

## Documents Review about Elderly People's Fear of Falling

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**Abstract**

I investigated fall prevention in a women's learning society for M City to plan the spread of fall prevention classrooms for elderly people. Also, 10% of people said they had a fear of falling. From this investigation, I was surprised that people didn't know about the fall prevention classroom even though some people were scared of falling. Therefore, to raise awareness, I performed a review of documents about elderly people's fear of falling and examined the present conditions and problems.

In Medical Online, there were 13 documents from until 1999 through 2016. CiNii had 36 documents, and Central medical journal had 40 documents. From these, I extracted 20 documents and examined them.

It is said that people who have fallen before have a higher chance of falling again, but simple fear is not the only factor putting people at risk. Other factors include physical pain resulting from their fall, the cause of their previous fall, loss of independence, and the physiological fear of being a burden on other people. Previous experience with falling is not the only factor, the combination of body function and sense of fear is also a factor.

**Keywords:** Elderly people, fall prevention, fear of falling

**Background**

I investigated fall prevention in a women's learning society for M City to plan the spread of fall prevention classrooms for elderly people. Results showed that 48% of people did not know about the fall prevention classroom, even though 85% wanted one. Also, 10% of people said they had a fear of falling. From this investigation, I was surprised that people didn't know about the fall prevention classroom even though some people were scared of falling. Therefore, to raise awareness of the fall prevention classroom, I performed elderly people's fear of falling documents review about elderly people's fear of falling and examined the present conditions and examined the present conditions and problems.

**The background of the fall of the elderly (over 65 years old)**

- According to Cabinet office report, the places where elderly people are most prone to falling are "garden", "living room", "entrance porch", "stairs" and "bed room". It is easy for people to fall in rooms that they spend time in every day [1].
- Frequency of falls: According to a report by the Ministry of Health, Labour and Welfare (aged), 23.3% of the aged 65 and older have fallen over the past year. The number of falls and fractures has risen to fifth place due to the lack of nursing care [2].
- The cause of the fall of the elderly (Figure 1).
- The risk of falling Ms. Suzuki has four major items: "Physical risk", "risk related to aging", "risk of medicine", "living

environment risk". "Physical risk" and "age-related risks" lead to poor walking and mobility, and make people prone to falls. And "past tripping experience" leads to "poor walking and mobility", and "past fall experience" leads to "fear of falling" and is a factor that causes falls. "Fear of falling" leads to "walking and moving ability decrease" and prone to falling" [3]. Risk of medicine" or "living environment risk" is likely to lead to a direct fall

- Scale to measure falling fear: Modified Falls Efficacy Scale (MFES) is the index of fear of falling developed by Hill and we use Japanese version of MFES [4].

