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Test-Retest Reliability of a Fall Risk Screening Tool for Michigan 2-1-1: A Pilot Study

Sara K. Arena [1], Christopher M. Wilson [2, 1], Megan Rousso [1], Alexa Barczak [1], Nicole O'Neill [1], Alyssa Reed [1]

1. Physical Therapy, Oakland University, Rochester, USA 2. Rehabilitation Medicine, Corewell Health, Troy, USA

Corresponding author: Sara K. Arena, arena@oakland.edu

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Abstract

Introduction: Falls are a leading cause of injury and injury-related death among older adults, yet many falls are preventable through early identification of risk and connection to appropriate resources. Reliable screening tools are essential for guiding older adults to individualized fall prevention programs, particularly through statewide resource systems such as Michigan 2-1-1. This pilot study examined the item-level test-retest reliability of a screening tool intended to guide older adults toward appropriate fall prevention resources.

Materials and methods: The Oakland University Institutional Review Board determined this study to be exempt. We examined the item-level test-retest reliability of a 12-item fall risk screening questionnaire. A convenience sample of 30 community-dwelling adults aged 60 years and older completed the questionnaire twice, approximately one week apart. Community-dwelling participants were defined as adults who lived independently in non-congregate residential environments. Two participants completed both administrations by telephone, and 28 completed both through emailed electronic survey links. Cohen's kappa coefficients and corresponding 95% confidence intervals were calculated for all 12-item fall risk screening questionnaire items.

Results: All 30 individuals who expressed interest were subsequently screened, met the eligibility criteria, enrolled, and completed both survey administrations. Nine of the 12 items included in the test-retest analysis demonstrated almost perfect agreement, with kappa coefficients ranging from 0.84 to 1.00; five items demonstrated perfect agreement (kappa = 1.00). Worry about falling demonstrated substantial agreement (kappa = 0.71). Two items demonstrated fair agreement: medication-related lightheadedness or fatigue (kappa = 0.35) and furniture-assisted ambulation within the home (kappa = 0.37).

Conclusion: In this pilot sample, most 12-item fall risk screening questionnaire items demonstrated substantial to almost perfect test-retest agreement. The two items with fair agreement warrant continued evaluation to better understand potential differences in interpretation or reporting in a larger and more diverse sample. These preliminary findings support further study of the 12-item fall risk screening questionnaire before its integration into a process for matching older adults with individualized fall prevention resources through Michigan 2-1-1.

Categories: Physical Medicine & Rehabilitation, Geriatrics, Public Health
Keywords: community resources, fall prevention, fall risk, michigan 2-1-1, older adults, screening, test-retest reliability

Introduction

Falls are common among older adults, yet many individuals lack a clear understanding of the support needed to maintain their safety, health, and independence. As fall prevention research has expanded, healthcare professionals have increasingly recognized prevention strategies as effective approaches for reducing fall risk while preserving quality of life. Falls are a leading cause of injury and injury-related death among adults aged 65 years and older, and one in four older adults reports at least one fall each year [1]. Importantly, many falls are preventable. Evidence-based tools used to identify fall risk factors include the Falls Risk for Older People in the Community assessment, the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) Stay Independent fall risk self-assessment, and functional mobility assessments such as the Timed Up and Go Test, Berg Balance Test, and Four-Stage Balance Test [2,3]. These tools can help guide interventions targeting balance and strength impairments, environmental hazards, and medication side effects [2,3]. Age-related postural changes, including increased thoracic kyphosis, may also contribute to balance impairment and represent potential targets for rehabilitation [4].

Multiple assessments and screening tools can help guide older adults toward individualized fall prevention strategies. A scoping review found that healthcare providers, particularly physical therapists, play a substantial role in developing, administering, and evaluating individualized fall prevention programs. The review identified the Timed Up and Go Test as a useful measure of fall risk because it captures key components of mobility, including reaction time, strength, gait speed, balance, and safety [5]. However, the

Timed Up and Go Test is a functional outcome measure and may be difficult to administer in a busy clinic or virtual setting [3]. In these circumstances, a patient-reported questionnaire may help overcome the limitations of functional outcome measures in fall risk screening. Because fall risk screening tools vary widely in sensitivity and specificity, their reliability and effectiveness must be evaluated [6]. Reliable tools are essential for matching older adults with community-based fall prevention programs that address their individual needs.

