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Health-related quality of life in relation to mobility and fall risk in 85-year-old people: a population study in Sweden

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ABSTRACT
Optimal mobility is fundamental for healthy ageing and quality of life. This study is part of a cross-sectional population-based study of 85-year-old people residing in Linköping municipality, Sweden. The purpose was to describe 85-year-old peoples' health-related quality of life (HRQoL) in relation to mobility and fall risk while adjusting for gender and body mass index. Data collection included a postal questionnaire, a home visit and a reception visit. HRQoL was assessed with EQ-5D-3L, mobility with the Timed Up and Go test (TUG) and fall risk with the Downton Fall Risk Index (DFRI). All those who completed the DFRI, TUG and EQ-5D-3L were included in the present study (N = 327). Lower HRQoL was associated with longer time taken to complete TUG and higher fall risk in both genders but not with body mass index. Women had higher risk of falling, took a longer time to complete TUG and reported less physical activity compared with men. Health-care professionals should address mobility capacity and fall risk in order to maintain quality of life in elderly people. This is of utmost importance, especially for elderly women because impaired mobility, high risk of falling and occurrence of pain are common among women, and related to lower HRQoL.

KEY WORDS – Downton Fall Risk Index, Timed Up and Go, EQ-5D, elderly, gender, body mass index.

Introduction

Health-related quality of life (HRQoL) in old age is associated with mobility (Fagerström and Borglin 2010; Gorgon, Said and Galea 2007). Optimal mobility is fundamental for healthy ageing as part of a sense of self and feeling whole, and is thus fundamental to living (Turner Goins *et al.* 2014).

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Mobility refers to movement within and between environments and includes transferring from bed to chair, walking, engaging in leisure activities, biking, driving and using different means of transport (Prohaska *et al.* 2011).

Maintaining a high level of strength is very important for older persons in order to achieve optimal health status and the factor ability to walk can pick up changes in both physical and psychological HRQoL (Fagerström and Borglin 2010). An adapted physical activity programme, with a focus on muscle strength and balance, has been shown to be beneficial to functional ability, quality of life and fall risk in older women (Idland *et al.* 2013; Kovács *et al.* 2013). Especially in women, higher levels of physical activity are associated with greater muscle strength (Gómez-Cabello *et al.* 2014). Higher age, higher body mass index (BMI) and poorer self-rated health are reported as predictors of poorer mobility over time (Idland *et al.* 2013). Obesity, defined as BMI $\geqslant$ 30 kg/m^2, in adults aged 65 years or older is reported to be associated with overall HRQoL (Yan *et al.* 2004). BMI together with mobility disability is shown to increase the risk for low general health for persons of working age and mobility disability to decrease HRQoL (Holmgren *et al.* 2014). In addition, cognitive performance is associated with physical capacity and cognitive impairment could be preceded by slowing gait speed (Desjardins-Crépeau *et al.* 2014).

Impaired mobility is associated with an increased fall risk. For example, Montero-Odasso *et al.* (2012) showed that there is an interplay between gait velocity and variability and falls, where higher gait variability predicts falls; thus, falls are a major health problem among older people. Among those aged 75 years and older who live in ordinary housing, 42 per cent have fallen once or more (Downton and Andrews 1991) and people living in institutions are more than twice as likely to fall as those living in ordinary housing (von Heideken Wågert *et al.* 2009). People who have fallen once are more likely to fall again within a year (Ambrose, Paul and Hausdorff 2013; Wu *et al.* 2013) and women seem more likely to fall than men (Downton and Andrews 1991; Rossat *et al.* 2010). A high proportion of older people who fall require medical attention and one in seven falls may result in a fracture (von Heideken Wågert *et al.* 2009). Fall-related deaths among people over 80 years have increased and will continue to increase because of population ageing (Tinetti and Kumar 2010).

