 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 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. “Fare 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 fare 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.
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 fare 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

<table>
<thead>
<tr>
<th>Document number, title audience</th>
<th>Title</th>
<th>Target Audience</th>
<th>Fear of falling question paper</th>
<th>Related factors</th>
<th>Year of issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>The relationship between fear of falling and levels of physical fitness in local elderly people</td>
<td>87 people living in the area</td>
<td>Presence or absence of Fear of falling</td>
<td>Ability to stand on one leg, function research, Chyouza flexion, 2 minutes stand still, TUG (Time Up &amp; Go Test: below TUG), 10 m obstacle walking</td>
<td>2010</td>
</tr>
<tr>
<td>6</td>
<td>The relationship between fare of falling in the elderly and moving ability to move</td>
<td>28 elderly people with low-quality medical beds</td>
<td>Falls Efficacy Scales: below FES</td>
<td>FIM, transfer and mobility capabilities</td>
<td>2004</td>
</tr>
<tr>
<td>7</td>
<td>Factors influencing fare of falling in elderly patients</td>
<td>103 cases of elderly patients who were diagnosed with fractures caused by falls and then returned home</td>
<td>Modified Falls Efficacy Scale (below-MFES)</td>
<td>Age, Sex, Disease, Barthel Index</td>
<td>2014</td>
</tr>
<tr>
<td>8</td>
<td>History of falls, ability to perform daily tasks, level of confidence in regards to exercises in elderly with a fear of falling</td>
<td>59 elderly people using preventive care facilities</td>
<td>Presence or absence of Fear of falling, History of falls in the past year</td>
<td>Indicators of living Physical fitness motor Fitness Scale (MFS), Adult exercise Competence scale (4 items of athletic ability, 3 items of motor control)</td>
<td>2015</td>
</tr>
<tr>
<td>9</td>
<td>Agility is a factor involved in the fall of elderly people living in the community</td>
<td>78 people living in the area</td>
<td>History of falls in the past year</td>
<td>Functional Reach Test: below FRT (Agility: opening and closing stepping test), Limb musculoskeletal strength (30 seconds rise time CES 30), Moving capacity TUG, 5m maximum walking time, Standing balance (Functional Reach test: below FRT)</td>
<td>2015</td>
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<tr>
<td>10</td>
<td>A study on the rate of falling and related factors in elderly people at home</td>
<td>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</td>
<td>Tinnetti’s question, whether or not patient fell within the past year</td>
<td>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)</td>
<td>1999</td>
</tr>
<tr>
<td>11</td>
<td>A study of standing balance ability and falling related factors in the elderly living in the community</td>
<td>489 elderly living in the area</td>
<td>Presence or absence of Fear of falling, History of falls within the past year</td>
<td>Value as an indicator of standing balance, The history of fracture.</td>
<td>2008</td>
</tr>
<tr>
<td>12</td>
<td>Factors influencing the fall of elderly people living in the community: Focusing on the rate of falling, history of falls physical functions, and body function recognition errors</td>
<td>82 people living in the area</td>
<td>Presence or absence of Fear of falling</td>
<td>History of falling, Body function and recognition error, grip strength, Cyozza body flexion, leg standing, functional reach, walking speed, TUG, physical function and recognition error due to walking time of obstacle walking course.</td>
<td>2013</td>
</tr>
<tr>
<td>13</td>
<td>Relationship between fear of falling body type and balance function in patients in the community</td>
<td>71 women who participated in the prevention and dissemination of nursing care</td>
<td>Presence or absence of Fear of falling</td>
<td>History of falls, Presence of pain, BMI, eyelid length, Brief Pain Inventory Japan Edition (Below BPI-J)</td>
<td>2014</td>
</tr>
<tr>
<td>14</td>
<td>Cognitive behavior therapy for elderly patients after surgery for hip fractures: The strategy to reduce fear of falling in rehabilitation</td>
<td>Two cases of hospitalization treatments in which there was a femoral neck fracture. They had the R-nail operation.</td>
<td>Use Japanese version of FES</td>
<td>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), D depression and anxiety: Hospital anxiety and Depression: below HAD), QOL: Life satisfaction Index K: below LSIK)</td>
<td>2007</td>
</tr>
<tr>
<td>15</td>
<td>The relationship between ability to control attitude elderly people and the degree of fear of falling and daily life activity</td>
<td>46 elderly residents of the facility</td>
<td>Use Japanese version of FES</td>