Although Michigan offers statewide fall prevention resources, it does not yet have a comprehensive statewide process for matching an individual's specific risk profile with appropriate programs. As a result, older adults and caregivers may learn about programs through chance encounters, word of mouth, or fragmented referral pathways. To address this gap, the Michigan Falls Prevention Coalition, established in 2020, identified two statewide priorities: identifying valid and reliable fall prevention programs and creating a systematic, integrated, and equitable approach to accessing these resources [7].

In 2023, a Michigan Health Endowment Fund Healthy Aging Award provided funding to develop a centralized fall prevention resource and improve access across the state. A key strategy has been to leverage Michigan 2-1-1, a free, community-facing platform that connects users with resources that support safety, well-being, and independence [8,9]. For nearly two decades, 2-1-1 has addressed social determinants of health by connecting individuals with community resources related to social needs, the physical environment, and socioeconomic factors. In March 2025, Michigan 2-1-1 launched a fall prevention webpage and telephone and text interface through which individuals can search for resources by ZIP code and obtain guidance on available supports [10]. Telephone assistance also provides an accessible option for individuals who prefer or require support by phone, which informed the decision to offer telephone participation in this study. However, the current platform does not yet account for an individual's specific fall prevention needs or risk profile.

This pilot study examined the item-level reliability of the Fall Risk Questionnaire (FRQ) as an initial step in determining whether it could support a future process for connecting older adults with appropriate fall prevention resources. The purpose was to obtain preliminary estimates of test-retest agreement and identify items that may warrant additional evaluation before broader implementation. It was hypothesized that the analyzed items would demonstrate good agreement.

Materials And Methods

Research design

This exploratory pilot study examined the item-level test-retest reliability of the 12-item Fall Risk Questionnaire (FRQ). The Oakland University Institutional Review Board reviewed the study and determined it to be exempt (#IRB-FY2025-257).

Sampling criteria

A target convenience sample of 30 adults aged 60 years and older was selected as a feasible sample for this preliminary pilot evaluation, consistent with general methodological recommendations for questionnaire reliability pilot studies [11]. The minimum age of 60 years was selected to support a broader, prevention-focused approach, recognizing that fall risk factors may emerge before age 65 years and that definitions of older adulthood vary across communities and cultures [12,13]. This inclusive criterion was intended to facilitate early consideration of fall prevention needs among adults who may benefit from resources available through Michigan 2-1-1.

The sample size was not determined through an a priori power or precision-based calculation because this exploratory pilot aimed to obtain preliminary estimates of item-level test-retest agreement rather than establish definitive reliability estimates. Cohen's kappa coefficients and corresponding 95% confidence intervals were used to characterize agreement and its precision. Given the small sample size, particularly for items with infrequent positive responses, the resulting kappa estimates may have limited precision and should be interpreted as preliminary findings intended to inform subsequent research.

Participants were recruited in Michigan through study flyers distributed to local senior community centers, word of mouth, and snowball sampling. A total of 30 individuals expressed interest in participating and were subsequently prescreened by telephone by the lead researcher to determine eligibility. All 30 individuals met the eligibility criteria, enrolled in the study, and completed both questionnaire administrations. No additional individuals expressed interest without undergoing screening, and there were no exclusions, refusals, withdrawals, or losses to follow-up.

Inclusion criteria required participants to be aged 60 years or older; fluent in spoken and written English; living independently in a non-congregate residential environment; free from self-reported disorders affecting communication or cognition, such as dementia or Alzheimer's disease; and free from an acute illness or injury within the previous six weeks that could impair balance or mobility. During telephone prescreening, participants were specifically asked whether they had dementia, Alzheimer's disease, or any

other disorder affecting their ability to express themselves. Eligibility was determined through participant self-report, and no standardized cognitive screening instrument was administered.

