



Risk factors for hip fracture

Shih-Wei Lai^{1,2}

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Recently one retrospective study in Japan conducted by Koseki et al. published in *Archives of Osteoporosis* reported the risk factors for hip fracture in people ≥ 35 years old, including female, older age, indoors, and living room [1]. Particularly, older people aged ≥ 80 accounted for 70.9% of hip fracture cases [1]. Some points are discussed to support Koseki et al.'s findings.

First, fall risk-increasing drugs were found to be associated with an increased probability of hip fracture in older people, for example, opioids, dopaminergic drugs, anxiolytics, antidepressants, and hypnotics/sedatives [2]. As long as the fall does not happen, hip fracture is less likely to develop in older people. Strategies to prevent falls should be initiated in older people who took fall risk-increasing drugs. The database used in Koseki et al.'s study should have the record of these medications. Second, polypharmacy was found to be associated with an increased probability of falls and hip fracture in older people [3, 4]. Although there is no standard definition of polypharmacy for predicting falls, it is suitable to define polypharmacy as taking five or more drugs daily in older people [5]. As the age is increasing, the number of chronic diseases and the number of medications will increase in older people [6–8]. Among older people, the proportions of aging, multimorbidity, and polypharmacy are increased in parallel [8]. The prevalence of polypharmacy (≥ 5 prescribed drugs) was at least 60% in older people aged > 80 in Kostev et al.'s study [6]. Such a trend partially explains the result of Koseki et al.'s study that older people aged ≥ 80 accounted for 70.9% of hip fracture cases [1]. The database used in Koseki et al.'s study should have the record of polypharmacy. Third, going to the toilet is a traditional risk factor for hip fracture in older people [9]. But Koseki et al.'s study reported that in the house, the living room and corridor were places where hip fracture often occurred, rather than the toilet or bathroom [1]. This is a novel finding. Strategies to reduce

obstacles in the living room and corridor are a new issue. Finally, I appreciate that Koseki et al.'s study has drawn much attention from researchers engaged in this field.

Declarations

Conflict of interest None.

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✉ Shih-Wei Lai
wei@mail.cmuh.org.tw

¹ Department of Public Health, College of Public Health, and School of Medicine, College of Medicine, China Medical University, Taichung, Taiwan

² Department of Family Medicine, China Medical University Hospital, No 2, Yu-De Road, Taichung City 404, Taiwan

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