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## Low quality of life in osteoarthritic elderly increase risk of falls

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**Purpose of the study:** One in every three adults age 65 and older, and almost 50% of those over 80, experience at least one fall each year. Osteoarthritis (OA) has been reported as an important risk factor for falls due to impairment in gaits and balance. However, published studies evaluating OA and falls have yielded mixed results. In a case-control study we evaluated the effect of quality of life in elderly with OA to falls.

**Methods:** Participants aged  $\geq 65$  years with a history of two falls or one injurious fall over the past 12 months were recruited from the Emergency department, Primary Care and Geriatric outpatient departments. Control individuals aged  $\geq 65$  years with no falls over the past 12 months were recruited through media and word-of-mouth advertising. Demographic data were collected. Subjects were asked to complete Western Ontario and McMaster Universities Arthritis Index (WOMAC) questionnaire. Patients' hip and knee radiographs were assessed by a radiologist blinded of clinical data. Kellgren-Lawrence (KL) grading was used to evaluate the X-rays. Quality of life was assessed by CASP19, FES-I, and DASS21 in all subjects.

**Summary of results:** Fifty-six percent of patients ( $n=74$ ) fallers and 44% ( $n=59$ ) non-fallers have met the criteria and identified as OA patients. In multivariate analysis, fear of falling and low scores in subscales of CASP19 (self-realisation, autonomy, and pleasure) were determined significantly contribute to falls. Self-realisation showed the highest odds ratio (OR) in 95% confidence interval (OR=6.286, 95% CI=2.497-15.820,  $p$ -value=0.000). While the ORs for fear of falling was 4.875 (95% CI=2.263-10.503,  $p$ -value=0.000), pleasure was 2.750 (95% CI=1.113-6.795,  $p$ -value=0.028), and autonomy was 2.250 (95% CI=1.008-5.204,  $p$ -value=0.048). Depression, anxiety, stress and control subscale in CASP19 did not show any significant effect on falls.

**Conclusion and impact of the study:** Low quality of life significantly increases the risk of falls in elderly with OA. Therefore, in addition to improving the physical function, intervention for falls in elderly with OA should also aim at improving quality of life.

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