

COVID-19 Vaccine Uptake Among Vulnerable Populations In Inner City Vancouver, Canada

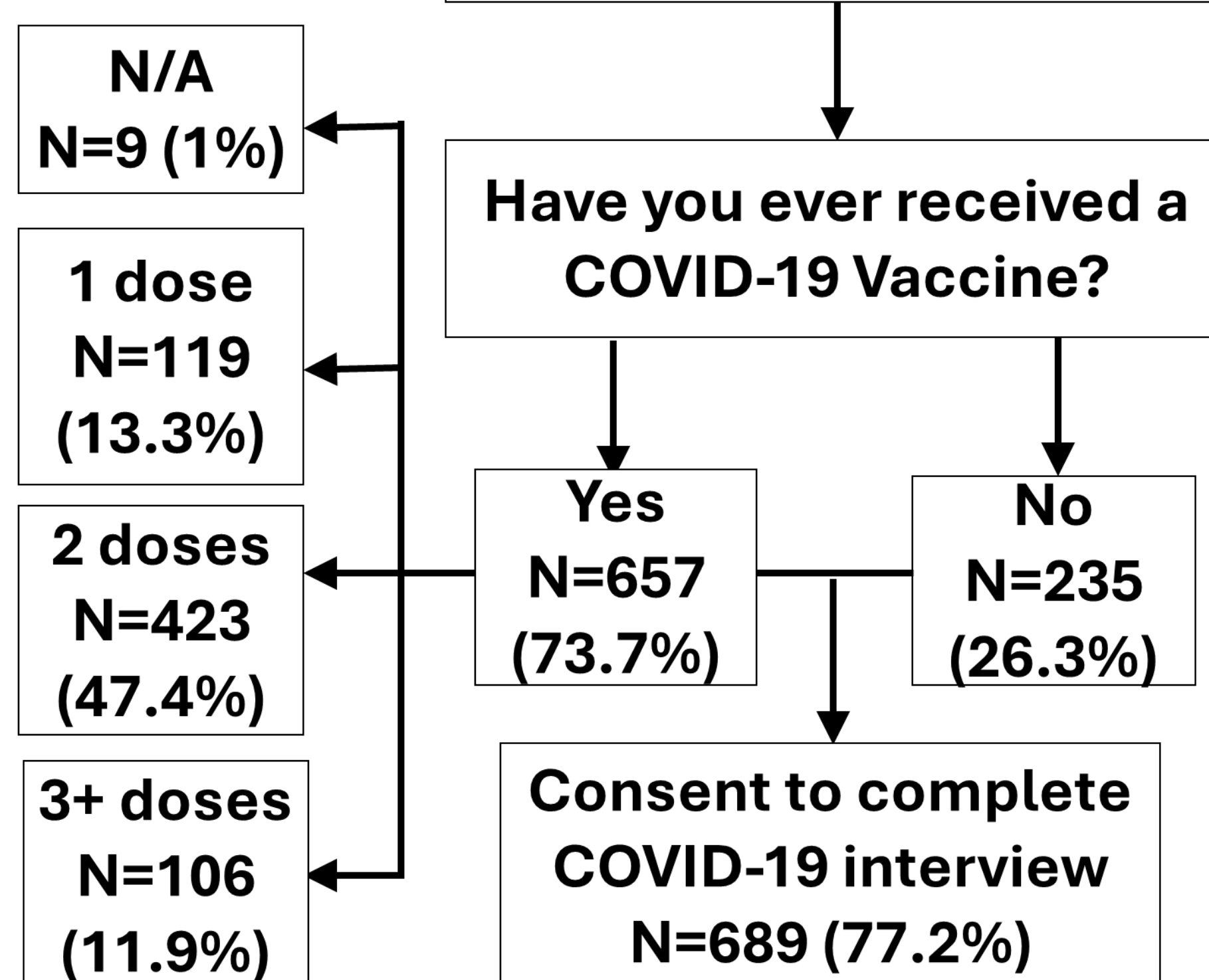
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Background

COVID-19 vaccination was the key to the control of the pandemic. Although high immunization rates were achieved in the general population, vulnerable inner-city populations facing social-structural challenges did not have equitable access to vaccines or chose not to access them through available vaccine clinics. There is a need to understand the extent and determinants of vaccine disparity to better address them as we transition from pandemic to endemic COVID-19 infection, with a recommendation for repeat vaccination on a yearly basis in many inner-city residents with multiple co-morbidities and/or vulnerabilities.

CPC study participants N=892



Methods

We conducted weekly events at single-room occupancy dwellings in Vancouver's inner city, called community pop-up clinics (CPCs). to offer residents the opportunity to engage in care to address their medical, social, mental health and addiction-related needs. As part of this offer of care, we distributed information about the signs and symptoms of COVID-19 infection, as well as guidelines to access health care to address it. Participants could also consent to complete a questionnaire to collect demographic information and COVID-19 vaccination status as well as a qualitative interview to assess their knowledge about COVID-19 infection.

