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**The relationship between fear of falling and movement time of outstretched arms in Japanese elderly women.**

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**Introduction:** The fear of falling is a more serious problem than falling itself, because the elderly who have experience of falling a fall often become reluctant to go out and less active, leading to a decreased physical function and QOL. Fear of falling is affecting the activities to improve occupational therapy practice. We speculated that if the elderly have a fear of falling, their movement of the center of gravity with movement time of outstretched arms becomes even delay.

**Objectives:** The objective of this study was to examine how the experience of falling and fear of falling of the elderly living at home affect their movement time of outstretched arms.

**Methods:** The Subjects were 44 elderly women aged 74.8 years on average ( $\pm 7.1$ ) living in the community and young women controls. An interview with them regarding their fear of falling and experience of falling, and stumbling experience were investigated, and forward, lateral, and downward movement time of outstretched arms in the standing position were measured. Comparisons were made between the groups of elderly with a fear of falling, experience of falling, stumbling experience and controls.

**Results:** According to fear of falling, the downward arm movement time was longer in the elderly women who were fear of falling than controls. But did not differ between the presence and absence of falling /stumbling experience.

**Conclusion:** This is not simply quickly movement of outstretched arms, these reflect the ability to control the situation in the center of gravity deviate from the base. In particular, vertical downward reactivity is predicted to be associated with Japanese-style customs and the skills required to life in sit-down vertical direction.

**Contribution to the practice/evidence base of occupational therapy:** Expected to be able to reduce the fear of falling by the occupational therapy intervention to improve the vertical downward reactivity in Japanese elderly women.