**Trends in population-based incidence and prevalence of juvenile idiopathic arthritis in Manitoba, Canada**

**Abstract**

**OBJECTIVE:**

To estimate juvenile idiopathic arthritis (JIA) incidence and prevalence for children <16 years of age in the province of Manitoba, Canada, and test for changes in estimates between 2000 and 2012.

**METHODS:**

JIA cases were ascertained from Manitoba's administrative health data using a validated case-finding algorithm. Annual incidence and prevalence rates were estimated using a generalized linear model with generalized estimating equations (GEEs), adjusting for socio-demographic characteristics. Changes in estimates were tested using piecewise regression models.

**RESULTS:**

A total of 455 prevalence cases met the inclusion criteria. Sex and age-adjusted incidence estimates were 14.01 (95% CI 13.52, 14.53) in 2000/01 and 9.18 (95% CI 8.56, 9.85) in 2010/11; prevalence estimates were 65.33 (95% CI 63.87, 66.83) in 2000/01 and 59.61 (95% CI 58.17, 61.08) in 2010/11. A linear piecewise model provided the best fit to the data. There was a significant decrease in prevalence over the study period (-0.18; 95% CI -0.35, -0.02; p=0.0292) but no statistically significant change in incidence (-0.46; 95% CI -0.94, 0.01; p=0.0571). Sex-stratified models revealed a decrease for males in both prevalence (estimate -0.54; 95% CI -0.84, -0.25; p=0.0003) and incidence (estimate -1.02; 95% CI -2.02, -0.04; p=0.0439); there were no changes for females.

**CONCLUSION:**

Few population-based longitudinal epidemiologic studies of JIA have been conducted. Our findings suggest a decrease in overall JIA prevalence and in incidence and prevalence for males. Further research to validate these findings in other cohorts and explore factors contributing to this change will benefit healthcare planning for JIA. This article is protected by copyright. All rights reserved.

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