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Oncology clinic nurses' attitudes and perceptions regarding implementation of routine fall assessment and fall risk screening: A survey study

by Schroder Sattar, Kristen R. Haase, Koen Milisen, Diane Campbell, Soo Jung Kim, Haji Chalchal, Cindy Kenis

ABSTRACT

Falls in older adults with cancer are often under-recognized and under-reported. The objective of this study was to explore oncology clinic nurses' willingness and perceived barriers to implement routine falls assessment and falls screening in their practice. Nurses working in outpatient oncology clinics were invited to complete an online survey. Data were analyzed using descriptive statistics and sorted into thematic categories. The majority of respondents indicated willingness to routinely ask older patients about falls (85.7%) and screen for fall risks (73.5%). The main reasons for unwillingness included: belief that patients report falls on their own, lack of time, and lack of support staff. Findings from this study show many oncology nurses believe in the importance of routine fall assessment and screening and are willing to implement them routinely,

although falls are not routinely asked about or assessed. Future work should explore strategies to address barriers nurses face given the implications of falls amongst this vulnerable population.

Keywords: falls, fall assessment, older adults, cancer, oncology nurse

BACKGROUND

Falls are a major issue in older adults with cancer due to effects of cancer and its treatments, such as peripheral neuropathy (Jaggi & Singh, 2012; Tofthagen et al., 2012), fatigue (Balducci, 2010; Holley, 2002), dehydration and dizziness (Hurria et al., 2011), and osteoporosis from hormone therapy (Bylow et al., 2008; Hadji, 2009; Hussain et al., 2010; Poulsen et al., 2019). The risk of injury from falls is as high as 45% in older adults, of which, one-fourth are bone fractures (Sattar et al., 2018; Ward et al., 2014). One in 20 falls leads to delay or cessation of cancer treatment (Sattar et al., 2018). Evidence also demonstrates that older adults with cancer fall more often than those without cancer (Spoelstra et al., 2013), and the importance of proactively identifying community-dwelling older patients who are at risk for falls has been highlighted in nursing research (Overcash & Beckstead, 2008; Spoelstra et al., 2010; Spoelstra et al., 2013). Although efforts in fall risk assessment and fall prevention by oncology nurses (Vonnes & Wolf, 2017), as well as understanding oncology nurses' perceptions regarding falls (Tucker et al., 2019) have been documented in the literature, these studies have been limited to the inpatient setting. Recent literature recommends asking older patients about falls at each clinic appointment (National Institute for Health and Care Excellence [NICE], 2017; Sattar et al., 2019). However, falls in outpatient oncology settings are often under-recognized and underreported (Guerard et al., 2015; Sattar et al., 2018). Incorporating routine falls assessment in oncology clinics may help to identify those at risk for falls, so that timely responses such as multifactorial assessments and interventions can be implemented (American Geriatrics Society/British Geriatrics Society [AGS/BGS], 2010; Hurria et al., 2015; NICE, 2017; Registered Nurses' Association of Ontario [RNAO], 2018; Sattar et al., 2018; United States Preventive Services Task Force [USPSTF], 2018 – see Grossman et al., 2018).

Fall risks screening tools such as the Timed Up and Go (TUG) test (Podsiadlo & Richardson, 1991), gait speed (Middleton et al., 2015; Studenski et al., 2011), 30-second

AUTHOR NOTE

Schroder Sattar, RN, PhD, College of Nursing, University of Saskatchewan, Regina, SK

Kristen R. Haase, RN, PhD, School of Nursing, University of British Columbia, Vancouver, BC

Koen Milisen, RN, PhD, Department of Geriatrics, University Hospitals Leuven, Leuven, Belgium & Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery, KU Leuven, Leuven, Belgium

Diane Campbell, RN, PhD, College of Nursing, University of Saskatchewan, Saskatoon, SK

Soo Jung Kim, NP, MSN, Geriatrics Service, Memorial Sloan Kettering Cancer Center, New York, USA

Haji Chalchal, MD, College of Medicine, University of Saskatchewan; Saskatchewan Cancer Agency, Regina, SK

Cindy Kenis, RN, PhD, University Hospitals Leuven, Leuven, Belgium

Corresponding author: Schroder Sattar, 4400 4th Avenue, Ste. 108, Regina, Saskatchewan, SK S4T 0H8