**Purpose**

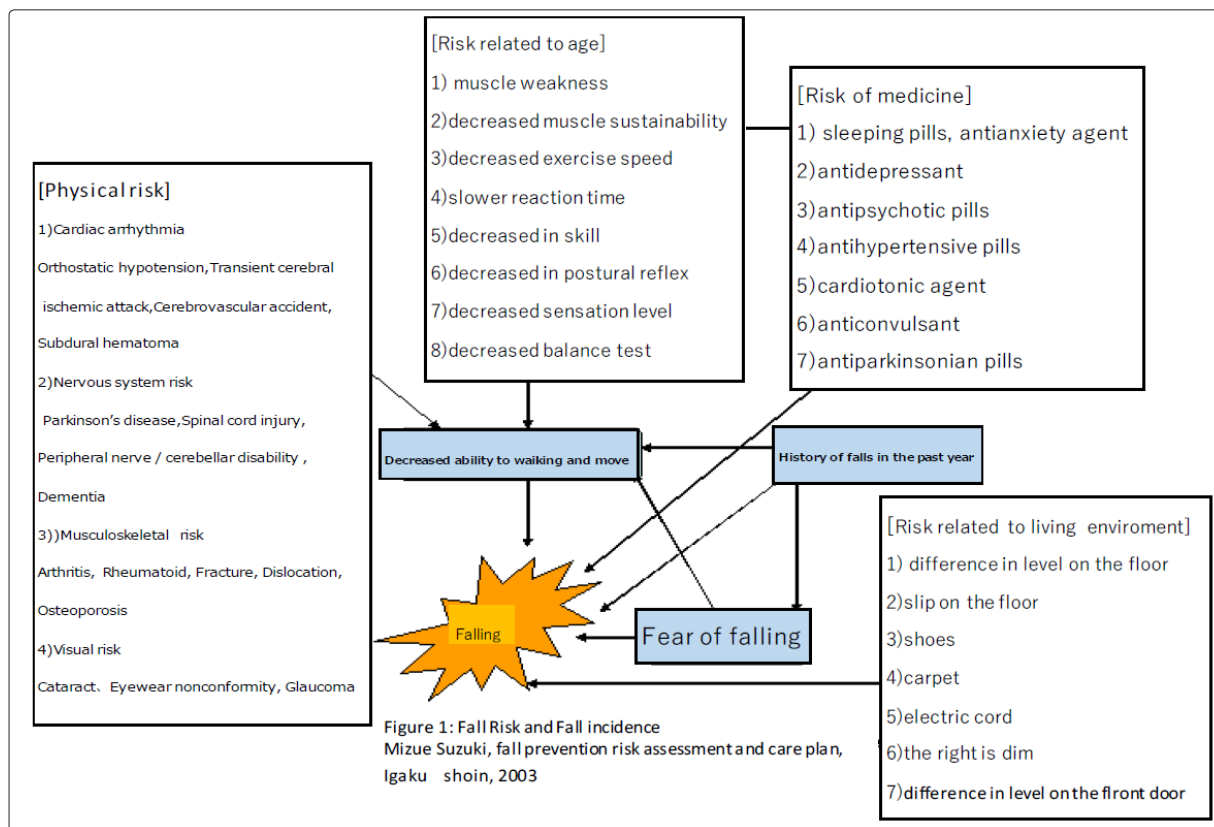
I clarify the present conditions and problems about elderly people's fear of falling and make use of this for fall prevention lessons.

**Method**

I performed document retrieval with Central Medical Journal, Medical Online and CiNii using the keywords "elderly people", "fall prevention" and "fear of falling". I removed the sleeve notes and I sorted and classified knowledge in every document, based on original papers, arranged them and examined the present conditions and problems.

**Result**

In Medical Online, there were 13 documents from until 1999 through 2016.



**Figure 1:** Fall Risk and Fall incidence Mizue Suzuki, fall prevention risk assessment and care plan, Igaku shoin, 2003

CiNii had 36 documents and Central medical journal had 40 documents. From these, I extracted 20 documents and examined them. For consideration literature, the list is shown in (Table 1). Of these 20 documents 13 were about elderly people staying at home, three were about people who use day service and facilities, and four were about people staying in hospitals. 14 documents were about factors influencing the fear of falling (body function, physical active mass, QOL, ADL, fall experience, bone fracture experience, psychosocial factors), 1 document was about the benefits of reducing the fear of falling, four documents were about rehabilitations for people with a fear of falling, and 1 document was about daily life activity affected people's fear of falling.

The elderly people living in the community was observed in the factors related to fear of falling, body function (function research, TUG, 10m obstacle walking, agility, Chyouza flexion, leg standing, grip strength), mast body type (BMI), ADL, QOL, and depressed [5,7,9,10-12,16,22,23].

**Table 1: Analysis of target literature**

Document number, title audience	Title	Target Audience	Fear of falling question paper	Related factors	Year of issue
5	The relationship between fear of falling and levels of physical fitness in local elderly people	87 people living in the area	Presence or absence of Fear of falling	Ability to stand on one leg, function research, Chyouza flexion, 2 minutes stand still, TUG (Time Up & Go Test: below TUG), 10 m obstacle walking	2010
6	The relationship between fear of falling in the elderly and moving ability to move	28 elderly people with low-quality medical beds	Falls Efficacy Scales: below FES	FIM, transfer and mobility capabilities	2004
7	Factors influencing fear of falling in elderly patients	103 cases of elderly patients who were diagnosed with fractures caused by falls and then returned home	Modified Falls Efficacy Scale (below: MFES)	Age, Sex, Disease, Barthel Index	2014
8	History of falls, ability to perform daily tasks, level of confidence in regards to exercises in elderly with a fear of falling	59 elderly people using preventive care facilities	Presence or absence of Fear of falling, History of falls in the past year	Indicators of living Physical fitness motor Fitness Scale (MFS), Adult exercise Competence scale (4 items of athletic ability, 3 items of motor control)	2015