<td>Posture Control ability, The center of gravity: way at stationary position (RMS), Maximum discretionary centroid movement distance, Functional Reach (FR), One leg stand hold time, Standing retention time on the balance mat, Standing holding time on the unstable plate, TUG.</td>
<td>2008</td>
</tr>
<tr>
<td>16</td>
<td>The impact of past falls makes elderly people in the region more fearful of future falls</td>
<td>289 elderly people living in the area</td>
<td>Fall threat Item Question paper</td>
<td>Tipping threat Question Paper</td>
<td>2013</td>
</tr>
<tr>
<td>17</td>
<td>The relationship between the fear of falling and the ability to walk and balance in frail elderly people</td>
<td>46 frail elderly people who use nursing care facilities can use self-reliant or use cane</td>
<td>Presence or absence of Fear of falling</td>
<td>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.</td>
<td>2003</td>
</tr>
<tr>
<td></td>
<td>Title</td>
<td>Participants</td>
<td>Methods</td>
<td>Factors related to falling fear in elderly living in the community</td>
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<tr>
<td>18</td>
<td>The relationship between falling fear and physical activity and health-related quality of care for the elderly at home</td>
<td>33 Elderly people need care for use of the service, independent walking. Barthel index is more than 80 points, dementia symptoms are not observed</td>
<td>Use Japanese version of FES Barthel Index and social life ability measure, the revised version Frenchay Activities index 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.</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Factors related to the fare of falling in the elderly living in the community</td>
<td>45 elderly people living in the area Modified Falls Efficacy Scale (MFES)</td>
<td>Body function (Leg extension muscular strength, FR, Eye leg standing time, TUG, 5 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.</td>
<td>2008</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>The simultaneous activity of muscles while walking is related to the feeling of fear in the elderly</td>
<td>Local residents/residential facilities 38 elderly people Use Japanese version of FES</td>
<td>The measurement of simultaneous activity during walking was measured for surface EMG, 10m free walking time, and Operation EMG.</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Fear of falling among elderly inpatients about to be discharged to their homes.</td>
<td>66 hospitalized elderly patients who refrained from leaving their home MFES</td>
<td>Walking ability (10m walking time), falling experience, cognitive function (Hasegawatype), ADL (Barthel index), depressive tendencies (geriatric depression scales, shortened version GDS), age, sex.</td>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>The effects of falling fear in the elderly at home in the community on physical function and QOL</td>
<td>77 people living in the area MFES</td>
<td>The body function evaluation was evaluated for grip strength, knee extension strength, Ancey leg standing, FR, TUG, and 5m walking time. Evaluation of health-related QOL was evaluated using SF-8.</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>A study of factors related to falling fear in the elderly living in the community</td>
<td>1,025 people living in the area Presence or absence of Fear of falling</td>
<td>The fall experience of the past year Fracture experience, Life function (old-type, Activity Ability index), Depression (GDS), Subjective health view, Family and hobbies.</td>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>The effects of balancing exercises with attention issues on the fear of falling: the elderly who have falling received care after</td>
<td>22 elderly people with a history of tripping and care after Presence or absence of Fear of falling Use Japanese version of FES</td>
<td>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.</td>
<td>2010</td>
<td></td>
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</tbody>
</table>

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 fare 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 fare of falling [8,15,17,18]. The fall experience was significantly related to fare of falling; it was 11 literatures [6-9,11,12,16,17,21-23]. The fare 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 rate of falling [10, 11, 21].

The rate 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 physiological fear of being a burden on other people [16-18].

Previs 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 on explanation about the fear of falling in elderly people and related to past falls [10, 11].

I want to examine the exercise program that individuals can consider.

The effects of balancing exercises with 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](image)

**Reference**

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