Schroder.sattar@usask.ca

(306)-337-3817

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Sit-to-Stand test (Cho et al., 2012; Ikeda et al., 1991; Jones et al., 1999), and the Short Physical Performance Battery (SPPB) (Guralnik et al., 1994), are among the most evidence-supported measures (Kim et al., 2017; Lusardi et al., 2017; Middleton et al., 2015; Studenski et al., 2011; Veronese et al., 2014). The TUG, designed to assess mobility, dynamic and static balance and fall risk (Podsiadlo & Richardson, 1991), and the gait speed, known as the sixth vital sign for older adults (Middleton et al., 2015), may be good choices as quick functional mobility assessment tools due to their ease of use (Guralnik et al., 2000; Sattar et al., 2019). Chair stand tests, such as the five-times Chair Stand (Bohannon, 1995) and the 30-second Sit-to-Stand, are also commonly used functional tests useful for detecting issues with leg strength and fall risks. Additionally, the SPPB, which consists of a combination of tests including a walking task, balance, and chair stand test, is also widely used to assess fall risk (Guralnik et al., 2000).

Oncology nurses are well-positioned to ask patients about falls and carry out gait and balance assessments to identify those who may be at risk for falls and may benefit from further evaluation, tailored interventions, and/or referrals (Sattar et al., 2019). In fact, the 2018 updated guidelines by the Registered Nurses Association of Ontario (RNAO) expanded the guidelines beyond the long-term care and acute care settings to encompass the community setting (RNAO, 2018). Of note, efforts to initiate implementation of routine fall assessment and screening should be preceded by understanding the perspectives of the key stakeholders. Oncology nurses play a pivotal role in assessment and management of older adults with cancer, therefore, understanding their perceptions of falls in this population, and the barriers that may impede their ability to implement or buy-in to these assessments, is paramount. Thus, the objectives of this study were to 1) understand outpatient oncology clinic nurses' attitudes and perceptions toward falls in this population; 2) explore their willingness to implement routine fall assessment and fall screening using gait and balance tools; and 3) explore perceived barriers of carrying out routine fall assessment and fall screening.

METHODS

Study design and sample

An online survey method (using a secured online survey system powered by SurveyMonkey.ca and provided by the first author's affiliated institution) was used to disseminate the survey. Nurses working in outpatient oncology clinics were eligible and invited to complete this survey.

Recruitment procedure and consent

To avoid limitation of data catchment from a single locality, the survey link was provided to collaborating organizations, including: the Canadian Association of Nurses in Oncology (CANO), the European Oncology Nursing Society (EONS), the International Society of Geriatric Oncology – Nursing and Allied Health Group (SIOG-NAH), the Comprehensive Cancer Center Consortium for Quality Indicators (C4QI), and Cancer Centers' Collaborative Nurse Sensitive Indicators (C3NSI) to disseminate to their membership (e.g., via newsletters, emails,

and social media). An information page was also provided to our collaborators for distribution along with the survey link to explain the purpose of the study and how the data would be used. Filling out and submitting this anonymous survey represented implied consent.

Data collection

A 23-item survey was created to collect demographic characteristics of respondents (country of practice and years of practice in outpatient oncology); attitudes and beliefs, current practices regarding fall assessment/screening (to provide context), willingness to implement routine fall assessment and screening, and perceived barriers to implementing routine gait and balance tests during routine clinic appointments. Survey content was formulated based on current literature and expert consensus (American Geriatrics Society, 2010; Gillespie et al., 2012; Hong et al., 2016; Lusardi et al., 2017; Middleton et al., 2015; NICE, 2017; Podsiadlo & Richardson, 1991; Sattar et al., 2019). Eleven questions regarding attitudes and perceptions toward falls and fall assessment were presented in a five-point Likert scale ranging from "strongly agree" to "strongly disagree." Six questions about current fall assessment practices, as well as willingness and barriers to routine falls assessment and screening were presented in "yes/no" format. For "no" answers, options were provided in terms of explanations; including a category for "others" (with space provided for open-ended, free-text answers).

Data analysis

Data were analyzed within the Survey Monkey system in the form of descriptive statistics (number and proportions) to describe respondent characteristics and to report on responses to survey questions. Answers to free-text questions were grouped according to thematic categories or reported as written.

