

Knowledge, Attitude and Practice Regarding Fall Prevention Strategies Among Community-Dwelling Older Adults: A Cross-Sectional Study

(Fall Prevention KAP)

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ABSTRACT :

Background & objectives:

Falls are a major public health concern among older adults and an important cause of injury, disability, loss of independence and mortality. This study assessed knowledge, attitude and practice regarding fall prevention strategies among community-dwelling older adults aged 65–80 years.

Methods:

A cross-sectional observational study was conducted among 182 community-dwelling older adults in Mumbai, Maharashtra, recruited using convenience sampling. Data were collected using a self-developed questionnaire with content validity established by three Community Physiotherapy experts. The questionnaire comprised 11 knowledge, 11 attitude and 11 practice items. Responses were summarized using frequencies and percentages.

Results:

Most participants correctly identified reduced muscle strength (96.7%), adequate indoor lighting (96.7%), poor vision (95.1%), and environmental hazards (91.2%) as fall-related factors. Preventive practices were commonly reported for maintaining adequate household lighting (95.6%) and keeping walking areas free from obstacles and clutter (90.7%). However, participation in strengthening exercises (28.6%) and balance training (23.1%), regular eye and ear check-ups (25.8%), and consultation with healthcare professionals for fall prevention (18.1%) was comparatively low. Awareness of polypharmacy as a fall risk factor was comparatively limited, with 54.9% of participants identifying it as a potential risk factor.

Interpretation & conclusion:

Community-dwelling older adults demonstrated high awareness of several fall-prevention factors and favourable responses towards many preventive measures; however, important gaps were observed in the adoption of recommended preventive practices. Targeted community-based education and physiotherapy-led interventions may help translate awareness into effective fall-prevention behaviours.

Keywords: Attitude; Community-dwelling older adults; Fall prevention; Knowledge; Physiotherapy; Practice.

INTRODUCTION :

Falls are a major public health concern among older adults and are an important cause of injury, disability, loss of independence and mortality. The risk of falls increases with advancing age due to age-related changes in balance, muscle strength, mobility and sensory function, along with environmental hazards and medication-related factors.^{1,2}

Many falls among older adults are preventable through interventions targeting modifiable risk factors. Evidence supports interventions such as balance and strength training, home hazard modification, medication review, appropriate use of assistive

devices and multifactorial fall-risk management.³⁻⁵ However, the effectiveness of these strategies depends not only on their availability but also on older adults' awareness, beliefs and adoption of preventive behaviours. Current international guidelines emphasize that understanding an older person's beliefs, attitudes and priorities is an important component of effective fall prevention.⁴

Knowledge, attitude and practice (KAP) therefore provide important insights into how older adults perceive fall risk and implement preventive strategies in their daily lives. A previous study among community-dwelling older adults demonstrated that although awareness and attitudes toward fall prevention may be favourable, gaps can remain in the adoption of recommended preventive practices.⁶

Despite the importance of community-based fall prevention, context-specific information regarding knowledge, attitudes and practices among community-dwelling older adults in India remains limited. Identifying gaps between awareness and actual preventive practices may help healthcare professionals, particularly physiotherapists, design targeted education and community-based fall prevention programmes. Therefore, the present study aimed to assess the knowledge, attitude and practice regarding fall prevention strategies among community-dwelling older adults aged 65–80 years.

METHODS

Study Design

A cross-sectional observational study was conducted to assess knowledge, attitude and practice regarding fall prevention strategies among community-dwelling older adults aged 65–80 years.

Study Setting and Duration

The study was conducted among community-dwelling older adults residing in Mumbai, Maharashtra, India. Participants were recruited from residential communities and housing societies. Data collection was carried out over a period of three months, from April 2026 to June 2026.

Study Population - The study population comprised community-dwelling older adults aged 65–80 years. Older adults are at increased risk of falls due to age-related changes in muscle strength, balance, mobility and sensory function.^{1,2}

Sample Size Estimation -The sample size was estimated using the single population proportion formula:

$$n = \frac{Z_{1-\alpha/2}^2 pq}{d^2}$$

where n is the required sample size, Z is the standard normal deviate corresponding to the selected confidence level, p is the estimated proportion, $q = 1 - p$, and d is the desired margin of error.