To prevent falls among older people is an important issue for health-care professionals and an issue for the quality of life of older people as well as a socio-economic matter (Kannus *et al.* 2005). More knowledge on elderly people living in ordinary housing, their mobility capacity and HRQoL is needed; most studies are performed in institutions or sheltered housing and they usually encompass a wider age span, such as 85+. Through the

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Elderly in Linköping Screening Assessment (ELSA 85), a population-based survey of 85-year-old people residing in Linköping municipality in Sweden (Nägga *et al.* 2012; Rådholm *et al.* 2011), it was possible to describe mobility and fall risk using the Timed Up and Go test (TUG; Podsiadlo and Richardson 1991) and the Downton Fall Risk Index (DFRI; Downton 1993) and relate these to HRQoL. Few studies have included only oldest-old people, *i.e.* people more than 85 years of age, when using the DFRI and the TUG (Myers 2003; Myers and Nikoletti 2003; Persad, Cook and Giordani 2010; Scott *et al.* 2007). Thus, the purpose of this study was to describe 85-year-old peoples' HRQoL in relation to mobility and fall risk while adjusting for gender and BMI.

Methods

Design

This cross-sectional study is part of the main study of the ELSA 85, a population-based study of all 85-year-old people residing in Linköping municipality, Sweden (Nägga *et al.* 2012; Rådholm *et al.* 2011). All residents in the municipality of Linköping born in 1922 (N = 650) were identified through the local authority's register and invited by letter to participate in the study. Data were collected between March 2007 and March 2008. All participants received information about the study and that participation in each phase was voluntary and could be terminated by the participant at any time without justification. Written informed consent was obtained from all participants. The ELSA 85 study was approved by the Regional Ethics Review Committee in Linköping, Sweden (141/06).

Participants and setting

All persons born in 1922 and living in Linköping municipality (N = 650) in Sweden were invited to participate in the study. Fifty-two persons could not be reached either by post or by telephone and 12 were no longer alive. Ninety per cent (N = 586) replied to the invitation and 76 per cent (N = 496) agreed to participate and answered the postal questionnaire (Nägga *et al.* 2012; Rådholm *et al.* 2011). All persons who answered the questionnaire were asked to participate further; 380 accepted. Further participation included a home visit from an occupational therapist (performed within two weeks) and a visit at the geriatric clinic for (within two weeks after the home visit), among other things, a physical examination and assessments with the DFRI and the TUG. The DFRI was assessed in 380 persons and 327 completed the TUG test. All 327 persons who

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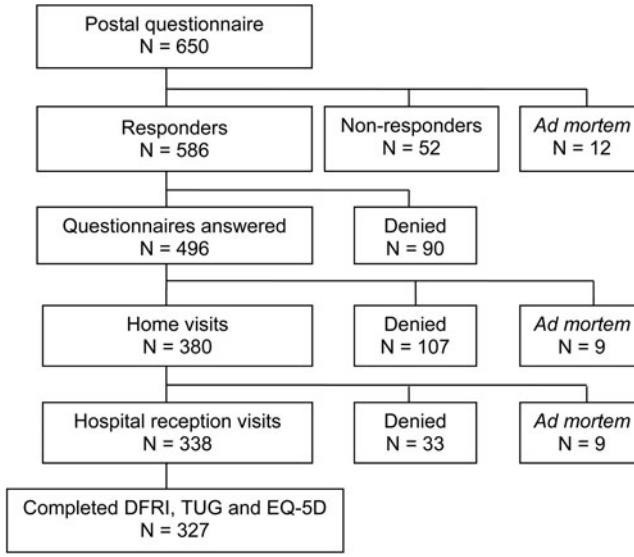

Figure 1. Flow chart of the study.
Notes: DFRI: Downton Fall Risk Index. TUG: Timed Up and Go test.

completed the DFRI, the TUG test and the EQ-5D-3L were included in the present study (Figure 1).

