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Incidence and prevalence of Parkinson's Disease (PD) in Wales

Khalid Orayj ¹ Arron Lacey ², Ashley Akbari ², Mathew Smith ¹, Owen Pickrell ² and Emma Lane ¹, ¹Cardiff University, United Kingdom

² Swansea University Medical School, United Kingdom

Background: Previous epidemiological studies in the UK have suggested a decline in the incidence of Parkinson's disease (PD) in recent years, accompanied by a relatively stable prevalence rate. Globally, there seems to be variation in the trend of PD incidence and prevalence over time. A Welsh population-based study is required to estimate the incidence and prevalence of PD in comparison to previous studies.

Methods: Using the Secure Anonymised Information Linkage (SAIL) Databank, we conducted a populationbased study of residents in Wales, UK, aged 40 years or older between 2000 and 2016. The annual prevalence and incidence of PD were estimated using the Read codes for PD diagnosis. Poisson regression was used to estimate the incidence rate ratio (IRR) and prevalence risk ratio (PRR) across the study period.

Results: We analysed 16,693,205 single person-years during 2000-2016. The incidence rate ranged from 54.74 to 68.04 per 100,000 person years across the study period. The incidence rate did not differ significantly between the reference year (calendar year of 2000) and the majority of years of the study period (in 2016 the IRR was 1.05 95% CI 0.93–1.18). However, the overall prevalence rate increased from 319.40 to 370.05 per 100,000 population between 2000 and 2016. The prevalence rate differed significantly between the reference year (in 2016 the PRR was 1.16 95% CI 1.11–1.21).

Conclusions: In Wales, the prevalence of PD has increased in the period between 2000 and 2016 with a relatively stable incidence rate. This could be due to increasing population aging.

Orayjk@cardiff.ac.uk

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