Ethics approval

Prior to data collection, ethics approval was obtained from the Research Ethics Board of the affiliated institution of the first author.

RESULTS

One-hundred and forty-two oncology nurses participated in this survey. Average time spent completing the survey was six minutes. The majority of respondents practise oncology nursing in Canada (57%), followed by Belgium (28%) and the United States (13%). About 40% of the respondents have more than 10 years of experience in oncology nursing practice (range 1–35 years). Almost 75% of respondents had practised outside of the oncology setting, of whom, 52.3% were in a setting in which the majority of patients were older patients.

More than half (52%) of respondents do not routinely ask about recent falls; although 87% believe that falls are a significant problem among older patients with cancer. When a fall is reported, the most common actions include asking about the circumstances of falls (97.3%), asking if walking aids were used at the time of the fall (81.4%), informing the oncologist about the fall (75.3%), and medication review (61.8%). An overwhelming proportion of respondents believed older patients should be asked about falls at each appointment (82.9%) and

screened for fall risks (70.2%). Additionally, the majority stated they would be willing to routinely ask older patients about falls (85.7%) and screen for fall risks (73.5%). See Table 1 and 2 for perception about falls, fall assessment and screening, and current practices.

Twenty-three respondents provided reasons for their unwillingness to routinely ask about falls. The main reasons for not asking are as follows: 1) belief that patients will report falls on their own (21.7%, $n = 5$); 2) lack of time (65.2%, $n = 7$); 3) lack of support staff (39.1%, $n = 9$); 4) falls were not seen as a priority (8.7%, $n = 2$); and 5) the response that oncologists should ask (8.7%, $n = 2$). A summary of additional open-text answers included: the priority should be given to patients who already have obvious impaired mobility rather than asking everybody;

Table 1	
<i>Perception about Falls, Fall Assessment, and Current Practices</i>	
Question	Results
Perceptions and attitudes towards falls	Strongly agree or agree
Falls are a significant health problem among older adults	137 (96.5%)
Falls are a significant health problem among older adults with cancer	122 (85.9%)
Older cancer patients are more at risk for falls due to effects of cancer and its treatments	124 (87.3%)
Falls and fall-related injuries can interrupt cancer treatment regiment	131 (92.3%)
Most falls are preventable	97 (68.3%)
Multifactorial intervention can help address reduce number of falls	133 (93.7%)
Falls assessment is an important part of fall prevention strategy	126 (88.7%)
Screening for fall risks should be done at every clinic appointment	99 (69.7%)
As with asking about cancer/treatment-related symptoms, older patients should be asked about falls at every clinic visit	116 (81.7%)
Falls are underreported by older cancer patients	105 (73.9%)
Asking patients if they have had any recent falls during each clinic can help identify those who might benefit from further investigations/ interventions	129 (91.8%)

there are no resources to respond if a fall is reported; falls are already asked about in other routine assessments; oncology nurses do not have the expertise to follow up and assist if a fall is reported; not sure what to do with the answer collected; and some would only inquire if they saw obvious injuries (e.g., a cast). See Figures 1 and 2.

Concerning the willingness to routinely screen older patients for gait and balance issues using validated tools, 70% ($n = 100$) of the respondents stated they would be willing to do so. As for those who indicated that they were unwilling ($n = 36$, 25%), 36 respondents provided reasons including lack of time (66.7%, $n = 28$) and support staff (33.3%, $n = 14$), feeling unprepared (33.3%, $n = 14$), and feeling unfamiliar with screening tools (28.57%, $n = 12$) were cited as key barriers. Other free-text responses included: ‘not for all patients, only if appropriate’; ‘physicians should do’; and ‘not sure who to refer patients if deficits are found, do not always have access to allied health professionals’. See Figures 1 and 3.

As for the fall risk tools with which they are familiar, only 36 respondents answered this question; 69.4% ($n = 25$) of these respondents were familiar with TUG, 22.2% ($n = 8$) with gait speed, and 33.3% ($n = 12$) with five-times Chair Stand test. (These numbers may not add up due to overlaps.)

DISCUSSION

Findings from this study show many oncology nurses believe in the importance of routine fall assessment and screening and are willing to implement them routinely. However, structural, attitudinal, and knowledge-based barriers exist that may impede nurses’ ability to do so, as evidenced by the results that more than half the respondents do not routinely ask about falls and are not familiar with most of common fall risk screening tools.

