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Assessment of fall risks and related factors in elderly patients with type 2 diabetes mellitus

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Objective

To assess risk of falls and related factors in elderly type 2 diabetic patients.

Materials and methods

A descriptive cross-sectional study involving 412 type 2 diabetic patients aged ≥ 60 years old, selected by convenience sampling at Outpatient Department. The Hendrich II Fall Risk Model was used to assess risk of falls: subject had high risk of falls if total points was 5 or more. Patients responded to a questionnaire about their health, depressive symptoms (using Geriatric Depression Scale), and cognitive impairment (using the Mini-Cog test).

Results

107 elderly diabetic patients (26%) had high risk of falls. Female had higher fall risk (30.5%) than male (20.1%), $p<0.05$. There were positive correlations between risk of falls with advanced age ($r = 0.66$, $p<0.05$) and duration of diabetes ($r = 0.57$; $p<0.05$) in elderly diabetic patients. The risk of falls was significantly higher in the depressive symptom group than those in the non-depressive symptom group ($p<0.05$). Cognitive impairment increased risk of falls (OR: 37.6, 95%CI: 20.5-69.0, $p<0.01$). Insulin use increased the risk of falls by more than two fold compared with those receiving oral anti-diabetic agents (OR: 2.3, 95%CI: 1.4-3.7, $p<0.01$). There were no correlations between fasting blood glucose and HbA1c with risk of falls in elderly type 2 diabetic patients ($r < 0.25$; $p > 0.05$).

Conclusion

Elderly type 2 diabetic patients had high risk of falls, especially in those with advanced age, long duration of diabetes, cognitive impairment and depressive symptoms.

Key words: Fall risk, diabetic patient, elderly.