Participants were recruited throughout Michigan in May 2025 through study flyers, word of mouth, and snowball sampling. Because recruitment, screening, and survey administration were conducted remotely by telephone or online, there was no single physical recruitment location. Participants selected either telephone or electronic survey administration according to their preference. Both options were offered because the screening tool is ultimately intended to be accessible through Michigan 2-1-1 by telephone or online. A standardized script was used for all telephone administrations, and participants completing the survey electronically received consistent instructions and questionnaire language.

Data collection instruments

Demographic characteristics were collected through a self-report survey and included name, date of birth, race and ethnicity, gender, education level, work status, annual household income, marital status, living environment, number of people in the household, and health insurance status. Data were de-identified using a master list that linked participant identifiers with survey responses.

Fall risk was assessed using the 12-item Fall Risk Questionnaire (FRQ), originally developed and evaluated by Vivrette et al. [14] and subsequently validated by Rubenstein et al. [15]. The questionnaire was later incorporated into the Centers for Disease Control and Prevention's (CDC) STEADI Stay Independent resource, which is publicly available and designated as public-domain material [16]. The established questionnaire items and scoring structure were used without modification. The first two items are scored as zero or two points, and the remaining 10 items are scored as zero or one point, yielding a maximum total score of 14. Higher scores indicate greater fall risk, with a score of four or higher indicating increased fall risk [16]. The FRQ has demonstrated validity and reliability for screening older adults for fall risk [15,17]. These scoring characteristics describe the established instrument; the present pilot evaluated item-level test-retest agreement and did not assess total-score reliability or agreement in risk classification at the ⩾4-point threshold.

Participants were instructed to complete the FRQ twice, approximately one week apart. The second administration also asked whether the participant's health status had changed since the first administration because of a fall, illness, or recent hospitalization. This question was used to identify changes in health status that could potentially affect the participant's ability to respond reliably. A reported change did not automatically result in exclusion; rather, the research team considered whether the change could compromise the reliability of the participant's responses. The health-status question was not included in the test-retest reliability analysis.

Study procedures

After prescreening, participants selected their preferred survey administration method. Two participants completed both administrations by telephone with a trained student researcher, who administered the same FRQ items and recorded responses directly in a secure Qualtrics platform. The remaining 28 participants completed both administrations independently through secure Qualtrics links sent by email. Each participant used the same administration method at both time points.

For participants completing the survey by telephone, the student researcher verbally reviewed the information sheet before administering the survey, after which participants provided verbal consent. At the end of the first telephone survey, the second session was scheduled for five to nine days later. For participants completing the survey electronically, the first page of the Qualtrics questionnaire presented the information sheet, and consent was obtained when the participant selected the consent option. After completing the first survey, participants received an automated follow-up email containing a new Qualtrics link for the second survey, which was due within the five-to-nine-day window. Completion of the second survey was monitored to support timely data collection. Participants received an electronic gift card after completing the second survey.

Data analysis

Descriptive statistics were calculated for participant characteristics, including means, standard deviations, and ranges, as appropriate. Test-retest agreement for each of the 12 FRQ items was evaluated using unweighted Cohen's kappa coefficients and corresponding 95% confidence intervals. Confidence intervals were calculated using a multinomial profile-likelihood method, which allowed interval estimation for items demonstrating perfect agreement (kappa {κ} = 1.00), although estimates remain approximate in small samples with infrequent positive responses. We conducted statistical analyses using R (Vienna, Austria: R Foundation for Statistical Computing) and Python (version 3.13.5; Beaverton, OR: Python Software Foundation) with the SciPy statistical computing package (version 1.17.0; SciPy Developers). Percentage agreement was calculated as the proportion of participants whose responses were identical at both administrations. For question 1, only the dichotomous response indicating whether a participant had fallen during the previous year was included in the agreement analysis; the reported number of falls was

summarized descriptively. An exact two-sided McNemar test was used to examine the directional pattern of discordant responses for question 4. Total-score reliability and agreement in risk classification at the ⩾4-point threshold were outside the scope of this exploratory pilot and were not analyzed.