Although direct evidence in the geriatric oncology setting does not yet exist, findings of our study seem to echo those by Koh et al. (2008), who investigated nurses’ perceived barriers to implementation of a fall prevention clinical practice guideline in the non-cancer, acute care setting, and elucidated a number of barriers including knowledge and motivation, staff education, and availability of support staff, (Koh et al., 2008). Another study (not nursing-specific) reported that mindsets of health professionals and changing routines are important barriers to fall risk screening of older patients visiting the hospital (Barmantloo et al., 2020). In our study, mindset and change of routine were not studied; though change of routine may also be related to the issues of lack of time and lack of support staff—issues that render change of routine more challenging for oncology clinic nurses who often face busy workloads in their daily practices (Koropchak et al., 2006; Neufeld et al., 1993; Schenker et al., 2015; Walling et al., 2017).

A history of falls is the most common fall risk factor for older adults with cancer (Sattar et al., 2019). Hence, routinely asking older patients if any falls have occurred recently is important. The literature has suggested a range of intervals for fall assessment. However, given that older adults’ functional status can deteriorate quickly due to disease progression or disease exacerbation by concurrent effects of cancer treatment

Table 2*Current Practice and willingness to screen for falls*

Questions	Résultats
Do you routinely ask patients if they have had any falls recently/since last clinic visit?	Yes: 67 (47.86%) No: 73 (52.14%)
If your answer above is no, please explain why (select all that apply)	Falls not a priority to ask: 17 (22.97%) Lack of time: 35 (47.3%) Lack of support staff: 12 (16.22%) Oncologist should ask: 2 (2.7%) Patients will report it: 19 (25.68%)
Do you routinely use gait/balance screening tools to screen older patients for fall risks?	Yes: 29 (20.71%) No: 111 (79.29%)
If your answer to above is no, please explain why (select all that apply)	Fall screening not a priority in oncology clinic assessments: 17 (18.68%) Not familiar with fall screening tools: 52 (57.14%) Feel unprepared to conduct gait/balance tests: 30 (32.97%) Lack of time: 51 (56.04%) Lack of support staff: 24 (26.37%)
When an older patient reports a fall to you, what actions do you normally take (select all that apply)	Ask circumstances of fall: 133 (97.08%) Assess orthostatic blood pressure: 82 (59.85%) Ask patient if he/she was using walking aid at time of fall (for patients who normally use walking aids): 112 (81.75%) Assess feet and/or footwear: 74 (54.01%) Do a quick review of patient's medication list to see if patient is using any high-fall risk medications: 86 (62.77%) Inform oncologist: 103 (75.18%)
Which of the gait and balance screening tool are you familiar with? (select all that apply)	Timed Up & Go test: 25 (69.44%) Gait Speed: 8 (22.22%) Chair-stand: 12 (33.33%) *based on response from 36 respondents
Would you be willing to implement of routine fall assessment (i.e., asking older patients if they have had any falls recently/since last clinic visit)?	Yes: 120 (85.71%) No: 20 (14.29%)
If your answer to above is no, please explain why (select all that apply)	Falls not a priority to ask in oncology appointments: 2 (11.11%) Lack of time: 15 (83.33%) Lack of support staff: 9 (50%) Oncologist should ask: 2 (11.11%) Patients will report it: 5 (27.78%)
Would you be willing to implement routine gait and balance screening in older patients using simple screening tools (those that take less than one minute to complete)?	Yes: 100 (73.53%) No: 36 (26.47%)
If your answer to above is no, please explain why (select all that apply)	Fall screening not a priority in oncology clinic assessments: 3 (9.09%) Not familiar with fall screening tools: 12 (36.36%) Feel unprepared to conduct gait/balance tests: 14 (42.42%) Lack of time: 28 (84.85%) Lack of support staff: 14 (42.42%)

Figure 1

Willingness to Routinely Ask About Falls and Screen for Fall Risks

Figure 2

Reasons for Unwillingness to Routinely Ask about Falls

(Hoppe et al., 2013), asking about falls at *every* clinical encounter is preferable in the outpatient oncology setting (Sattar et al., 2019). Until research identifies a more reliable way to evaluate for fall risks, for practical reasons, simple, quick-to-administer tools such as the TUG (Ganz et al., 2007; Podsiadlo & Richardson, 1991; Shumway-Cook et al., 2000) or the gait speed (Middleton et al., 2015; Studenski et al., 2011; Guralnik et al., 2000) may be used in busy oncology clinics for fall risks assessment. Safety considerations (e.g., staying within an arms' reach of the older patient during the test, given they might lose balance) should also be kept in mind (Sattar et al., 2019).