A greater proportion of non-participants resided in sheltered accommodation or nursing homes. During the home visit or reception visit, a higher proportion of dropouts reported mid-severe problems in EQ-5D domains (mobility and self-care) and limitations in personal activities of daily living, but the differences between participants and dropouts were very small (Dong, Wressle and Marcusson 2015).

Postal questionnaire

The postal questionnaire included questions on socio-demographic data, use of community assistance, use of transportation services, use of a personal alarm, use of assistive technology, frequency of physical exercise habits (walking once a week; walking several times a week; walking every day; other regular exercise; or no exercise). The postal questionnaire also included the EQ-5D-3L, a generic instrument that assesses HRQoL in terms of mobility, self-care, usual activities, pain/discomfort and anxiety/depression (Rabin and de Charro 2001; The EuroQoL Group 1990). The response alternatives are no problem, moderate problems or extreme problems. In addition, the EQ-5D-3L contains a visual analogue scale (VAS) that records the individual's self-rated health status (EQ-5D VAS score),

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ranging from 0 (worst imaginable health status) to 100 (best imaginable health status).

Home visit

At the home visit, cognitive function was assessed using the Mini Mental State Examination (MMSE; Folstein, Folstein and McHugh 1975). The MMSE assesses orientation to time and place, attention, memory, and language and visual construction. The MMSE has a maximum of 30 points where higher scores indicate better cognition. Recent recommended cut-off levels were used: ⩾27 = no impairment; 21–26 = mild impairment; 11–20 = moderate impairment; and ⩽10 = severe impairment (Folstein *et al.* 2001). Following this recommendation, 12 participants had moderate or severe cognitive impairment (score < 21).

Reception visit

At the reception visit, measurements regarding BMI, mobility and fall risk were performed. BMI was used as a global index of nutritional status. BMI was calculated by (weight in kilograms)/(height in metres (m))^2 and classified according to the criteria developed by the World Health Organization (2000): <18.5 kg/m^2 = underweight; 18.5–24.9 kg/m^2 = normal range; 25.0–29.9 kg/m^2 = overweight; ⩾30.0 kg/m^2 = obese.

Mobility

The TUG test measures physical mobility skills such as gait, strength and balance. The individual is asked to rise from a standard armchair, walk 3 m, turn, walk back to the chair and sit down, and the time taken for this is measured in seconds (s). The person wears their regular shoes and uses their usual walking aids, excluding physical assistance. The cut-off values used were <10 s to identify freely independent individuals and <20 s to reflect satisfactory physical mobility skills and a limit for increased fall risk (Podsiadlo and Richardson 1991). The TUG test, used as described by the developers, was conducted by an occupational therapist or a nurse during the reception visit at the geriatric clinic.

Fall risk

The DFRI is a multifactorial assessment tool (Downton 1993) that includes five areas with a varying number of variables, which are given a score of 0 or 1. The DFRI areas are previous falls (yes, no), medications (tranquilisers, diuretics, anti-hypertensives, anti-Parkinsonian drugs and antidepressants,

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score 1 for each), sensory deficits (visual, hearing and motor function impairment, score 1 for each), mental state (oriented, confused = 1) and gait (unsafe = 1, normal or unable = 0). The total score can range from 0 to 11 and a score ⩾3 indicates a high risk of falling (Downton 1993). The DFRI was performed by an occupational therapist during the reception visit. Data for the DFRI were collected from the information provided by the participants; data on medications were taken from medical records.

