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### ANALYSIS ON THE CHARACTERISTICS OF FALLS AMONG OLDER PERSON FROM CHINESE NATIONAL INJURY SURVEILLANCE SYSTEM, 2008–2014

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10.1136/injuryprev-2016-042156.494

**Background** For elder person, fall is the leading cause of injury death in China. Besides death, fall leads to disability and other nonfatal results. The population of people aged over 60 is 178 million; elder person fall is an important public health problem in China.

**Methods** Data of falls was descriptively analysed from Chinese NISS from 2008 to 2014.

**Results** Totally 216,676 falls among older person were analysed, which accounted for 52.12% of all unintentional injury cases among older person. The gender ratio is 0.76. The case number showed an increasing trend by year, while the proportion of fall among all unintentional injuries did not change much. In 2014 NISS database, 41,073 falls among older person were analysed. The proportion of fall among all unintentional injuries is 52.81%, and it increased by age group. The gender ratio is 0.77 and more female felled with age increase. The peak hour in a day is 8:00–11:59 in morning (33.31% of total). The top three place injuries happened is at home (55.66%), in the public residents (20.52%) and on the roads (16.14%). Recreation activates (68.94%) and housework/study (16.14%) were the two major activities. The most common injured parts of body were low limbs (29.28%), head (24.40%) and body (20.04%), while the most common natures of falls were bruise (45.76%) and fractures (29.52%). 64.20% of all cased were minor, while the proportion of moderate and serious injuries increased with age increased.

**Conclusions** Fall was the main injury type in China, which showed an increasing trend in proportion among all unintentional injuries. The prevention of falls among older person should be put into priority.

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### FEAR OF FALLING RELATED TO PERCEIVED EFFECTS OF PHYSICAL EXERCISE

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10.1136/injuryprev-2016-042156.495

**Background** Physical exercise has been shown to reduce falls and subsequent injuries. In a low cost, cross-sectoral program “The Strength in Old Age” health exercise interventions for elderly people were implemented in 38 municipalities in Finland. It is known that fear of falling predicts falling among elderly people. The aim of this study was to find out the possible relationships between the perceived effects of health exercise interventions and fear of falling.

**Methods** A questionnaire consisting of questions about demographic and socioeconomic status, intervention group, physical activity habits, perceived effects of intervention and general well-being was mailed to 2563 participants of health exercise program in April 2015. The response rate was 32.5% (78% women and 22% men). The data were analysed by descriptive statistics, correlation and t-tests, and binary regression analysis.

**Results** Of the respondents, 22% had fallen during the last year and 65% of them experienced fear of falling. There were no

differences in reported falls and fear of falling between the genders. Fear of falling predicted falls when age was taken into account (OR = 2.660,  $p = 0.000$ ). The older the respondent was, the more participation in the intervention reduced the fear of falling (Spearman's rho 0.093,  $p = 0.036$ ). Fear of falling reduced more among those who participated in the exercise group twice or more times per week than once or less times per week ( $t_{(523)} = 2.933$ ,  $p = 0.004$ ). If the participation in the exercise group was felt to improve physical condition (OR = 3.592), balance (OR = 4.439), muscle strength (OR = 2.810), or mood (OR = 3.660) to some extent or more, it predicted reduction in fear of falling when adjusted for age (all  $p$ -values 0.000).

**Conclusions** Tailored health exercise interventions may reduce perceived fear of falling among elderly people and, in that way, decrease the occurrence of falls.

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### FALLS AND CATARACT: INVESTIGATING RISK AND PREDICTORS IN OLDER ADULTS DURING THEIR WAIT FOR SURGERY

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10.1136/injuryprev-2016-042156.496

**Background** There is strong evidence of increased falls risk associated with cataract. Although cataract surgery can restore sight, lengthy waiting times are common in many high income countries, including Australia. Here, we report the risk and determinants of falls in older people with cataract during their surgical wait.

**Methods** Data from a prospective study of falls in a cohort of patients aged  $\geq 65$  years on Australian cataract surgery waiting lists were analysed. Participants underwent assessment of vision, comorbidity, physical activity and health-related quality of life (HRQoL), and recalled falls in the previous 12 months. Falls were also self-reported prospectively using monthly calendars; the context and outcomes of any falls were determined by interview.

**Results** Of 329 participants, mean age was 76 years and 55% were female. Participants' habitual vision was an average of 20/40 (20/16 to 20/160) and 10% were vision impaired ( $<20/60$ ). Falling in the previous 12 months (129 [39%] participants) was associated with the use of antidepressant medication (odds ratio [OR] 3.6, 95% confidence interval [CI]: 1.7–7.5) and older age (OR 1.3, 95% CI: 1.1–1.6; five year increase in age). A total of 242 falls were reported prospectively by 98/298 (33%) participants during the surgical wait – a falls rate of 1.2 per year. Poorer vision function (incidence rate ratio [IRR] 1.1, 95% CI: 1.0–1.2), lower self-rated HRQoL (IRR 1.1, 95% CI: 1.0–1.2), increased walking activity (IRR 1.1, 95% CI: 1.0–1.1) and lower BMI (IRR 1.1, 95% CI: 1.0–1.1) were predictive of falls risk. Over one half (51%) of falls were injurious, including 11 head injuries and 2 fractures.

**Conclusions** These findings provide insight into associations with increased falls risk in older adults with cataract. We demonstrate the negative impact of impaired vision function on falls risk and injury, and reinforce the need for improved efficiency of