CS02

Differences in antiretroviral treatment interruption between Aboriginal Peoples and other ethnic groups in a multisite cohort of people living with HIV in Canada

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Introduction and Research Question

Building Bridges was a collaboration between Aboriginal and allied stakeholders and the Canadian Observational Cohort (CANOC) collaboration. Working with community and CANOC investigators, a review of treatment interruptions was identified as a proxy for health care engagement. Accordingly, this endpoint of interest was compared between Aboriginal and non-Aboriginal CANOC participants.

Building Bridges Objectives

- To engage Aboriginal partners, Aboriginal researchers and allied researchers in the development of a research question
- To create a safe space for Aboriginal people living with HIV to become involved as members of the research team
- To answer the research question through CANOC data
- To collaboratively interpret the data and engage in culturally appropriate knowledge translation

Table 1: Demographic data for Aboriginal and non-Aboriginal participants (n=9300)

Characteristic	Aboriginal People n (%)	Non-Aboriginal Participants n (%)	P-value
Gender			<0.001
Female	179 (40)	1475 (17)	
Male	256 (58)	7352 (83)	
Transgender	9 (2)	29 (0.3)	
Province			<0.001
Ontario	67 (15)	2961 (33)	
Quebec	18 (4)	1859 (21)	
British Columbia	359 (81)	4036 (46)	
Injection Drug Use			<0.001
No	99 (22)	5224 (59)	
Yes	315 (71)	1707 (19)	
Unknown	31 (7)	1925 (22)	
Backbone of first ART regimen			0.066
NNRTI*	204 (46)	4030 (46)	
Boosted PI	193 (43)	3751 (42)	
Unboosted PI	30 (7)	485 (5)	
Other	17 (4)	590 (7)	
Year of Treatment Initiation			<0.001
2000-2002	120 (27)	1547 (17)	
2003-2005	90 (20)	1796 (20)	
2006-2008	121 (27)	2347 (27)	
2009-2012	113 (25)	3166 (38)	

*NNRTI non-nucleoside reverse transcriptase inhibitor

Methods

CANOC participants are antiretroviral treatment-naïve individuals who initiated combination antiretroviral therapy (cART) after January 1, 2000. Cox proportional hazard models were used to find significant variables associated with time to treatment interruption. Wilcoxon's rank sum test was used to compare median time to treatment interruption. Treatment interruptions were defined as interruptions of all antiretroviral medications for at least 90 consecutive days. Models were fitted on age, gender, province of residence, ethnicity, injection drug use, class of first antiretroviral regimen and calendar year of cART initiation.

Results

- A total of 9300 participants, including 444 Aboriginal participants, were included in the analysis.
- 203 (46%) Aboriginal participants and 1659 (19%) non-Aboriginal participants had a treatment interruption (p<0.001).
- The median time to a first treatment interruption after treatment initiation was shorter among Aboriginal participants (0.53 years) than among participants of other ethnicities (1.06 years) (p<0.001).
- In Cox regression analysis independent predictors of treatment interruption (Table 2) were: younger age, female gender, residing in British Columbia, Aboriginal ethnicity, injection drug use and initial ART regimen containing an unboosted protease inhibitor
- Treatment interruptions were less likely in later calendar years relative to 2000-2002.

Table 2: Cox regression analysis for predictors of treatment interruption (n=9300)

Parameter	Adjusted Hazard Ratio (95% CI)	P-Value
Age (Older)	0.97 (0.97-0.98)	<0.001
Gender (Female vs. male/transgender)	1.59 (1.43-1.77)	<0.001
Province of residence (BC vs ON/QC)	1.89 (1.70-2.10)	<0.001
Ethnicity (Aboriginal vs. non-Aboriginal)	1.37 (1.18-1.60)	<0.001
Injection Drug Use (yes vs. no/unknown)	2.43 (2.19-2.69)	<0.001
Backbone of first ART regimen		<0.001
NNRTI*	1.00 (Reference)	
Unboosted protease inhibitor	1.47 (1.25-1.73)	
Boosted protease inhibitor	1.02 (0.92-1.14)	
Other	1.14 (0.94-1.39)	
Year of ART Initiation		<0.001
2000-2002	1.00 (Reference)	
2003-2005	0.72 (0.64-0.81)	
2006-2008	0.52 (0.46-0.59)	
2009-2012	0.36 (0.31-0.42)	

*NNRTI non-nucleoside reverse transcriptase inhibitor

Limitations

- This study is limited by a small number of Aboriginal participants and a large amount of missing data on ethnicity
- It also only captures data from three provinces, and some regions with high prevalence of HIV among Aboriginal Peoples are not included
- Data on Aboriginal ancestry are poorly captured

Conclusions and Discussion

Among CANOC participants initiating cART, Aboriginal participants were found to have a shorter time to treatment interruption. Efforts to provide culturally safe care and facilitate continuity of care, particularly among mobile populations may be helpful in reducing treatment interruptions among Aboriginal people living with HIV, particularly women. Injection drug use was also found to be a significant predictor of treatment interruption and interventions are needed to support consistent ART use among populations who use injection drugs.

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Other Building Bridges Work at CAHR:

- EPH53 - "Building Bridges: A Model for Community Engagement in Epidemiology Research".
- CS55- "Increased mortality among Aboriginal persons in a multisite cohort of people living with HIV in Canada".
- CS56- Differences in time to virologic suppression and rebound between Aboriginal Peoples and other ethnics groups among individuals initiating combination antiretroviral therapy in a multisite cohort of individuals living with HIV in Canada

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