Kappa values range from -1 to 1, with 1 indicating perfect agreement, 0 indicating agreement equivalent to chance, and negative values indicating agreement worse than expected by chance. Agreement was interpreted using the criteria proposed by Landis and Koch: poor (<0.0), slight (0.0-0.20), fair (0.21-0.40), moderate (0.41-0.60), substantial (0.61-0.80), and almost perfect (>0.80) [18].

Results

Demographics

Thirty individuals expressed interest in participation and underwent eligibility screening. All 30 met the inclusion criteria, enrolled, and completed both survey administrations. There were no exclusions, refusals, withdrawals, or losses to follow-up. The mean interval between questionnaire administrations was 6.73 days (SD = 1.51; range: 4-9 days), consistent with the planned interval of approximately one week. Two participants completed both administrations by telephone, and 28 completed both administrations through emailed electronic survey links. Each participant used the same administration method at both time points. Participant characteristics are presented in Table *1*.

Characteristic	Category or summary	n	%
Age (years)	Mean (SD): 68.6 (4.1); range: 61-77	30	-
Race/ethnicity (as reported)*	White	29	96.7
	Hispanic	1	3.3
Gender	Male	8	26.7
	Female	22	73.3
Education	Some college, no degree	11	36.7
	Associate degree	4	13.3
	Doctoral degree	1	3.3
	Trade education	2	6.7
	Bachelor’s degree	7	23.3
	High school	3	10.0
	Master’s degree	2	6.7
Work status	Retired	21	70.0
	Full-time	6	20.0
	Part-time	2	6.7
	Self-employed	1	3.3
Annual household income**	Less than $25,000	1	3.4
	$25,000-$49,999	4	13.8
	$50,000-$74,999	8	27.6
	$100,000-$149,999	5	17.2
	$150,000-$199,999	7	24.1
	$200,000 or more	3	10.3
	Prefer not to answer	1	3.4
Marital status	Married	19	63.3
	Widowed	4	13.3
	Divorced	7	23.3

Living environment	Private home	26	86.7
	Apartment	1	3.3
	Condominium	1	3.3
	Independent-living senior community	2	6.7
Other people in household	0 (lives alone)	5	16.7
	1	19	63.3
	2	3	10.0
	3	2	6.7
	4	1	3.3
Health insurance	Yes	30	100.0
Coverage adequacy	Adequate	17	56.7
	Unsure	13	43.3
Survey administration method	Email	28	93.3
	Telephone	2	6.7
Falls in previous year	0	23	76.7
	1	6	20.0
	2	0	0.0
	3	1	3.3

TABLE 1: Demographic, socioeconomic, and other baseline characteristics of the study participants.

*The available data report White and Hispanic as categories of a combined race/ethnicity variable. Separate race and ethnicity distributions cannot be determined from these responses.

**Annual household income percentages use 29 recorded responses, including one “prefer not to answer” response.

Percentages may not total 100 because of rounding.

n: number of participants

The mean (standard deviation) participant age was 68.6 (4.1) years. Most participants were White (29; 96.7%) and female (22; 73.3%). At baseline, 23 participants reported no falls in the previous year, six reported one fall, and one reported three falls. Regarding socioeconomic characteristics, 11 (36.7%) reported completing some college without earning a degree, 21 (70.0%) were retired, and eight (27.6%) reported an annual household income between $50,000 and $74,999. Most participants were married (19, 63.3%), lived in a private home (26, 86.7%), and lived with one other person (19, 63.3%). All participants reported having health insurance, and 17 (56.7%) indicated that their coverage was adequate.