Results

From 01/21 to 08/23, we collected data from 892 CPC participants. The median age at baseline was 45 years (IQR 36-55), with 317 (35.5%) females and 285 (31.9%) self-identifying as Indigenous. Within the cohort, 512 (57.4%) reported unstable housing, and 441 (49.5%) were active injection drug users. Regarding COVID-19 vaccinations, 235 (26.3%) were unvaccinated, 119 (13.3%) had received one dose, 423 (48.4%) had received two doses, and only 106 (11.8%) had received at least three doses, the standard of care at the time of evaluation. Greater age (AOR 2.28, 95% CI 1.37-3.80, $p < 0.001$) was significantly associated with higher odds of vaccination uptake. Conversely, unstable housing was significantly associated with lower odds of vaccination uptake (AOR 0.53, 95% CI 0.35-0.79, $p = 0.002$). A total of 689/892 (77 %) participants in the qualitative interview. General knowledge about COVID-19 symptoms and its transmission and age as a risk factor for severity of disease was quite high (all 80% or greater). Almost all subjects (95.1 %) were aware that there was a test for COVID-19 diagnosis, with 83.3 % knowing about the availability of a vaccine. About 1/3 knew that a treatment was available, the only variable where COVID-based knowledge was suboptimal in the study population.

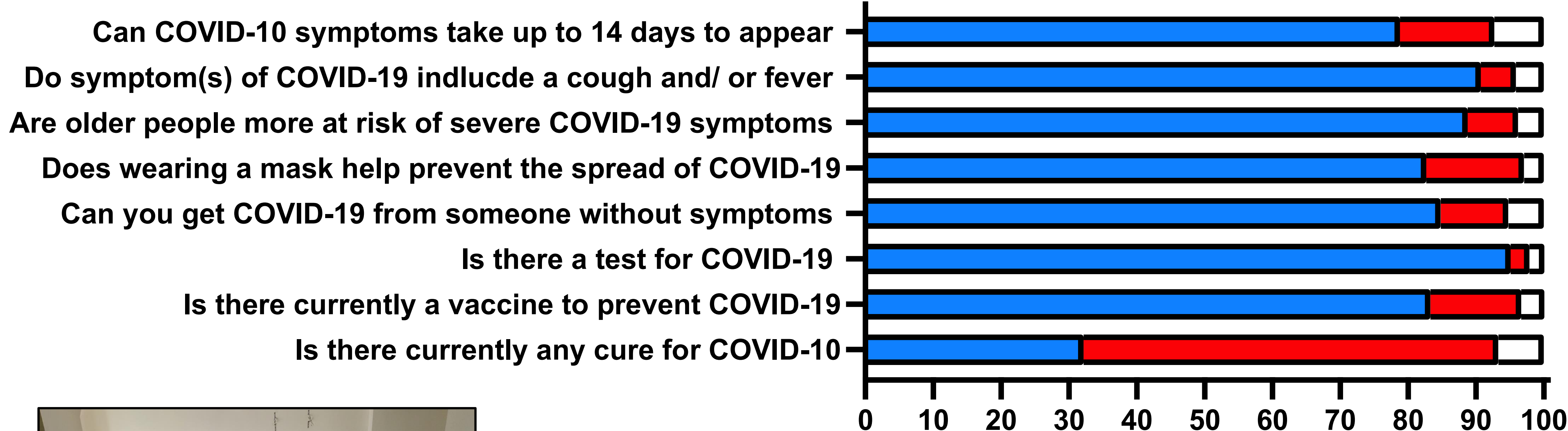


Figure 1. Summary of responses to the qualitative questionnaire and interviews aimed at assessing participants' general knowledge about COVID-19.



A

Characteristics	Adjusted	P-value
	AOR (95% CI) 2+doses vs. Unvaccinated	
Age	2.28 (1.37, 3.80)	<0.001
Sex at Birth	0.84 (0.57, 1.25)	0.41
Ethnicity	1.36 (0.93, 1.97)	0.1
Education	1.30 (0.86, 1.97)	0.2
Unstable housing	0.53 (0.35, 0.79)	0.002
Working Status	1.50 (0.91, 2.47)	0.1
HIV seropositive	1.56 (0.42, 5.77)	0.5
HCV seropositive	1.91 (1.20, 3.04)	0.005
Injection/Shared Drug Use	0.71 (0.45, 1.10)	0.13
Drug overdose history	0.98 (0.66, 1.47)	0.95
Incarceration history	0.79 (0.52, 1.20)	0.28

