

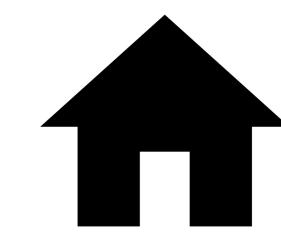
Social inequity, gender, and *Helicobacter pylori* infection in Arctic Canada.

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1 Introduction

Helicobacter pylori infection, which causes chronic stomach inflammation and increases stomach cancer risk, has an elevated prevalence in northern Canada relative to southern Canada. While high prevalence of *H. pylori* infection has been reported for northern Indigenous communities, little information on the burden of *H. pylori*-associated disease specific to women has been reported. In Canadian surveys of self-reported health, less than half of Indigenous women report their health as “excellent” or “very good” - a notably lower proportion relative to Indigenous men and non-Indigenous women - and are more likely than non-Indigenous women to be diagnosed with a chronic health condition.

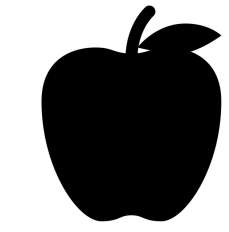
H. pylori prevalence increases as socioeconomic status (SES) decreases. Income is used almost universally in research to measure SES, even though income is difficult to ascertain accurately and does not capture key wealth inequities such as purchasing power. The Canadian Deprivation Index (CDI) quantifies SES without using income. Instead, it uses:



Home ownership



Education



Food security

Objectives

This analysis investigates social inequities in the *H. pylori*-associated disease burden among participants in community-driven CANHelp Working Group projects in the Northwest Territories and Yukon. It examines how socioeconomic indicators and gender relate to this disease burden. This poster presents results from preliminary data analysis in three CANHelp community projects; in particular, we highlight results from the food security component of the CDI.

2 Methods

Ascertainment of CDI component variables:

- By structured questionnaire during 2007-2017
 - Home ownership
 - Education status
- By Canadian Household Food Security Survey Module, adapted by authors for Arctic communities during 2017-2018:
 - Food security

Selected gender variables:

- Sex
- Whether household is led by unpartnered woman*

Selected disease burden variables:

- Prevalence of *H. pylori* infection

Statistical Analysis

- CDI Score used as an ordinal measure of SES (Table 1)
- CDI Score of 2 used as reference category because it is the mode across Canada
- Logistic regression estimated unadjusted odds ratios (OR) and 95% confidence intervals (CI) for the effect of SES/gender variables on *H. pylori* prevalence for all households and separately for households led by unpartnered women*

* Households were classified as “Led by an Unpartnered Woman” if the household contained an adult female, and no other adults.

Education	Home Ownership	Food Security
0: University	0: Owner	0: Always Secure
1: High School	1: Renter	1: Sometimes Insecure
2: < High School		2: Always Insecure

Raw Score	CDI Score	Interpretation
0	1	Least Deprived
1	2	
2	3	
3	4	
4, 5	5	Most Deprived

Table 1: Scoring the CDI. Raw scores of 4 and 5 share a category because raw scores of 5 are rare among Canadians.

3 Results

CDI:

- *H. pylori* prevalence was higher at higher deprivation levels
 - Effect strongest in households headed by unpartnered women, though estimates are imprecise

Food security:

- Food insecurity was rare in participating households (<20%)
 - 4% of all households reported severe food insecurity
 - 7% of households led by unpartnered women reported severe food insecurity
- Very strong association between severe food insecurity and *H. pylori* prevalence.
 - Strong in women (OR: 10 [95% CI: 1.2, 90]) and in households led by unpartnered women, though estimates are imprecise

CDI Score	All Households				Households Led by Unpartnered Women			
	n	Hp + (%)	OR	95% CI	n	Hp + (%)	OR	95% CI
1	47	32	2.0	0.90, 4.5	6	33	4.2	0.50, 33
2	78	19	1.0	--	28	10	1.0	--
3	61	46	3.6	1.7, 7.6	17	65	15	3.2, 73
4	56	50	4.2	1.9, 9.1	11	64	15	2.6, 81
5	22	45	3.5	1.3, 9.6	8	50	8.3	1.3, 52
TOTAL	264	36			70			

Food Security	All Households				Households Led by Unpartnered Women			
	n	Hp + (%)	OR	95% CI	n	Hp + (%)	OR	95% CI
Always Secure	227	34	1.0	--	57	20	1.0	--
Sometimes Insecure	32	38	1.2	0.50, 2.6	8	38	1.1	0.20, 5
Often Insecure	11	91	20	2.5, 158	5	80	7.4	0.80, 71

Table 2: *H. pylori* prevalence by selected SES indicators and head of household status. (Hp, *H. pylori*)

4 Conclusions

Both the composite CDI indicator and the food insecurity component were positively associated with *H. pylori* prevalence among CANHelp community project participants, particularly in households led by unpartnered women. Thus, the *H. pylori*-associated disease burden appears to be influenced by social and gender inequities within Indigenous Arctic Canadian communities.

5 Acknowledgements

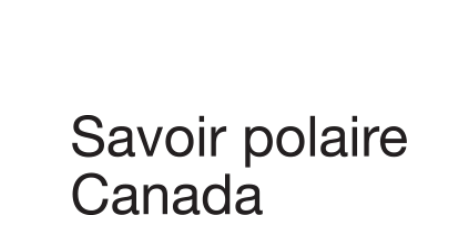


Figure 1: Participating communities for the SES research component of the CANHelp community projects. Communities that participated in the pilot data collection component are highlighted in purple.