Regional differences and comorbid disorders of Parkinson's disease — analysis of nationwide claims data, 2010 to 2019

Lotte Dammertz • Jakob Holstiege • Frank Ng • Claudia Kohring • Joachim Heuer • Manas K. Akmatov • Jörg Bätzing

Abstract

Background

Parkinson's disease (PD) is the second most common neurodegenerative disease after Alzheimer's disease and is strongly associated with age. In view of the demographic aging in Germany, a further increase in the number of patients with PD is expected. The aim of the current study was to examine the development of case numbers and the diagnostic prevalence of PD over the period from 2010 to 2019.

Methods

We used nationwide outpatient claims data according to § 295 of the Social Code Book V (*Fünftes Sozial-gesetzbuch, SGB V*). We considered all statutory health insured (SHI) individuals treated in ambulatory care who were diagnosed with PD with an additional modifier "confirmed" in at least two quarters of a year (so-called M2Q criterion). The prevalence development was analyzed on a small-scale district level in order to identify a regionally existing special need for care. In addition, the care provided by the relevant groups of specialists and the types of outpatient care facilities were examined in order to track possible changes in the interdisciplinary care situation and requirements over time. For patients with a confirmed diagnosis of PD in 2019, an exploratory analysis of the full comorbidity spectrum was performed. For this analysis a control group without PD matched by age, sex, and region was selected. The prevalence ratio was determined as a metric for identifying group differences between patients with PD and controls.

Results

Despite the progressive aging in Germany since 2015, the present analysis showed a slightly decreasing trend in absolute case numbers as well as raw and standardized prevalence at the national level. Namely, 14,235 fewer patients were diagnosed with PD in 2019 than in 2016 (2016: 392,478, 2019: 378,243). The decline in Parkinson's prevalence was particularly due to the decreasing number of female patients. Both the crude prevalence and the age- and sex-standardized prevalence showed an east-west gradient, with the higher prevalence in eastern Germany and Saarland. At the district level, prevalence was higher in rural than in urban districts.

More than 95 % of the patients with PD were treated by general practitioners, 60 % by neurologists. The use of neurology specialists as well as laboratory services has increased over time. Eighteen of the 20 most frequent comorbid disorder groups occurred more frequently in patients with PD compared to the control group. The most common comorbidities in PD patients were hypertension (PD: 76 %;

Corresponding author: Lotte Dammertz
Central Research Institute for Ambulatory Health Care in Germany (Zi)
Salzufer 8 – D-10587 Berlin – Tel. +49 30 40052473 – E-Mail: LDammertz@zi.de

control group: 73 %) and metabolic disorders (PD: 55 %; control group: 54 %). PD patients were three times more likely to receive a diagnosis of mental disorders (F00−F09) or other degenerative diseases of the nervous system (G30−G32) than patients in the control group.

Conclusion

Prevalence differences are found mainly between rural and urban regions with the higher burden of disease in rural areas. The analysis of comorbidities illustrates the high morbidity burden due to a multitude of diseases, especially those associated with age, which are correlated with PD. This underscores the complexity of care and the importance of multidisciplinary approaches. Further research is needed to explain the decline in prevalence, especially in women.

Keywords

Claims data, diagnostic prevalence, utilization, comorbidity, Parkinson's disease, prevalence

Citation