B

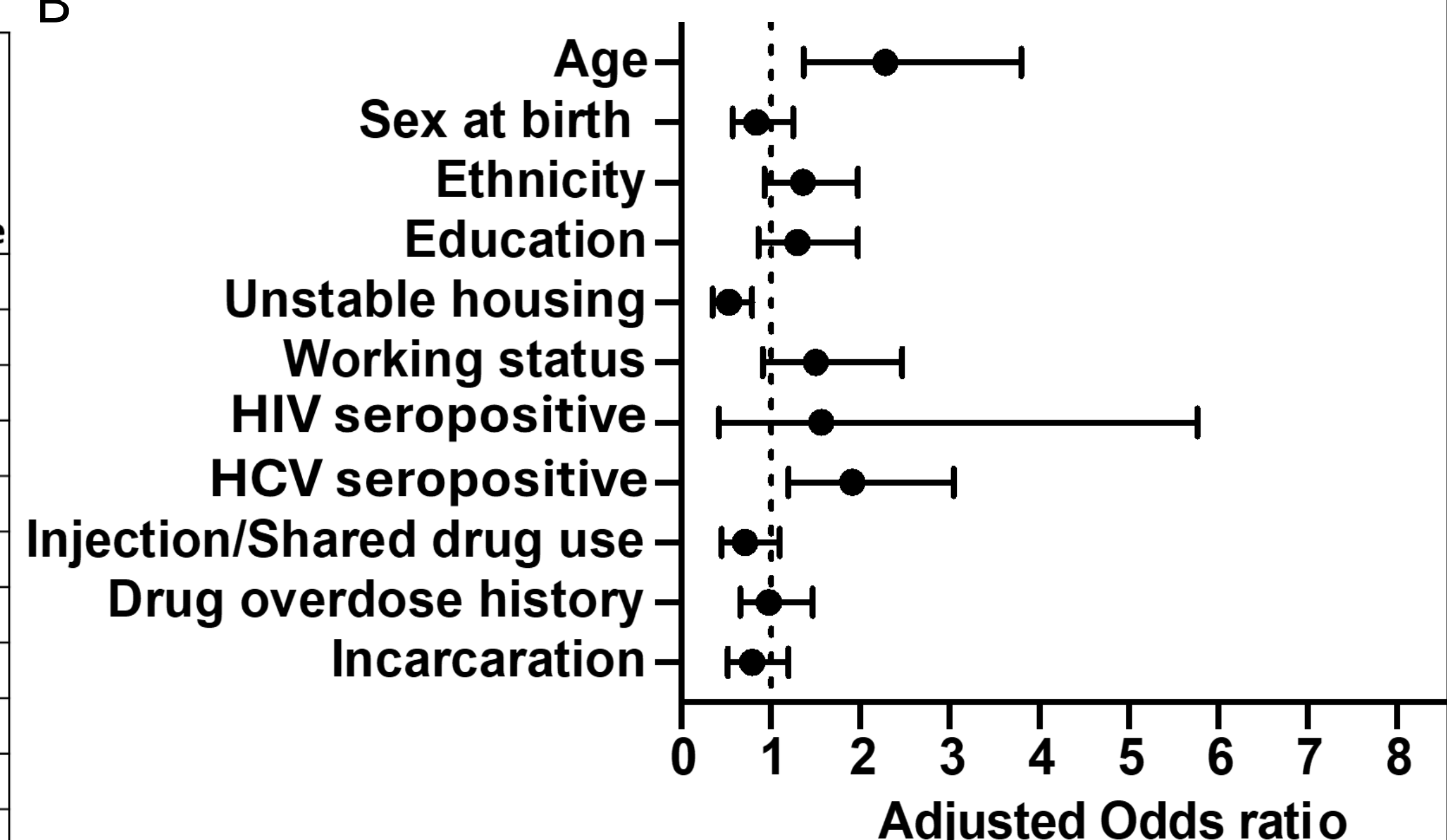


Figure 2. Adjusted odds ratios of multiple sociodemographic variables associated with COVID-19 vaccination uptake. A. Adjusted odds ratios were calculated using general logistic regression, odds were adjusted based on all the sociodemographic and clinical factors indicated. B. Forest plot of adjusted odds ratio.

Conclusion

Our study reveals significantly lower vaccination rates among Vancouver's inner-city residents compared to the general population, which cannot be attributed to a lack of knowledge about COVID-19. Results from this study suggest that targeted, community-focused initiatives are crucial to address vaccine disparity among vulnerable populations living in Vancouver's inner city, particularly those facing unstable housing and injection drug use.

Acknowledgements

Dr. Conway has received grant support, honoraria and acted as a remunerated advisor for AbbVie Corporation, Gilead Sciences Inc., Indivior Canada Ltd., Merck & Co., Moderna, Sanofi Pasteur, and ViiV Healthcare. No pharmaceutical grants were received in the development of this study.