Test-retest reliability

Cohen's kappa coefficients, corresponding 95% confidence intervals, and percentage agreement are presented in Table 2. Nine of the 12 FRQ items included in the test-retest analysis had point estimates within the almost perfect agreement category, with kappa values greater than 0.80. The item "I am worried about falling" had a point estimate within the substantial agreement category ($\kappa = 0.71$). Two items had Cohen's kappa point estimates within the fair agreement category: "I take medicine that sometimes makes me feel lightheaded or more tired than usual" ($\kappa = 0.35$; 95% CI: -0.05 to 0.82) and "I steady myself by holding onto furniture when walking at home" ($\kappa = 0.37$; 95% CI: 0.01 to 0.82). The relatively wide confidence intervals indicate uncertainty regarding the precision of these estimates, particularly given the small sample size and infrequent positive responses. Observed percentage agreement ranged from 90.0% to 100.0% across the 12 items. Five items demonstrated 100% observed agreement; however, positive responses were infrequent for several items, particularly Q2 and Q9.

For question 1, the yes-or-no fall-history response was analyzed for reliability, while the number of falls was summarized descriptively. One participant changed their response from reporting no falls at baseline to reporting two falls within the previous year at retest. This participant did not indicate experiencing a change in health status due to a fall, illness, or hospitalization between administrations. Therefore, the discrepancy represented a change in reported fall history rather than a confirmed new fall during the test-retest interval.

For question 4, all three discordant responses changed from "no" at baseline to "yes" at retest, with no changes in the opposite direction. An exact two-sided McNemar test did not identify a statistically significant directional change ($p = 0.25$).

One participant reported a change in health status between questionnaire administrations, including a fall, subsequent emergency department evaluation, and ongoing symptoms. Despite this reported change, the participant provided identical responses to all 12 FRQ items across both administrations. Following review, the research team elected to retain the participant's data, as there was no indication that the reported health-status change compromised the participant's ability to complete the questionnaire reliably. No participants were excluded from the test-retest analysis because of changes in health status.

Item	Question	Response	Test, n	Retest, n	Cohen's κ	95% profile-likelihood CI	Agreement, %
Q1	I have fallen in the past year. A fall is any unintentional lowering to the ground or a lower surface.	Yes	7	8	0.91	0.64, 0.99	96.7
		No	23	22			
Q2	I use or have been advised to use a cane or walker to get around safely.	Yes	1	1	1.00	0.24, 1.00	100.0
		No	29	29			
Q3	Sometimes I feel unsteady when I am walking.	Yes	6	6	1.00	0.81, 1.00	100.0
		No	24	24			
Q4	I steady myself by holding onto furniture when walking at home.	Yes	1	4	0.37	0.01, 0.82	90.0
		No	29	26			
Q5	I am worried about falling.	Yes	7	6	0.71	0.33, 0.92	90.0
		No	23	24			
Q6	I need to push with my hands to stand up from a chair.	Yes	5	6	0.89	0.56, 0.99	96.7
		No	25	24			
Q7	I have some trouble stepping up onto a curb.	Yes	3	3	1.00	0.66, 1.00	100.0
		No	27	27			
Q8	I often have to rush to the toilet.	Yes	6	7	0.90	0.61, 0.99	96.7
		No	24	23			
Q9	I have lost some feeling in my feet.	Yes	2	2	1.00	0.53, 1.00	100.0
		No	28	28			
Q10	I take medicine that sometimes makes me feel lightheaded or more tired than usual.	Yes	3	2	0.35	-0.05, 0.82	90.0
		No	27	28			
Q11	I take medicine to help me sleep or improve my mood.	Yes	5	5	1.00	0.78, 1.00	100.0
		No	25	25			
Q12	I often feel sad or depressed.	Yes	4	3	0.84	0.40, 0.99	96.7
		No	26	27			

TABLE 2: FRQ items included in the item-level test–retest reliability analysis.

FRQ: Fall Risk Questionnaire; n: number of participants

Agreement is the percentage of participants providing matching responses at both administrations. Q1 was dichotomized as no falls versus one or more falls in the preceding year. Confidence intervals are approximate multinomial profile-likelihood estimates.

Paired test-retest response frequencies for each FRQ item are presented in Table *3*, illustrating the number of participants whose responses remained consistent or changed between administrations.

