

## **Abstract**

### **Purpose**

Depression and anxiety are highly prevalent in older adults with vision impairment. Because symptoms of depression and anxiety appear to fluctuate, it is important to identify patients who are at risk of developing these symptoms for early diagnosis and treatment. Therefore, the aim of this study was to determine the incidence of subthreshold depression and anxiety, and to investigate predictors of developing symptoms of depression and anxiety in older adults with vision impairment who had no subthreshold depression or anxiety at baseline.

### **Methods**

A longitudinal prospective cohort study with a follow-up of 24 months in 540 older adults with vision impairment (mean age 75 years, 56% female, 48% macular degeneration, 15% glaucoma) from outpatient low-vision rehabilitation organisations was performed. The cumulative incidences of subthreshold depression and anxiety were calculated and linear mixed models with maximum likelihood estimation were used to determine two prediction models. Main outcome measures were: fluctuations in (i) depressive symptoms (Center for Epidemiologic Studies Depression Scale, CES-D) and (ii) anxiety symptoms (Hospital Anxiety and Depression Scale-Anxiety subscale, HADS-A).

### **Results**

The annual cumulative incidences of subthreshold depression and anxiety were 21.3% (95% Confidence Interval (CI) 18.7–23.9%)

and 9.5% (95% CI 7.4–11.6%), respectively. Risk factors for developing depressive symptoms were: living alone, having just enough money to cover expenses, having macular degeneration, having problems with adaptation to vision loss, reduced health related quality of life, and experiencing symptoms of anxiety. For developing anxiety symptoms, a relatively younger age, experiencing symptoms of depression, not living alone and experiencing hindrance at work proved to be risk factors.

## **Conclusions**

This study shows that the incidence of subthreshold depression and anxiety in older adults with vision impairment is twice as high compared with older adults in general and confirms that depression and anxiety symptoms fluctuate over time. It is of great importance that low vision rehabilitation staff monitor older adults with vision impairment who are most vulnerable for developing these symptoms, based on the risk factors that were found in this study, to be able to offer early interventions to prevent and treat mental health problems in this population.