An estimated practice proportion of 51% was adopted from the study by Tang et al., which assessed knowledge, attitude and practice regarding fall risk factors and prevention among community-dwelling older adults.⁶

Considering an 80% confidence level ($Z = 1.282$), a 5% absolute precision, and $p = 0.51$ ($q = 0.49$), the initial sample size was calculated using the above formula. A 10% allowance for non-response was considered. The calculated sample size was approximately 183 participants; however, 182 participants were included in the final study.

Sampling Technique - Participants were recruited using a convenience sampling technique.

Inclusion Criteria -Participants were community-dwelling adults aged 65–80 years, residing independently, willing to participate, and providing written informed consent.^{1,2,10}

Exclusion Criteria -Institutionalized individuals and those unable to provide written informed consent were excluded.¹⁰

Study Instrument - A self-developed questionnaire assessed knowledge, attitude and practice regarding fall prevention. Content validity was established by three Community Physiotherapy experts. It comprised demographic, knowledge (11 items), attitude (11 items), and practice (11 items) sections.

Questionnaire Scoring - The questionnaire included 11 knowledge items (True/False/Don't know), 11 attitude items on a 5-point Likert scale, and 11 practice items (Yes/No/Sometimes). Responses were summarized as frequencies and percentages.

Data Collection Procedure -Ethical approval was obtained from the Institutional Ethics Committee of K J Somaiya College of Physiotherapy (IEC No. EC/NEW/INST/2023/3576). Eligible participants were approached, informed about the study, and enrolled after written informed consent. Participants completed the questionnaire independently, with assistance when required.

Statistical Analysis - Data was analysed using Microsoft Excel. Continuous variables were summarized using mean $\pm$ SD or median (IQR), and categorical variables using frequencies and percentages. KAP responses were analysed descriptively.

Ethical Considerations - The study received Institutional Ethics Committee approval (IEC No. EC/NEW/INST/2023/3576). Written informed consent was obtained, participation was voluntary, and confidentiality was maintained. Participants could withdraw at any time.¹⁰

RESULTS

A) Descriptive Analysis

1. Age-Among the 182 participants, the mean age was 71.48 ± 4.76 years (95% CI: 70.78–72.17), with a median age of 70.50 years (IQR: 67–75). Participants' ages ranged from 65 to 80 years.

2. Sex Distribution- Of the 182 participants, 93 (51.1%) were male and 89 (48.9%) were female, indicating a nearly equal distribution of sexes.

3. Use of Walking Aids-Of the 182 participants, 22 (12.1%) reported using a walking aid, while 160 (87.9%) did not, indicating that most participants did not use walking aids.

B) Knowledge

Table 1. Knowledge regarding fall prevention strategies among participants (n = 182)

No.	Knowledge item	True n(%)	False n (%)	Don't know n (%)
K1	Falls as a common cause of injury	165 (90.7)	4 (2.2)	13 (7.1)
K2	Poor vision and fall risk	173 (95.1)	2 (1.1)	7 (3.8)
K3	Muscle strength and fall risk	176 (96.7)	1 (0.5)	5 (2.7)
K4	Multiple medications and fall risk	100 (54.9)	18 (9.9)	64 (35.2)
K5	Walking-aid use and fall prevention	155 (85.2)	2 (1.1)	25 (13.7)
K6	Cluttered living space and fall risk	166 (91.2)	5 (2.7)	11 (6.0)

K7	Fear of falling and reduced activity	139 (76.4)	9 (4.9)	34 (18.7)
K8	Exercise and fall prevention	146 (80.2)	2 (1.1)	34 (18.7)
K9	Indoor lighting and fall prevention	176 (96.7)	4 (2.2)	2 (1.1)
K10	All falls are preventable	75 (41.2)	52 (28.6)	55 (30.2)
K11	Safe recovery post fall	143 (78.6)	3 (1.6)	36 (19.8)

Most participants identified muscle strength (96.7%), indoor lighting (96.7%), poor vision (95.1%) and environmental hazards (91.2%) as fall-related factors. Recognition of multiple medication use as a risk factor was lower (54.9%). For the statement that all falls are preventable, 41.2% responded "True," 28.6% "False," and 30.2% "Don't know."