Statistics

All calculations were done using the Statistical Package for the Social Science (SPSS). The demographic data are given as absolute and relative frequencies. Differences between men and women were tested by the chi-squared test. A significance level of 5 per cent was used (Altman 1991). Perceived HRQoL was measured by the EQ-5D VAS score. The response alternatives in the EQ-5D-3L items were dichotomised into two categories: no problem/no pain/no anxiety or having problems/pain/anxiety. The Mann–Whitney *U*-test was used for comparisons between gender regarding MMSE score as the data were not normally distributed. The *t*-test was used for gender comparisons regarding number of drugs, BMI, the EQ-5D index value and the EQ-5D VAS score, with the 95 per cent confidence interval (CI). Spearman rank-order correlation was performed for correlation analysis between EQ-5D items and DFRI scores, and between MMSE and TUG time score; the Pearson correlation test was used for EQ-5D and TUG time score and BMI. Multiple linear regression analyses, using the forced-entry method, were conducted to explore which variables best predicted HRQoL. The estimates of the relationship between HRQoL (EQ-5D VAS) and TUG time score, mobility (DFRI score) and BMI score were generated separately for each gender. Variables were entered in the following order: TUG time score, mobility (DFRI score) then BMI score.

Results

Demographic data

Most of the participants lived in their own housing and a higher proportion of women than men lived alone. Thirty-four per cent had a personal alarm, 8 per cent used daily community assistance and 34 per cent used transportation services. More women than men had a personal alarm ($p < 0.001$) and required transportation services ($p < 0.001$). More men than women reported regular physical exercise habits and 58 per cent of all participants reported exercising daily or several times a week. Significantly more women

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TABLE 1. *Demographics of the participants in relation to gender*

	Total	Women	Men	p^1
N	327	189	138	
		Frequency (%)		
Housing:				0.038
Ordinary housing	307 (94)	173 (92)	134 (97)	
Community housing	20 (6)	16 (8)	4 (3)	
Living situation:				0.000
Living alone	181 (55)	133 (71)	48 (35)	
Co-habitating	146 (45)	56 (29)	90 (65)	
Physical exercise habits:				0.018
Walking 30 min every day	82 (25)	39 (21)	43 (31)	
Walking 30 min several times/week	108 (33)	69 (37)	39 (28)	
Walking 30 min once a week	34 (10)	17 (9)	17 (12)	
Other regular exercise	30 (9)	14 (7)	17 (12)	
No exercise	72 (22)	50 (26)	22 (16)	
Mobility assistive technology use:	154 (47)	116 (61)	38 (28)	0.000
Wheelchair	11 (3)	7 (4)	4 (3)	0.690
Walker	120 (37)	95 (50)	25 (18)	0.000
Stick	77 (24)	55 (29)	22 (16)	0.006
Transportation service use	112 (34)	90 (48)	22 (16)	0.000
Mean number of drugs (range)	5.4 (0–19)	5.8 (0–19)	4.6 (0–16)	0.001[2]
Median MMSE score (interquartile range)	26 (26–29)	26 (26–29)	26 (26–29)	0.746[3]
Median BMI ⩾ 30 kg/m² (interquartile range)	26 (23–28)	26 (24–29)	26 (23–27)	0.000[2]

Notes: min: minutes. MMSE: Mini Mental State Examination. BMI: body mass index. 1. Chi-squared test. 2. *t*-Test. 3. Mann–Whitney *U*-test.

than men needed mobility assistive technology. Women took more drugs compared with men (Table 1).

Results from the MMSE assessments showed a mean value of 27.2 (standard deviation (SD) = 3.3, range 6–30) for all participants, 27.0 (SD = 3.7, range 6–30) for women and 27.3 (SD = 2.7, range 12–30) for men. There was no significant statistical difference between women and men with regard to cognitive function.

Mobility

For the TUG test, the mean value for all participants was 17.6 s (SD = 7.9, range 7–64). Women had a significantly higher mean value than men (Table 2). Following the recommended TUG cut-off value of <20 s for the time score, 75 per cent of the participants had satisfactory physical mobility skills (in women 65% and in men 83%), whereas 25 per cent had an increased risk of falling. Using a cut-off value of <10 s, 9 per cent of the participants (in women 3% and in men 6%) were identified as freely independent individuals, whereas 91 per cent had an increased risk of falling. A

