (lower vocational or high school completion); and “no qualifications.”

ADL

Participants reported having difficulty (irrespective of need for help, responses “yes” or “no”) with the following ADLs: “dressing, including putting on shoes and socks,” “walking across a room,” “bathing or showering,” “eating, such as cutting up food,” “getting in or out of bed,” and “using the toilet, including getting up or down.”

Self-Reported Reasons for Having Difficulty Walking

Participants were asked: “What are the symptoms that prevent you, or cause you to have difficulty, walking a quarter of a mile?” Options on a “show card” were as follows: chest pain; fatigue/too tired; shortness of breath; tremor(s); pain in leg or foot; swelling in leg or foot; incontinence or fear of incontinence; seeing difficulty; hearing difficulty; confusion; difficulty concentrating; memory problems; unsteady on feet or balance problems; light-headed or dizziness; fear of falling; anxiety or fear; and some other problem or symptom.

Statistical Methods

Analyses were performed using Stata 9.1.⁷ All analyses are reported by sex, as disability prevalence is higher in older women,² and mechanisms for disability development differ.⁸

To identify symptoms associated with younger age, 10 sets of logistic regression models were fitted with each symptom as the outcome and age group as the main explanatory factor, with the 2 older groups being compared with the youngest group. All analyses were adjusted for occupational social class and educational qualification, both factors being strongly associated with disability risk and markers of behavioral and other differences.^{9–13}

The individual response rate in HSE 1998 was 69%, 70% in 1999 and 67% in 2001, and 67% in ELSA, yielding a net

response of 45% overall. The reason given for nonresponse was mainly due to refusal rather than being too sick or disabled.⁵ Analyses accounted for clustering (postcode sectors) and stratification (district health authority) of the HSE study and the nonresponse weights for the ELSA 2002 study.⁵ When the analyses were repeated without nonresponse weights, no substantial changes in estimates were obtained.

RESULTS

The percentage of people reporting any degree of difficulty in walking a quarter mile increased with advancing age ($P < .001$ for both men and women). Prevalence was also higher in women than in men (Fig. 1), at least in the older groups.

Overall, 18% (95% CI: 16% to 19%) of middle-aged men (50 to 64 year olds) and 19% (95% CI: 17% to 20%) of middle-aged women had some degree of mobility limitation.

Activity of Daily Living difficulties (irrespective of need for help) were present in a considerable proportion of the sample, even at the younger ages: thus, 11% of men in the youngest group and 10% of women had 1 or 2 ADL difficulties, and 5% and 4% reported 3 or more difficulties, respectively.

The Mobility-Limited Group

Three thousand two hundred ninety-three individuals reported some or much difficulty or were unable to walk a quarter mile: the analyses that follow are confined to this mobility-limited group. Those reporting “some difficulty” were approximately half of the middle-aged mobility-limited group (Table 1), compared with a third of the older-old group, proportionately more of the older-old reporting being unable to walk a quarter mile. The number of ADL difficulties reported by mobility-impaired respondents was much higher than the sample as a whole, but remained fairly stable across the age groups for men, with slight increases for women.

Self-Reported Reasons for Mobility Disability

Main or Only Reason. Of the 16 symptoms on the show card, only 6 were cited as the “single main reason” for impairment by $> 3\%$ of the sample (Table 2). Two symptoms dominated across the age range, namely “pain in the leg or foot,” and “shortness of breath.”

In men especially, the percentage reporting lower limb pain was relatively stable, declining from 42% in the middle-aged to

FIGURE 1. Prevalence (%) of each level of difficulty in walking a quarter mile, by age and sex.

Table 1. Distribution of Whole ELSA Sample (%) and Mobility-Limited Group, by Demographic Factors and Ability to Walk a Quarter Mile