9	Agility is a factor involved in the fall of elderly people living in the community	78 people living in the area	History of falls in the past year	Functional Reach Test: below FRT) Agility (opening and closing stepping test), Limb muscle strength (30 seconds rise Test CS-30), Moving capacity TUG, 5m maximum walking time, Standing balance (Functional Reach test: below FRT)	2015
10	A study on fear of falling and related factors in elderly people at home	411 people on the ability to participate in two surveys of the bone density survey and be able to go out alone in the neighborhood	Tinetti's question, whether or not patient fell within the past year	Disease, Medicine, Subjective symptoms, Daily life behavior (ADL), dysfunction, QOL index (old-type activity performance index, social support), Life satisfaction Index scale K (below LSIK), Geriatric Depression Scale (below: GDS, 1 or less GDS)	1999
11	A study of standing balance ability and falling related factors in the elderly living in the community	489 elderly living in the area	Presence or absence of Fear of falling, History of falls within the past year	Function Reach (below:FR), Value as an indicator of standing balance, The history of fracture.	2008
12	Factors influencing the fall of elderly people living in the community : Focusing on fear of falling, history of falls physical functions, and body function recognition errors	82 people living in the area	Presence or absence of Fear of falling	History of falling, Body function and recognition error, grip strength, Cyouza body flexion, leg standing, functional reach, walking speed, TUG, physical function and recognition error due to walking time of obstacle walking course.	2013
13	Relationship between fear of falling body type and balance function in patients in the community	71 women who participated in the prevention and dissemination of nursing care	Presence or absence of Fear of falling	History of falls, Presence of pain, BMI, eyelocus length, Brief Pain Inventory Japan Edition (Below BPI-J)	2014
14	Cognitive behavior therapy for elderly patients after surgery for hip fracture : The strategy to reduce fear of falling in rehabilitation	Two cases of hospitalization treatments in which there was a femoral neck fracture. They had the R-nail operation.	Use Japanese version of FES	Intervention approach based on cognitive behavioral therapy, Age, Sex, History of falling, Situation of fall, Family composition, Care situation, ADL: Functional Independent Measure: below FIM), Depression and anxiety: Hospital anxiety and Depression: below HAD), QOL: Life satisfaction Index K: below LSIK)	2007
15	The relationship between ability to control attitude elderly people and the degree of fear of falling and daily life activity	46 elderly residents of the facility	Use Japanese version of FES	Posture Control ability, The center of gravity's way at stationary position (RMS), Maximum discretionary centroid movement distance, Function Reach (FR), One leg stand hold time, Standing retention time on the balance mat, Standing holding time on the unstable plate, TUG.	2008
16	The impact of past falls makes elderly people in the region more fearful of future falls	289 elderly people living in the area	Fall threat Item Question paper History of falling, Presence or absence of Fear of falling	Tipping threat Question Paper	2013
17	The relationship between the fear of falling and the ability to walk and balance in frail elderly people	46 frail elderly people who use nursing care facilities can be self-reliant or use a cane	Presence or absence of Fear of falling	TUG, FR, eye-leg standing time as a balance capacity index, 10m walking time as walking ability, knee extension muscle strength as lower limb muscle strength.	2003