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TABLE 2. *Results of the Timed Up and Go test (TUG) and the Downton Fall Risk Index (DFRI) score in relation to gender*

Items	Total	Women	Men	*p*
N	327	189	138	
Mean TUG time score in seconds (SD)	17.61 (7.9)	19.39 (8.8)	15.17 (5.6)	0.000[1]
Median DFRI score (interquartile range)	3 (3–5)	4 (3–5)	3 (3–4)	0.025[2]

Notes: SD: standard deviation. 1. *t*-Test. 2. Mann–Whitney *U*-test.

longer time needed for the TUG test was associated with lower MMSE score ($r = -0.346$, $p = 0.001$).

Fall risk

According to the DFRI, 81 per cent (N = 265) of the participants were assessed as being at high risk of falling. Women had significantly higher DFRI scores compared with men, indicating a higher risk for falling (Table 2). Sixty-four per cent of the participants reported that they had previously fallen (a larger proportion of women than men). The most commonly used drugs registered in the DFRI were anti-hypertensives followed by diuretics. Women used significantly more antidepressants than men. About two-thirds had sensory impairment and/or hearing impairment; hearing impairment was more common among men. Most of the participants had no cognitive impairment and reported a normal gait.

BMI

BMI assessments resulted in a mean value of 26 kg/m^2 (SD = 4.2, range 14–50) for all participants, 26.9 kg/m^2 (SD = 4.7, range 14–50) for women and 24.9 kg/m^2 (SD = 2.9, range 17–34) for men. A larger proportion of women had high BMI ($\geqslant$30 kg/m^2) compared with men (Table 1). Higher BMI had a weak association with higher fall risk measured by the DFRI ($r = 0.140$, $p = 0.011$) and TUG ($r = 0.141$, $p = 0.011$).

HRQoL

Occurrence of pain/discomfort was found among 67 per cent of all participants (Table 3). More women reported mobility problems, occurrence of pain/discomfort and anxiety/depression compared with men. There was no difference between genders regarding perceived HRQoL, measured by the EQ-5D VAS score, however, there was a difference regarding the EQ-5D index value ($t = 2.87$, $p = 0.004$, CI = 0.12–0.02).

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TABLE 3. *Results of EQ-5D items and perceived health-related quality of life by the EQ-5D visual analogue scale (VAS) score in relation to gender*

Items	Total	Women	Men	p^1
N	327	189	138	
		Frequency (%)		
Mobility problems	145 (44)	103 (54)	42 (30)	<0.001
Problems with self-care activities	35 (11)	19 (10)	16 (12)	0.881
Problems with usual activities	70 (21)	45 (24)	25 (18)	0.417
Occurrence of pain/discomfort	220 (67)	140 (74)	80 (58)	0.002
Occurrence of anxiety/depression	115 (35)	79 (42)	36 (26)	0.003
Mean EQ-5D VAS score (SD)	67.9 (18.5)	66.8 (18.0)	69.3 (19.1)	0.242^2

Notes: SD: standard deviation. 1. Chi-squared test. 2. *t*-Test.

TABLE 4. *Correlation coefficients between EQ-5D visual analogue scale (VAS) and Timed Up and Go test (TUG), and EQ-5D VAS and Downton Fall Risk Index (DFRI), in relation to gender*

	Total	Women	Men
N	327	189	138
TUG in seconds and EQ-5D VAS	−0.393***	−0.425***	−0.356***
DFRI score and EQ-5D VAS	−0.346***	−0.313***	−0.352***

Significance level: *** $p < 0.001$.

BMI was not significantly correlated to the EQ-5D index value or to EQ-5D VAS score. Mobility problems, measured by the EQ-5D-3L, had a weak but significant association with BMI ($r = 0.146$, $p = 0.008$); the other items in EQ-5D-3L were not associated with the BMI.

Lower HRQoL was found to be associated with higher score on the DFRI ($p = 0.001$) and with more time used for the TUG test ($p = 0.001$). Women's HRQoL was more strongly associated with longer time used for walking compared with men's HRQoL (Table 4).

