Socioeconomic Status and Geographic Distribution of Patients with Idiopathic Intracranial Hypertension in the Greater Toronto Area

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Introduction

- Previous studies have identified an association between obesity and socioeconomic variables such as poverty, minority status, and a low level of education.
- Since obesity is a major risk factor for the development of idiopathic intracranial hypertension (IIH), this study aims to identify and assess relationships between socioeconomic and geographic variables in patients with IIH in Canada.

Methods

- A retrospective chart review was performed to identify female IIH patients presenting to two neuro-ophthalmology clinics in Toronto between 2014 and 2022. Consecutive female patients under the age of 50 who did not have IIH were identified as controls.
- Patient age, BMI, and postal code were obtained from electronic medical records. Patient postal codes were then converted to geographic dissemination areas based on the 2016 Canadian census and data on socioeconomic outcomes was collected from Statistics Canada.
- The primary outcome was the difference in socioeconomic background of IIH and control patients. The secondary outcome was the association of BMI with socioeconomic variables.

Variable	IIH patients (n=322)	control patients (n=400)
Median income (CAD)	$34640 ± 11153	$36685 ± 12225, *p=0.02
Postsecondary degree attainment (%)	57.7 ± 14	60.5 ± 15, *p=0.01
Visible minorities (%)	43.1 ± 28	41.6 ± 27, p=0.48
Immigrants (%)	39.2 ± 17	39.0 ± 17, p=0.86
No knowledge of official languages (%)	3.3 ± 3	3.6 ± 4, p=0.30
Married individuals (%)	45.4 ± 14	46.1 ± 14, p=0.50
Average household size (# of persons)	2.7 ± 0.7	2.7 ± 0.7, p=0.62
Unemployment rate (%)	7.9 ± 4	7.5 ± 4, p=0.18

Table 1. A comparison of baseline demographics and socioeconomic variables of IIH and control patients

Conflicts of Interest: None

Results

- 322 female IIH patients (mean age: 32.3±10) and 400 female controls (mean age: 33.9±9 were included). The mean BMI was 35.0±8 for IIH patients and 26.7±7 for control patients (p<0.00001).
- There was a significant difference between dissemination areas resided by IIH and control patients for median income ($34640 vs. $36685 CAD, p=0.02) and rate of postsecondary degree attainment (57.7% vs. 60.5%, p=0.01).
- There were no significant differences in the percentage of visible minorities, percentage of immigrants, knowledge of official languages, percentage of married individuals, average household size, or unemployment rate.
- There was a weak but significant inverse relationship between the rate of postsecondary degree attainment in dissemination areas resided by IIH patients and their BMI (p=0.01, R2=0.02).

Conclusion

- IIH patients reside in geographic areas with lower average levels of income and education than control patients.
- Patients with lower levels of education may be at higher risk of elevated BMI and therefore disease incidence and progression.