		Male						Female					
		Middle-Aged 50 to 64 y		Younger-Old 65 to 79 y		Older-Old ≥ 80 y		Middle-Aged 50 to 64 y		Younger-Old 65 to 79 y		Older-Old ≥ 80 y	
		ELSA Sample n=2,691, n(%)	Mobility- Limited n=491, n(%)	ELSA Sample n=1950, n(%)	Mobility- Limited n=608, n(%)	ELSA Sample n=470, n(%)	Mobility- Limited n=268, n(%)	ELSA Sample n=3111, n(%)	Mobility- Limited n=593, n(%)	ELSA Sample n=2275, n(%)	Mobility- Limited n=844, n(%)	ELSA Sample n=737, n(%)	Mobility- Limited n=489, n(%)
Occupational social class	Managerial and professional	1048 (39)	101 (21)	626 (32)	135 (22)	176 (37)	85 (32)	847 (27)	112 (19)	435 (19)	129 (15)	119 (16)	67 (14)
	Intermediate occupation	538 (20)	90 (18)	350 (18)	95 (16)	74 (16)	44 (16)	823 (26)	111 (19)	646 (28)	196 (23)	201 (27)	132 (27)
	Routine and manual	1091 (41)	299 (61)	967 (50)	376 (62)	220 (47)	139 (52)	1394 (45)	350 (59)	1112 (49)	476 (56)	363 (49)	256 (52)
	Other	12 (0)	1 (0)	7 (0)	2 (0)	0 (0)	0 (0)	46 (1)	19 (3)	82 (4)	43 (5)	54 (7)	34 (7)
	Missing/refused	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Educational qualification	Degree or higher	950 (35)	85 (17)	399 (20)	71 (12)	67 (14)	27 (10)	685 (22)	67 (11)	307 (13)	82 (10)	68 (9)	43 (9)
	Intermediate	1013 (38)	173 (35)	675 (35)	177 (29)	130 (28)	75 (28)	1313 (42)	204 (34)	679 (30)	218 (26)	154 (21)	87 (18)
	No qualifications	722 (27)	232 (47)	872 (45)	358 (59)	272 (58)	166 (62)	1109 (36)	321 (54)	1287 (57)	544 (64)	513 (70)	357 (73)
	Missing/refused	6 (0)	1 (0)	4 (0)	2 (0)	1 (0)	0 (0)	4 (0)	1 (0)	2 (0)	0 (0)	2 (0)	2 (0)
Number of ADL difficulties	0	2277 (85)	201 (41)	1515 (78)	282 (46)	289 (61)	113 (42)	2682 (86)	296 (50)	1707 (75)	402 (48)	419 (57)	201 (41)
	1, 2	283 (11)	169 (34)	324 (17)	221 (36)	130 (28)	104 (39)	305 (10)	184 (31)	418 (18)	302 (36)	242 (33)	213 (44)
	3+	129 (5)	121 (25)	109 (6)	105 (17)	51 (11)	51 (19)	119 (4)	112 (19)	145 (6)	140 (17)	76 (10)	75 (15)
	Missing	2 (0)	0 (0)	2 (0)	0 (0)	0 (0)	0 (0)	5 (0)	1 (0)	5 (0)	0 (0)	0 (0)	0 (0)
Ability to walk a 1/4 mile	No difficulty	2195 (82)	—	1340 (69)	—	202 (43)	—	2513 (81)	—	1425 (63)	—	248 (34)	—
	Some difficulty	237 (9)	237 (48)	275 (14)	275 (45)	97 (21)	97 (36)	341 (11)	341 (58)	394 (17)	394 (47)	146 (20)	146 (30)
	Much difficulty	125 (5)	125 (25)	145 (7)	145 (24)	49 (10)	49 (18)	119 (4)	119 (20)	150 (7)	150 (18)	83 (11)	83 (17)
	Unable to	129 (5)	129 (26)	188 (10)	188 (31)	122 (26)	122 (46)	133 (4)	133 (22)	300 (13)	300 (36)	260 (35)	260 (53)
	Missing/refused	5 (0)	—	2 (0)	—	0 (0)	—	5 (0)	—	6 (0)	—	0 (0)	—

ADL, activity of daily living; ELSA, English Longitudinal Study of Ageing; CI, confidence interval.

37% in the older-old. "Shortness of breath" had a prevalence of 22% and 19% in middle-aged men and women, again with similar prevalence across the age range. There were some increases in the percentages reporting stability problems (including "unsteady on feet or balance problem") and "fatigue/too tired" in the older groups.

Multiple Reasons. Having more than 1 mobility-limiting symptom was reported by very similar proportions across the age groups: 61% to 62% of the disabled men and by 57% to 62% of women. The prevalence of each multiple symptom was also fairly stable across the age groups (Table 3). "Pain in the leg or foot" was very commonly reported (by 62% and 63% of middle-aged men and women, respectively), and "shortness of breath" remained the second most common symptom.