In terms of limited time and support to assess for falls and to screen for fall risks, one solution is to incorporate fall assessment and screening into routines, such as while walking patients from waiting area through hallways into the examination rooms,

or once the patient is ushered into the examination room. Additionally, most of the screening tools require minimal set-up and can be administered in less than a minute and, thus, are feasible in busy clinic settings. Furthermore, most of these tests can be delegated safely to ancillary staff (Mir et al., 2014) to relieve some of the pressures on clinic nurses. Yet, lack of support staff was also cited as an issue by participants in the study.

Of note, contrary to many respondents' belief, recent evidence suggests older adults are often not forthcoming when it comes to reporting falls (Sattar et al., 2018). Therefore, asking about falls as a routine practice (i.e., at each clinic appointment) can ensure that this crucial information regarding patients' mobility and functions is not missed. From the organizational perspective, educating staff regarding the significance and implications of falls in this population is also needed.

Figure 3

Reasons for Unwillingness to Routinely Screen for Fall Risks

As for feeling unprepared or unfamiliar with screening tools, staff training, education sessions, and in-services may be good places to start. Additionally, it would be beneficial for oncology nurses to have opportunities to become familiar with screening tools, e.g., through professional networks such as webinars or workshops at relevant oncology and nursing conferences, through national and regional organizations for oncology nurses, and other oncology networks. Online videos introducing these tests and how they are administered may also be helpful.

As a joint effort by the Nursing and Allied Health Group and the Young SIOG Research Group, two prominent bodies within the International Society of Geriatric Oncology (SIOG), a geriatric assessment workshop took place in the recent SIOG (2019) Annual Meeting. This workshop included all domains of geriatric assessment, including functional assessment demonstrations such as gait speed test and TUG (Battisti et al., 2019). This format of learning may have potential to be translated to other settings in different scales such as cancer centres in-services for staff, staff training sessions, or nursing rounds. Ideally, clinical educators and managers should provide opportunities for nurses to practice using these tools and to encourage and reinforce the importance of fall assessment and screening. Nevertheless, available resources vary between institutions and time and resource constraints are often known challenges in staff education in any healthcare settings (Bastable, 2017).

Falls assessment should be followed up by appropriate intervention strategies, otherwise it would be of little value (Samson, 2016). Actions performed in response to falls, such as asking about circumstances and medication review, seem to be in tandem with what is recommended by the American Geriatrics

Society/British Geriatrics Society Fall Assessment Guideline (American Geriatrics Society, 2010). Interestingly, none of the respondents mentioned advising patients of referral to an exercise program, which is recommended based on guidelines on fall prevention and management (Sattar et al., 2019). Depending on individual organizational procedure, this perhaps needs to be done through physicians to connect patients with exercise specialists, exercise clinics, or fall clinics, etc.

Some respondents cited they were not sure what to do with the results of fall assessments or not sure where to refer patients. Once a patient is identified as being at risk for falls or has had a fall, this information should be relayed to the treating physician or primary care provider, so that additional assessment and appropriate interventions (e.g., referral for home safety assessment, physical or occupational therapy, exercise programs, etc.) can be implemented in a timely fashion (American Geriatrics Society, 2010; RNAO, 2018; Sattar et al., 2019).

Each institution and agency has its own organizational structures and resource issues including geriatrician complement, falls clinic, and outpatient physical or occupational therapy. Therefore, each institution has unique needs to bolster support for falls assessment. As well, organizational and administrator support is instrumental to oncology clinic nurses' ability to carry out routine fall assessment and fall-risks screening. Therefore, where possible, allocation of resources (e.g., support staff) to assist with efforts in fall-risk screening will ensure success implementation while minimizing burden on nurses. Provision of education programs and in-services, including that which introduces the various types of fall-risk screening tools and their methods of administration would also be beneficial. Additionally, nurse administrators or nurse

leaders can clarify pathways for referral when a fall is reported or when fall-risk screening indicates the patient is at risk for falls to ensure patients can receive timely interventions and support. Furthermore, partnering with community providers to compile resources for older patients may allow for greater access to needed resources.