The regression analyses were conducted to examine whether TUG time score, mobility and BMI contributed to HRQoL (Table 5). TUG time score and mobility (DFRI score) were predictors for perceived HRQoL but BMI was not a significant predictor in either gender.

Discussion

The main finding is that decreasing mobility capacity measured by time taken to complete the TUG test was associated with lower perceived

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TABLE 5. *Results of separate multiple linear regressions for both genders (forced entry method)*

	Women (N = 189)					Men (N = 138)				
	B	SE	*β*	Adjusted R^2	ΔR^2	*B*	SE	*β*	Adjusted R^2	ΔR^2
Model 1:										
Constant	83·34	2·91				87·54	4·43			
TUG (s)	−0·86	0·14	−0·43	0·18	0·18***	−1·21	0·27	−0·36	0·12	0·13***
Model 2:										
Constant	92·73	3·73				95·75	4·86			
TUG (s)	−0·75	0·14	−0·37			−0·86	0·28	−0·26		
DFRI score	−3·01	0·79	−0·26	0·23	0·06***	−3·93	1·12	−0·29	0·19	0·07**
Model 3:										
Constant	97·60	7·44				107·387	13·25			
TUG (s)	−0·75	0·14	−0·37			−0·87	0·28	−0·26		
DFRI score	−3·07	0·79	−0·26			−3·73	1·14	−0·28		
BMI	−0·20	0·25	0·05	0·23	0·01	−0·49	0·52	−0·08	0·19	0·01

Notes: Dependent variable: EQ-5D visual analogue scale. SE: standard error. TUG: Timed Up and Go test. DFRI: Downton Fall Risk Index. BMI: body mass index.

Significance levels: ** $p < 0.01$, *** $p < 0.001$.

HRQoL. We found that women reported more mobility problems, more pain/discomfort as well as more anxiety/depression compared with men. Women had a higher risk of falling and longer TUG time scores than men. Men reported more physical activity compared with women. However, the perceived HRQoL did not differ between the genders. Women are often reported to be more vulnerable and, thus, thought to have lower HRQoL (Collerton *et al.* 2009; Stenzelius *et al.* 2005). Lower HRQoL was associated with higher fall risk and higher TUG time scores. HRQoL was not associated with BMI, in contrast to the findings of Holmgren *et al.* (2014), perhaps due to the different assessments tools used. They found a higher proportion of obesity among respondents with mobility disability compared with those without mobility disability. The results of our study showed a weak association between mobility problems and BMI.

The participants in this study were healthy according to their age; most lived in ordinary housing, had no cognitive impairment (defined as having a MMSE score of $\geqslant 27$) and only a few of the participants were in need of community services. Despite this, they were assessed as having a high risk of falling, especially according to the DFRI but a higher time score could indicate fall risk according to TUG (Nordin *et al.* 2008). However, Saveman and Björnstig (2011) showed that the injury rate per 1,000 persons increased dramatically for people more than 85 years of age and 80 per cent of injuries were caused by falls. They reported that pharmaceuticals and diseases were contributing factors and this is similar to the results of our study in which the participants took a mean of five drugs. Antihypertensives have been previously associated with an increased risk of serious fall injuries according to Tinnetti *et al.* (2010) and the greatest risk occurred among those with previous fall injuries.

Rossat *et al.* (2010) found that female gender was a risk factor for falling; this is consistent with our study showing that women had more risk factors for falling in general. They needed more walking aids, reported exercising less regularly and used more drugs compared to men. Bramell-Risberg, Jarnlo and Elmståhl (2012) showed that participants over 80 years of age took on average less time to complete the TUG test (13 s) compared with our participants, who needed more time. Perhaps the differences in walking speed at the age of 85 years compared with walking speed at age 80 years is greater than we think. More attention should probably be paid to age in assessments for fall risk, especially for those who are more than 85 years old. So one can assume that women more than 85 years of age probably have a high risk for falling and it is important to start tailoring individual prevention programmes based on the needs of the woman and known risk factors.