18	The relationship between falling fear and physical activity and health-related quality of care for the elderly at home	33 Elderly people need care for use of the service, independent walking, Barthel index is more than 80 points, dementia symptoms are not observed	Use Japanese version of FES	Barthel Index and social life ability measure the revised version Frenchay Activities index in daily life behavior. The body function is TUG, the amount of physical activity is fitted for 7 days with an access maker, step 1 to 2.9 mets to 3 mets more time, I was calculated exercise. Health QOL is SF-8.	2012
19	Factors related to the fear of falling in the elderly living in the community	45 elderly people living in the area	Modified Falls Efficacy Scale (MFES)	Body function (Leg extension muscular strength, FR, Eye leg standing time, TUG, 5 m maximum walking time), Fall experience, ADL-20 (Badl, IADL, CADL), Physical activity self-efficacy (SF, SF for walking, and climbing stairs, The heavy lifting of SF) and refrain from going out.	2008
20	The simultaneous activity of muscles while walking is related to the feeling of fear in the elderly	Local residents/residential facilities 38 elderly people	Use Japanese version of FES	The measurement of simultaneous activity during walking was measured for surface EMG, 10m free walking time, and Operation EMG.	2010
21	Fear of falling among elderly inpatients about to be discharged to their homes.	66 hospitalized elderly patients who refrained from leaving their home	MFES	Walking ability (10m walking time), falling experience, cognitive function (Hasegawatype), ADL (Barthel index), depressive tendencies (geriatric depression scale shortened version GDS), age, sex.	2011
22	The effects of falling fear in the elderly at home in the community on physical function and QOL	77 people living in the area	MFES	The body function evaluation was evaluated for grip strength, knee extension strength, Aneye leg standing, FR, TUG, and 5m walking time. Evaluation of health-related QOL was evaluated using SF-8.	2012
23	A study of factors related to falling fear in the elderly living in the community	1,025 people living in the area	Presence or absence of Fear of falling	The fall experience of the past one year Fracture experience, Life function (old-type activity Ability index), Depression (GDS), Subjective health view, Family and hobbies.	2004
24	The effects of balancing exercises with attention issues on the fear of falling : the elderly who have falling received care after	22 elderly people with a history of tripping and care	Presence or absence of Fear of falling, Use Japanese version of FES	Age, Sex, Height, Weight, BMI, and intellectual function (MMSE). Fear of falling was used Fes Japan version. Physical function evaluation was measured FRT, UG, and 10m walking time. We practiced for ten weeks, three times a week, five minutes in a group that performed the attention exercise of the balance practice to the target audience, and only the balance practice.	2010

In the hospital and the outpatient, it was a physical function (transfer ability, walking ability), ADL and depression that a significant difference was observed about the factor related to the fear of falling [6,15,21].

In the elderly nursing care facilities, it was a physical function (balance ability, walking speed) that a significant difference was observed about the factor related to the fear of falling [8,15,17,18]. The fall experience was significantly related to fear of falling; it was 11 literatures [6-9,11,12,16,17,21-23]. The fear of falling of elderly people was found to be significant from fall history and fracture [7, 8].

In the four literature examined by gender, it is only three documents indicating that the woman was significantly related to the fare of falling [10, 11, 21].

The fare of falling was more common women than men over 70 years old, and related to past falls [10, 11].

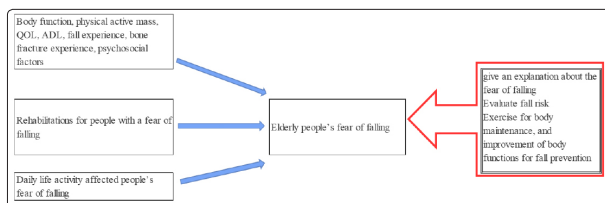
## Conclusion

A lot of studies in conjunction with the fear of falling in elderly people were done. It is said that people who have fallen before have a higher chance of falling again, but simple fear is not the only factor putting people at risk, other factors include physical pain resulting from their fall, the cause of their previous fall, loss of independence, and the psychological fear of being a burden on other people [16-18].

Previous experience with falling is not the only factor, the combination of body function and sense of fear is also a factor [5-12,15,21-23].

The history of falls and fracture of falls, there is possibility to reduce the fear of falling by incorporating the experience daily life activity [24].

Through this document, I give an explanation about the fear of falling and assessment of fall risk. I hope more people will leave about fall prevention classrooms and exercise for body maintenance, and improvement of body functions for fall prevention (Figure 2). In the future, I want to examine the exercise program that individuals can consider.



**Figure 2:** Related factors and counter measures for fear of falling

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