C) Attitude

Table 2. Attitudes towards fall prevention among participants (n = 182)

No.	Attitude item	Strongly disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly agree n (%)
A1	Fear of falling	34 (18.7)	37 (20.3)	40 (22.0)	56 (30.8)	15 (8.2)
A2	Importance of fall prevention	2 (1.1)	4 (2.2)	6 (3.3)	40 (22.0)	130 (71.4)
A3	Walking confidence	6 (3.3)	18 (9.9)	31 (17.0)	36 (19.8)	91 (50.0)
A4	Willingness for balance exercises	6 (3.3)	9 (4.9)	34 (18.7)	78 (42.9)	55 (30.2)
A5	Perception of walking aids	16 (8.8)	50 (27.5)	31 (17.0)	57 (31.3)	28 (15.4)
A6	Perceived home safety	2 (1.1)	11 (6.0)	27 (14.8)	64 (35.2)	78 (42.9)
A7	Role of physiotherapy	4 (2.2)	0 (0.0)	16 (8.8)	64 (35.2)	98 (53.8)
A8	Benefit of regular check-ups	3 (1.6)	6 (3.3)	25 (13.7)	75 (41.2)	73 (40.1)
A9	Perceived consequences of falls	32 (17.6)	36 (19.8)	34 (18.7)	49 (26.9)	31 (17.0)
A10	Safety with grab bars/railings	2 (1.1)	10 (5.5)	24 (13.2)	82 (45.1)	64 (35.2)

A11	Dizziness and fall concern	56 (30.8)	47 (25.8)	37 (20.3)	28 (15.4)	14 (7.7)
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D) Practice

Table 3. Practices followed by participants (n = 182)

No.	Practice item	Yes n (%)	No n (%)	Sometimes n (%)
P1	Strengthening exercises	52 (28.6)	117(64.3)	13 (7.1)
P2	Balance-training exercises	42 (23.1)	132(72.5)	8 (4.4)
P3	Regular eye and ear check-ups	47 (25.8)	48 (26.4)	87 (47.8)
P4	Non-slip mats and bathroom grab bars	111(61.0)	63 (34.6)	8 (4.4)
P5	Clutter-free walking areas	165(90.7)	10 (5.5)	7 (3.8)
P6	Adequate household lighting	174(95.6)	7 (3.8)	1 (0.5)
P7	Consultation with healthcare professionals	33 (18.1)	131(72.0)	18 (9.9)
P8	Emergency contact numbers	42 (23.1)	136(74.7)	4 (2.2)
P9	Supportive, well-fitting footwear	118 64.8)	54 (29.7)	10 (5.5)
P10	Avoiding wet or uneven surfaces	148 81.3)	22 (12.1)	12 (6.6)
P11	Regular medication review	103 56.6)	20 (11.0)	59 (32.4)

Adequate household lighting (95.6%) and clutter-free walking areas (90.7%) were the most commonly reported practices. Avoiding wet or uneven surfaces (81.3%) and wearing supportive footwear (64.8%) were also frequently reported. In contrast, strengthening (28.6%) and balance-training exercises (23.1%), healthcare consultation (18.1%), and regular eye and ear check-ups (25.8%) were less frequently reported.

DISCUSSION :

This study found awareness of several major fall-risk factors among community-dwelling older adults, but gaps remained in preventive practices. Most participants recognized muscle weakness (96.7%), adequate lighting (96.7%), poor vision (95.1%), and environmental hazards (91.2%). Similar findings were reported by Tang et al.⁶ However, recognition of multiple medication use as a fall risk was lower (54.9%), highlighting the need for greater medication-related education.^{4, 8, 9}

Favourable attitudes were observed towards fall prevention, physiotherapy, balance exercises and regular health check-ups, although perceptions regarding walking aids and fear of falling varied.^{4, 6} Environmental safety practices were commonly reported, while strengthening (28.6%), balance exercises (23.1%), healthcare consultation (18.1%) and regular eye and ear check-ups (25.8%) were

less frequent.⁷ Exercise-based interventions are an important component of fall prevention.³⁻⁵ Overall, the findings indicate a gap between awareness and practice, emphasizing the need for community-based, physiotherapy-led fall-prevention programmes.^{4,5}

Limitations : The cross-sectional design and convenience sampling limit causal interpretation and generalizability. The self-developed, self-reported questionnaire may have introduced response and recall bias. The study was limited to adults aged 65–80 years in Mumbai, and preventive behaviours were self-reported rather than objectively assessed.

Conclusion : Participants showed awareness of several fall-prevention factors, but gaps remained in strengthening and balance exercises, routine health check-ups, and professional consultation. Community-based education and physiotherapy-led fall-prevention programmes are recommended to promote safer ageing.

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