Item	Question	No → No	No → Yes	Yes → No	Yes → Yes	Total, n
Q1	I have fallen in the past year. A fall is any unintentional lowering to the ground or a lower surface.	22	1	0	7	30
Q2	I use or have been advised to use a cane or walker to get around safely.	29	0	0	1	30
Q3	Sometimes I feel unsteady when I am walking.	24	0	0	6	30
Q4	I steady myself by holding onto furniture when walking at home.	26	3	0	1	30
Q5	I am worried about falling.	22	1	2	5	30
Q6	I need to push with my hands to stand up from a chair.	24	1	0	5	30
Q7	I have some trouble stepping up onto a curb.	27	0	0	3	30
Q8	I often have to rush to the toilet.	23	1	0	6	30
Q9	I have lost some feeling in my feet.	28	0	0	2	30
Q10	I take medicine that sometimes makes me feel lightheaded or more tired than usual.	26	1	2	1	30
Q11	I take medicine to help me sleep or improve my mood.	25	0	0	5	30
Q12	I often feel sad or depressed.	26	0	1	3	30

TABLE 3: Paired test-retest response frequencies for the 12 Fall Risk Questionnaire items.

FRQ: Fall Risk Questionnaire; n: number of participants

Columns present paired responses to each item at the initial test and subsequent retest. “No → No” and “Yes → Yes” indicate unchanged responses; “No → Yes” and “Yes → No” indicate the direction of a changed response. Each row represents 30 participants. For Q1, “No” indicates no falls in the preceding year and “Yes” indicates one or more falls; fall counts were dichotomized for the item-level reliability analysis.

These paired frequencies are descriptive counts and complement the marginal response frequencies, percentage agreement, and Cohen’s kappa reported in Table 2.

Discussion

This exploratory pilot study assessed item-level test-retest agreement for the FRQ as an initial step toward its possible use in connecting older adults with fall prevention resources. Nine of the 12 analyzed items demonstrated almost perfect agreement between administrations. These preliminary findings support retaining these items for continued evaluation in a larger and more diverse sample. The findings are also generally consistent with previous research supporting the reliability and validity of the FRQ [15,17]. Because this pilot focused on item-level agreement, the results should not be interpreted as establishing the questionnaire's predictive validity, referral accuracy, or effectiveness in reducing falls.

The item "I am worried about falling" demonstrated substantial agreement. Responses were largely consistent between administrations, although some participants changed their responses at retesting. Fear of falling is a well-established contributor to activity restriction, reduced mobility, and increased fall risk, making it an important construct in fall prevention screening. This question aligns with one of the three core self-report screening questions recommended by the Centers for Disease Control and Prevention's STEADI initiative: "Are you worried about falling?" [19]. Given the agreement observed in this pilot and the clinical relevance of fear of falling, the item should remain in the FRQ during subsequent evaluation.

Two items had Cohen's kappa point estimates within the fair agreement category; however, the relatively wide confidence intervals indicate substantial uncertainty regarding the level of agreement. Because this pilot was not designed to determine why responses differed, possible explanations should be considered hypotheses for future study. For question 4, "I steady myself by holding onto furniture when walking at home," some participants may not initially have recognized or acknowledged the behavior. Initial exposure to the questionnaire may have increased awareness of walking habits and influenced subsequent reporting. Prior research has shown that self-reported responses may change after an initial measurement because of increased awareness, even without true behavioral change [20].

The wording of question 4 is consistent with the established FRQ [15,17]. In this pilot, the item should be

retained provisionally while its interpretation and agreement are monitored in a larger and more diverse sample. Cognitive interviewing may also help determine whether participants consistently understand the behavior described by the item.

The second item demonstrating fair agreement was question 10, "I take medicine that sometimes makes me feel lightheaded or more tired than usual." Limited awareness of medication side effects may have contributed to the variability, although this explanation was not directly evaluated. Lightheadedness and unsteadiness may also have causes unrelated to medication use, including cervical conditions associated with cervicogenic dizziness [21], which could influence how participants interpret or respond to this item. Previous literature indicates that older adults may have limited knowledge or recognition of adverse medication effects [22]. The item should be retained provisionally for further evaluation, with particular attention to response consistency and interpretation in a larger and more diverse sample.