Obesity was reported to be associated with greater risk of falling in older adults, although a BMI $\geqslant 40$ kg/m^2 could even reduce the risk of injuries

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after falling (Himes and Reynolds 2012). We found a weak association between high BMI and results from the DFRI and the TUG test; this might be due to the rather small proportion of obese individuals (16%) in our sample.

An incidental finding was that, regardless of gender, two-thirds of the participants perceived pain. Pain influences mobility and can lead to a slower gait velocity and variability. Activity restriction caused by pain was shown to be a risk factor for the development of depression for people over 80 years of age (López-López *et al.* 2014). Increased, adjusted, physical activity might be one way to decrease the experience of pain (Vaapio *et al.* 2007).

The choice of assessment tools could be a limitation of this study. The DFRI is used predominantly for patients in institutional care, mostly in rehabilitation and geriatric wards (Rosendahl *et al.* 2003; Saverino *et al.* 2006; Wagner, Scott and Silver 2011). A known limitation of the DFRI is the over-estimation of medication as a risk factor for falling because five of 11 items deal with medication and normal frailty as a result of ageing and diseases could not be excluded (Rosendahl *et al.* 2003; Saverino *et al.* 2006).

The TUG test measures basic mobility skills in seconds; a longer time indicates impaired mobility skills and thereby an increased risk of falling. The developers of the TUG test, Podsiadlo and Richardson (1991), suggest a value of less than 10 s to identify freely independent individuals and <20 s to reflect satisfactory physical mobility skills and a limit for increased fall risk. Subsequent studies have suggested 11–14 s as the cut-off value for increased risk of falling among those more than 65 years of age (Bishoff *et al.* 2003; Rockwood *et al.* 2000; Rossat *et al.* 2010). Rockwood *et al.* (2000) found a median value for TUG of 14 s for all people and 12 s for those who were cognitively unimpaired. In the present study, the population was older and needed more time, especially the women, to perform the TUG test compared with the reference values suggested in other studies (Bishoff *et al.* 2003; Rockwood *et al.* 2000; Rossat *et al.* 2010). The lack of a gold standard cut-off value for the TUG test makes it difficult to compare different results. However, we conclude that the cut-off value of <10 s is not applicable in this age cohort. The higher cut-off value of <20 s seems to be more appropriate in the elderly population. Impaired cognition might have influenced the participants' understanding of the instructions for the test but there were very few participants with an MMSE score below 21, indicating that if there were any problems, this would not have affected the results on a group level.

The use of self-reported data for measuring physical activity might be questioned as it is not the equivalent of an objective assessment, thus it is not possible to verify data. There might also be a risk for potential over-reporting; that the participants give their answers based on a social desirability, *i.e.* they answer the questions according to how they would

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like it to be rather than how it actually is. However, the reported data on physical activity are used here as demographic data and not in further analyses. The cross-sectional design is another limitation because only associations can be identified, without uncovering any causation, although underlying links might exist between the factors. We consider the high participation rate to be a strength of the study. Another strength is that the study population was only 85-year-old people, not a wide range of ages such as commonly 85+.

Conclusions

Lower HRQoL was associated with a longer time taken to complete TUG and higher fall risk in both genders, but not with BMI. For these 85-year-old people, it took a longer time to complete the TUG test than described in previous studies. Women had higher risk of falling; they used a longer time to complete the TUG test and reported less physical activity compared with men. About 80 per cent of the participants had a risk of falling according to the DFRI. Health-care professionals should address mobility capacity and fall risk in order to maintain the quality of life in elderly people. This is of utmost importance, especially for elderly women, because impaired mobility, high risk of falling and occurrence of pain are common, and these factors are related to lower HRQoL.

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