The logistic regression models adjusting for socio-economic markers (Table 3) showed mostly modest age group differences. For example, "pain in the leg and foot" was more common in the youngest group in both men and women. "Anxiety or fear" and "chest pain" (men only) were more common in middle age. Sensory problems were markedly more common with advancing age, although even in the oldest groups the prevalence was only 13% (men) and 12% (women). Stability problems were also more common in the older groups.

When those with only "some difficulty" in walking a quarter mile were removed from the disability category in sensitivity analyses, estimates remained in the same direction although generally had wider confidence intervals.

DISCUSSION

Limited mobility is a typical feature of the frail elderly,^{14,15} but in this study we have shown that difficulties in walking medium distances are by no means restricted to the old. The prevalence of mobility limitation increases sharply with age, but even in middle age (50 to 64 years) almost one-fifth of the sample reported some degree of difficulty. We have also shown that despite the wide range of symptoms assessed, by far the most common single main causal symptom cited was "pain in the leg or foot," followed by "shortness of breath" (dyspnea).

Surprisingly, these major causes formed relatively stable proportions across the age range. This consistency was also evident in the overall numbers of disabling symptoms reported. When we compared the prevalence of reporting any of the multiple symptoms, differences were generally modest in scale. An exception was the strong increasing trend with age group for sensory difficulties, although even this was cited by only approximately 1 in 8 of the older-old. Overall, therefore,

Table 2. Percentage of Those with Difficulty Walking a Quarter Mile Reporting Each Single Main Symptom as the Cause of Their Mobility Difficulty, by Sex and Age-Group

	Male*			Female*		
	Middle-Aged 50 to 64 y, n (%)	Younger-Old 65 to 79 y, n (%)	Older-Old 80+y, n (%)	Middle-Aged 50 to 64 y, n (%)	Younger-Old 65 to 79 y, n (%)	Older-Old 80+y, n (%)
Pain in leg or foot	207 (42)	233 (38)	98 (37)	266 (45)	351 (42)	152 (31)
Shortness of breath	108 (22)	158 (26)	53 (20)	114 (19)	178 (21)	81 (17)
Other problem or symptom†	94 (19)	96 (16)	41 (15)	136 (23)	163 (19)	97 (20)
Chest pain	31 (6)	32 (5)	13 (5)	10 (2)	27 (3)	6 (1)
Stability problem‡	27 (6)	40 (7)	43 (16)	33 (6)	78 (9)	100 (20)
Fatigue/too tired	24 (5)	49 (8)	20 (7)	34 (6)	46 (5)	52 (11)
Total	491 (100)	608 (100)	268 (100)	593 (100)	843 [§] (100)	488 [§] (100)

* $P < .001$ from Pearson χ^2 test corrected for survey design.

†Includes "tremor(s)," "swelling in leg or foot," "incontinence or fear of incontinence," "seeing difficulty," "hearing difficulty," "confusion," "memory problems," "light headedness or dizziness," "anxiety or fear" and "some other problem or symptom." "Some other problem or symptom" was given by 166 males and 276 females, therefore representing the majority of this "other" category.

‡Includes "unsteady on feet or balance problems" and "fear of falling."

§Symptoms details were not available for 2 women 1 aged 65 to 79 years and 1 aged 80+ years.

the picture of mobility disability in middle age is dominated by the same symptoms as in older groups.

The interview data used were from a sample of community-dwelling older adults and patterns of disability may be different in the institutionalized elderly, although rates of institutionalization in the middle-aged are very low. The ELSA interview had a 67% response rate in 2002, which, combined with the source HSE response, yielded a limited overall rate (45%). This limited response could have introduced biases into the estimates, as nonresponse in U.K. household surveys has been shown to be linked to factors such as having had less education and living in large inner cities,¹⁶ factors that could be linked to higher rates of morbidity. Few of the nonresponders questioned cited being too sick or disabled⁵ as their reason for nonparticipation. As discussed below, mobility limitation and ADL rates in ELSA were similar to those in analogous nationally representative U.S. studies from which the ELSA questions were replicated, suggesting that response is unlikely to have had a major effect on our analysis.

