Parkinson’s disease
the prodromal phase and consequences with respect to working life

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Akademisk avhandling

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Avhandlingen kommer att försvaras på engelska.

Abstract

**Background:** Parkinson's disease (PD) is a common, progressive neurodegenerative disorder, recognized by the motor symptoms of bradykinesia, tremor, rigidity, and postural impairment. At clinical onset, extensive amounts of dopaminergic neurons have already been lost. The duration of this prodromal phase is uncertain, and it is thought to include predominantly non-motor symptoms. The progressive nature and the symptoms of PD are disabling and reduces the quality of life. Among patients affected in working age, early cessation of employment is common, and such socioeconomic consequences of PD may contribute to an impaired quality of life. The aims of this thesis were to investigate the life situation for people affected by PD in working age, with attention to factors of importance for quality of life and working situation, and to evaluate long-term associations between potential prodromal signs and the later development of PD.

**Methods:** We used a postal survey to investigate the self-perceived life situation among working-aged individuals with PD compared to matched controls, with a specific attention to socioeconomic consequences of disease (paper I). To investigate risk markers preceding the diagnosis of PD (paper II-IV), we used data from nationwide registers. Study II was performed as a cohort study, based on the Swedish Military Service Conscription Register, and study III-IV were performed as nested case-control studies based on a cohort comprising all Swedish citizens aged ≥50 years in 2005.

**Results:** In the survey study (paper I), 38% of the PD participants and 9% of the controls were dissatisfied with life as a whole, and the working situation was an independent risk factor for dissatisfaction with life. In total, 59% of the PD participants had reduced working hours or stopped working due to PD, and many PD participants struggled to cope with their work demands. Support from employer was associated with a higher likelihood to remain employed. We found that low muscle strength in young adulthood, (paper II) and depression (paper III) were associated with an increased risk of PD over follow-up times of more than 2 decades, and that patients with PD were at increased risk of fall-related injuries, hip fractures in particular, a decade or more before the PD diagnosis (paper IV). For depression and fall-related injuries, the association with PD was clearly time-dependent, strongest in the last years before the diagnosis of PD.

**Conclusions:** The results suggest that the prodromal phase of PD may last for more than 2 decades and include also motor symptoms. The consequences of PD include a reduced quality of life associated with the working situation. Employer’s support appear to be particularly important for a successful vocational rehabilitation.

**Keywords**
Parkinson’s disease, quality of life, employment, rehabilitation, prodromal phase, risk markers, depression, muscle strength, injurious fall, epidemiology