From the research perspective, further efforts involving more in-depth exploration of oncology nurses' attitudes, perceptions, willingness, and perceived barriers are warranted to generate robust evidence that can inform and refine education interventions and implementation of fall assessment/fall-risks screening.

Limitations

Findings from this study may preclude generalization to all oncology nurses due to the pattern of geographical participation and the small sample size. Notably, not all the existing fall risk screening tools were mentioned in our survey. Therefore, information regarding respondents' knowledge about other tools not included in this survey were not captured. Additionally, we kept the survey brief with the intention of minimizing the time burden on the oncology nurse

respondents. However, a trade-off was the inability to gain deeper understanding about nurses' attitudes, perceptions, willingness, and perceived barriers. Moreover, our survey was developed mainly through expert consensus of the research team. Therefore, aside from face-validity established by the study team, the lack of established reliability and validity of this survey tool is a limitation of this study.

CONCLUSION

The issue of falls in older patients will continue to be an increasingly important issue confronting older patients and clinicians, as the cadre of older adults with cancer continues to grow. Assessing the population for falls and fall risk is an important first step for discerning those who would need follow-up to prevent missed opportunities for appropriate interventions. Oncology nurses play a vital role in helping reduce fall risks in this population. Many oncology nurses believe in the importance of routine fall assessment and screening and are willing to implement them routinely. Future work should explore strategies to address these barriers given the implications of falls amongst this vulnerable population.

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TIP SHEET FOR ASSESSING OLDER ADULTS WITH CANCER FOR **FALLS & RISK OF FALLS**

HOW CAN YOU ASSESS FALLS IN YOUR ONCOLOGY PRACTICE?

1. Ask about falls at **EVERY** appointment.
2. Incorporate fall risk screening. A good time to do this is while walking the older adult into the clinic room from the waiting room.
3. Document your observations and share with your multidisciplinary team.

SIMPLE FALL SCREENING TOOLS & HOW TO PERFORM

There is no gold-standard for fall risk assessment. Given the busy clinic schedule, these 3 tools are feasible, valid, and brief. Choose one of these tools or use them all.

GAIT SPEED

- Mark 4 meters on floor. You can do this by placing tape on the floor in the clinic hallway or any empty space.
- **Tell** older adult: *Walk at your normal pace from start to end, without slowing down before the end of the 4-meter mark.* An assistive device may be used if needed.
- Record the time to walk the 4 meters.
- Divide the 4 meters by the **time to walk** to yield the gait speed in meters per second (metres/seconds).
- A gait speed <0.8 m/s (taking more than 5 s to walk 4 m) suggests increased risk of frailty and falls and need for further assessment

Middleton et al., 2015; Studenski et al., 2011

TIMED UP AND GO

Podsiadlo & Richardson, 1991

- Begin the test by having the patient sit back in a chair.
- **Tell** older adult: *When I say "Go", stand-up, walk at your normal pace to and around the pylon/taped spot, then return to the chair and sit down again.*
- Start timer when older adult begins to stand, and stop timer when patient's buttocks touches the chair.
- Assistive device may be used if needed
- A score of >9-10 seconds indicates patient is at risk for falling.

30 SECOND SIT TO STAND

- Have older adult sit in middle of a chair, hands on opposite shoulders, crossed at the wrists.
- **Tell** older adult: *We would like to see how long it takes you to stand up and sit down as quickly as possible within 30 seconds without stopping. After you stand up each time, sit down and then stand up again. Please keep your arms folded across your chest.*
- Demonstrate the maneuver, then ask if they are ready.
- Start timing when the patient leans forward at the hips. Count out loud the number of sits the patient has performed.
- Stop the stop watch as soon as they sit down at the end of the 30 seconds (or if the patient starts to use their arms)
- Record the number of sets the patient was able to do and presence of any imbalance

Chair Stand below-average scores are based on sex and age:

AGE	MEN	WOMEN
60-64	<14	<12
65-69	<12	<11
70-74	<12	<10
75-79	<11	<10
80-84	<10	<9
85-89	<8	<8
90-94	<7	<4

Ikeida et al., 1991; Jones et al., 1999

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