The ELSA question on difficulty in walking a quarter mile was identical to that asked in the U.S. NHANES III study,¹⁷ and overall estimates of age-standardized difficulty were similar across these 2 studies: 21% for ELSA and 20% for the NHANES III data in 50 to 64 year olds, and 34% versus 31%, respectively, in 65 to 79 year olds (our analyses of NHANES III dataset). Detailed comparisons between U.S. NHANES III and ELSA, including measured gait speed data, concluded that the 2 populations had similar patterns of mobility limitation.¹⁸ Comparisons with other English studies are limited by the ELSA use of U.S. question wording. The nationally representative Health Survey for England 2001¹⁹ reported that 16% of men and 13% of women aged 55 to 64 years could not walk half this distance (200 meters) without stopping or discomfort, which would be broadly in line with the ELSA estimate for any level of difficulty walking a quarter mile. In any event, these estimates indicate that difficulties with medium distance walking are not rare in either country in the 50 to 64-year age group.

Our estimates of the prevalence of Activity of Daily Living difficulties (Table 1) may appear high, especially in the youngest group. The questions about ADLs in ELSA were copied from the U.S. Health and Retirement Study (HRS), a nationally rep-

resentative cohort of older Americans. These questions include any level of difficulty irrespective of whether help was needed with the task. In HRS (our analyses of the public dataset), the prevalence of ADL difficulties in women is similar to the ELSA estimate: in 50 to 64 year olds, the prevalence of having no ADL difficulties was 87.9% in ELSA and 87.3% in HRS; for 3 or more ADLs, it was 3.5% and 3.7%, respectively. However, for men in the same age group, rates of difficulty were slightly higher in ELSA: 86.5% versus 90.1% for no difficulties, 4.5% versus 2.4% for 3 or more ADL difficulties in ELSA versus HRS, respectively. As our findings on the symptomatic causes of disability in women and men are similar, it seems unlikely that the somewhat higher reporting of ADL difficulty in men in ELSA could have changed our conclusions.

The data are cross-sectional, but this analysis sought to identify symptoms concurrently perceived as causing mobility disability in the middle-aged. It may be that these symptoms are also predictive of disability progression in the future, but that is another matter. The symptoms were not confirmed objectively, although it is unclear how confirmation could be possible. Rates of significant cognitive impairment in the sample were low⁵ and therefore this factor is unlikely to have distorted reporting. The data were designed to reflect what the respondents thought caused their mobility disability, and therefore have internal validity. In addition, reporting symptoms clearly requires less interpretation than asking respondents to report the diseases causing their disabilities. Indeed, Levielle et al.²⁰ argue that the classification of disability could be improved by incorporating self-reported symptoms.

Mobility (walking) is a key element of functioning: the great majority of older people reporting any disability report mobility disability.²¹ In the middle-aged, these mobility difficulties cannot be dismissed as mild: being able to walk a quarter mile (402 m) would be part of, for example, walking around a supermarket or moving around outdoors. Also, the majority of the middle-aged mobility-impaired also had ADL difficulties, with over half reporting having one or more such difficulties (Table 1). Jylha et al.²² reported that walking difficulty is also an important predictor of poor self-rated health, and associations with future mortality are well established.²³⁻²⁵

In terms of disabling symptoms in the middle-aged, the Cardiovascular Health Study also found that musculoskeletal

Table 3. Percentage of Multiple Symptoms Reported as Causing Difficulty Walking a Quarter Mile, with Adjusted Odds Ratios of Symptom Reporting in Older vs Middle-Aged Groups