Limitations

Several limitations should be considered when interpreting these preliminary findings. This small convenience-sample pilot involved 30 participants and aimed to identify potential concerns and inform a subsequent, larger study rather than provide definitive population estimates. Independent of the sample's demographic characteristics, several questionnaire items had very few positive responses, which may limit the precision and stability of the item-level Cohen's kappa estimates. Consequently, even items demonstrating high or perfect agreement should be interpreted cautiously, as these estimates may not reflect the reliability of the questionnaire in a larger or more diverse population.

The sample was highly homogeneous: 29 of 30 participants identified as White, no participants were aged 80 years or older, and most were comfortable using electronic communication. These characteristics limit generalizability to more racially and ethnically diverse populations, adults at the highest fall risk, and individuals with limited access to or comfort with technology. The original FRQ validation included adults aged 65 years and older, whereas this pilot included adults beginning at age 60 years; this difference in age eligibility should also be considered when interpreting the findings.

The study relied on self-reported data, which may be affected by underreporting of falls, balance concerns, or other fall risk behaviors. Fall-related consequences may also go unrecognized, including osteoporotic vertebral fractures that may remain undiagnosed in older adults [23]. Cognitive eligibility was also determined by self-report rather than an objective screening measure. As a result, the study cannot establish how reliably the FRQ would perform among people with unrecognized cognitive impairment or individuals for whom telephone or electronic screening may be more challenging.

Surveys were completed remotely - two participants completed both administrations by telephone and 28 completed both electronically. Each participant used the same administration method at both time points, but the small telephone subgroup prevented meaningful comparison of administration modes. Differences between responses may reflect changes in participant status, item interpretation, recall, or contextual influences such as mood, health, weather, or daily routine. These factors were not systematically evaluated in this pilot and may have contributed to response variability.

Future research

Future research should use a larger and more diverse sample to further evaluate the preliminary item-level agreement observed in this pilot. Recruitment should include greater diversity in race, ethnicity, gender, socioeconomic status, technology access, and living environment, as well as adults aged 80 years and older. Subsequent studies should also evaluate total-score test-retest reliability, agreement in risk classification at the established FRQ threshold of ⩾4, and the validity of the questionnaire for identifying fall risk. These additional evaluations are important before determining whether FRQ responses can reliably support individualized referrals to community-based fall prevention resources through Michigan 2-1-1.

Conclusions

In this exploratory pilot, most items on the 12-item fall risk screening questionnaire showed substantial to almost perfect test-retest agreement based on point estimates. These preliminary item-level findings support continued evaluation of the questionnaire, while the two items with fair agreement warrant particular attention in a larger and more diverse sample. The study did not evaluate total-score reliability, agreement in risk classification, or the suitability of the 12-item fall risk screening questionnaire for guiding individualized referral decisions. The results provide an initial foundation for future study of the 12-item fall risk screening questionnaire as part of a process for connecting older adults with individualized fall prevention resources through Michigan 2-1-1; they do not establish predictive validity, referral effectiveness, or reductions in falls.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Sara K. Arena, Christopher M. Wilson, Megan Rousso, Alexa Barczak, Nicole O'Neill, Alyssa Reed

Acquisition, analysis, or interpretation of data: Sara K. Arena, Christopher M. Wilson, Megan Rousso, Alexa Barczak, Nicole O'Neill, Alyssa Reed

Drafting of the manuscript: Sara K. Arena, Christopher M. Wilson, Megan Rousso, Alexa Barczak, Nicole O'Neill, Alyssa Reed

Critical review of the manuscript for important intellectual content: Sara K. Arena, Christopher M. Wilson, Megan Rousso, Alexa Barczak, Nicole O'Neill, Alyssa Reed

Supervision: Sara K. Arena

Disclosures

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