Symptom	Male						Female					
	Middle-Aged 50 to 64 y		Younger-Old 65 to 79 y		Older-Old ≥ 80 y		Middle-Aged 50 to 64 y		Younger-Old 65 to 79 y		Older-Old ≥ 80 y	
	n=491 (%)	OR n=608 (%)	OR (95% CI)*	n=268 (%)	OR (95% CI)*	n=593 (%)	OR n=843 [†] (%)	OR (95% CI)*	n=488 [‡] (%)	OR (95% CI)*		
Pain in leg or foot	62	1	56	0.80 (0.62 to 1.03)	52	0.68 (0.50 to 0.93)	63	1	58	0.81 (0.66 to 1.00)	51	0.60 (0.46 to 0.77)
Shortness of breath	41	1	47	1.22 (0.96 to 1.56)	40	0.95 (0.69 to 1.31)	36	1	39	1.12 (0.89 to 1.40)	36	0.96 (0.74 to 1.25)
Other reason [‡]	29	1	22	0.67 (0.51 to 0.88)	22	0.65 (0.45 to 0.94)	30	1	24	0.76 (0.60 to 0.96)	22	0.64 (0.48 to 0.85)
Stability problems [§]	26	1	27	1.07 (0.81 to 1.40)	38	1.77 (1.28 to 2.46)	21	1	30	1.53 (1.20 to 1.97)	45	3.15 (2.37 to 4.17)
Fatigue/too tired	24	1	22	0.89 (0.67 to 1.20)	25	1.09 (0.76 to 1.55)	22	1	22	0.96 (0.75 to 1.25)	26	1.26 (0.94 to 1.68)
Chest pain	20	1	14	0.66 (0.48 to 0.90)	15	0.68 (0.45 to 1.04)	9	1	10	1.14 (0.79 to 1.66)	6	0.68 (0.43 to 1.08)
Swelling in leg or foot	16	1	16	0.97 (0.71 to 1.34)	13	0.75 (0.49 to 1.17)	20	1	21	0.98 (0.75 to 1.29)	18	0.81 (0.59 to 1.12)
Light-headed or dizziness	11	1	10	0.93 (0.62 to 1.38)	9	0.94 (0.56 to 1.57)	9	1	9	0.96 (0.65 to 1.40)	11	1.23 (0.81 to 1.87)
Anxiety or fear	6	1	3	0.50 (0.27 to 0.95)	3	0.55 (0.25 to 1.22)	6	1	3	0.47 (0.28 to 0.79)	5	0.73 (0.42 to 1.27)
Sensory problems	4	1	9	2.16 (1.27 to 3.67)	13	3.52 (1.93 to 6.40)	4	1	6	1.71 (1.02 to 2.86)	12	3.43 (2.07 to 5.71)

*Odds ratio and 95% confidence interval from logistic regression, comparing older age groups to youngest age group, adjusted for occupational social class and educational qualifications. Six men were removed from the "male" logistic regression models, 3 with missing educational qualification and 3 with "other" occupational social class. Three women with missing educational qualification were removed from the "female" models.

†Symptoms details were not available for 2 women, 1 aged 65 to 79 years and 1 aged 80+ years.

‡Includes "tremor(s)," "incontinence," confusion, and memory problems.

§Includes "unsteady on feet or balance problems" and "fear of falling."

|| Includes "seeing difficulty" and "hearing difficulty."

OR, odds ratio; CI, confidence interval.

pain was the most common symptom linked to disability.²⁶ The Baltimore-based Women's Health and Aging Study (WHAS) found that of disabled women (mean age 78 years), 25% reported pain in the hip or knee and 20% reported shortness of breath as their main disabling symptom in relation to a quarter-mile walk. Several papers from WHAS have explored the role of pain in disability, including pain in the feet.^{4,16,27-29} Pain was also key in explaining mobility disability in a study of 58 year olds in Scotland.³

An important aspect of the findings is that interventions are available to manage several of the main disabling symptoms reported. Without good management, disabling symptoms are likely to evolve and accumulate over time.⁴ Thus, pain causing limited movement may eventually erode strength and balance. The obvious implication for clinicians is that better assessment and management of early disabling symptoms in middle age may delay or prevent more severe disability in old age. Unfortunately, both hospital and office-based physicians in the United States have been found to underestimate or miss functional disabilities in their patients.³⁰ Bogardus et al.³¹ found that most medical records contained no documentation of individual disabilities in a group of hospitalized older patients. In a pilot study in primary care, Baker and Johnston³² found that only 6% to 20% of patients with marked problems in functioning were referred for further assessment or treatment. Mobility-impaired patients have also been shown to be less likely to receive several types of preventive services.³³ In the United Kingdom, Memel et al.³⁴ found that general practitioners frequently lacked knowledge about the functional disabilities of their patients with osteoarthritis.

Our findings, indicating that much of middle-aged disability is linked to lower limb pain or dyspnea, suggest that efforts to improve care could be focused on these symptoms. Better identification of disabling symptoms should lead to assessment for major interventions such as hip and knee replacement. Those with less tractable symptoms may do better with structured chronic disease management approaches.³⁵ Trials of such approaches are needed and justified by the prospect of preventing the cascade of more severe disabilities that are likely to develop if early mobility limitations are not addressed.

CONCLUSIONS

Mobility (walking) disability in the middle-aged is not rare. Lower limb pain and shortness of breath dominate the symptoms cited for mobility disabilities across the 50 years and over age range. More clinical attention paid to disabling symptoms in middle age may lead to reductions in disability in later life.

Funding/Support: This analysis was funded by The Health Foundation (U.K.) (Ref: 543/2216) and NIH award R03-AG022912-01. This research was supported in part by the Intramural Research program, National Institute on Aging, U.S. National Institutes of Health.

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