Poorer Physical Health-related Quality of Life Among Aboriginals and Injection Drug Users Treated With Highly Active Antiretroviral Therapy

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ABSTRACT

OBJECTIVE: We compared the health-related quality of life (HRQL) of Aboriginal and non-Aboriginal HIV patients after they started highly active antiretroviral therapy (HAART) in Edmonton, Alberta and investigated whether clinical status (CD4 cell count and viral load) might explain any observed differences.

METHODS: In 2006-2007, eligible patients who started HAART in 1997-2005 completed the MOS-HIV to measure HRQL. Using multiple linear regression models, we compared physical (PHS) and mental (MHS) health summary scores across four groups: Aboriginals infected with HIV via injection drug use (AB/IDUs); Aboriginal non-IDUs (AB/non-IDUs); non-Aboriginal IDUs (non-AB/IDUs); and non-Aboriginal non-IDUs (non-AB/non-IDUs). To assess whether clinical status could explain any observed group differences, we fitted a model adjusting for socio-demographics (age and sex) and years since starting HAART only and then additionally adjusted for current clinical status.

RESULTS: Ninety-six patients were eligible (35% Aboriginal, 42% IDU). Adjusting for socio-demographics and years since starting HAART, AB/IDUs ($p=0.008$), AB/non-IDUs ($p=0.002$), and non-AB/IDUs ($p=0.002$) had lower PHS scores than non-AB/non-IDUs. After additionally adjusting for clinical status, these relationships remained significant for AB/non-IDUs ($p=0.027$) and non-AB/IDUs ($p=0.048$) but not for AB/IDUs ($p=0.12$). AB/IDUs and non-AB/IDUs tended to have worse MHS scores than non-AB/non-IDUs, but these relationships were not statistically significant and weakened after adjusting for current clinical status.

CONCLUSIONS: AB/IDU, AB/non-IDUs, and non-AB/IDUs had significantly poorer physical HRQL than non-AB/non-IDUs. These differences appear to be partially explained by poorer clinical status, especially for AB/IDUs, which suggests that observed inequalities in physical HRQL may be diminished by improving patients' clinical status; for example, through improved adherence to HAART.

KEY WORDS: Aboriginal populations; antiretroviral therapy, highly active; intravenous drug users; treatment outcomes; health-related quality of life

La traduction du résumé se trouve à la fin de l'article.

Can J Public Health 2013;104(1):e33-e38.

In Canada, Aboriginals and non-Aboriginals infected with HIV do not appear to receive equal benefit from highly active antiretroviral therapy (HAART). After starting HAART, Aboriginals have been shown to experience lower rates of initial virological suppression, higher rates of virological failure,¹ and higher rates of all-cause^{2,3} and HIV-related² mortality compared to non-Aboriginals. Although these outcomes are all important indicators of treatment success, they do not provide a complete picture of health outcomes. Improved quality of life is another important goal of HAART,⁴ and health-related quality of life (HRQL) is of particular interest in a clinical setting. However, to our knowledge, only one study⁵ (not yet published in full at the time of writing) has examined the impact of HAART on quality of life among Aboriginals in Canada. Therefore, more evidence is needed to understand the HRQL experienced by Aboriginal HIV patients.

Notwithstanding this lack of evidence, the poorer virological outcomes experienced by Aboriginals suggest they may have an increased risk of poor physical HRQL. Some research has found worse physical HRQL to be associated with higher viral loads and lower CD4 cell counts;^{6,7} however, other studies have found no such associations.^{8,9} In addition, Aboriginal HIV patients may also be at increased risk of worse HRQL due to injection drug use (IDU). In Canada, Aboriginal HIV patients are more likely to be infected with HIV through IDU compared to non-Aboriginals.¹⁰ Studies have shown that IDUs have worse HRQL than the general population¹¹

and, among HIV-infected individuals, than non-IDUs.¹² Therefore, both clinical status and IDU are important covariates to consider in understanding the relationship between Aboriginal ethnicity and HRQL among patients receiving HAART.

Given the limited evidence available, more research is needed to compare the HRQL of Aboriginal vs. non-Aboriginal HIV patients receiving HAART to help improve our understanding of treatment outcomes for Aboriginals. Therefore, the objectives of this study were to: 1) describe the HRQL of HIV patients treated with HAART in northern Alberta, Canada; 2) compare HRQL between non-Aboriginal

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Previous Presentations: This work was presented in part at the 18th Annual Canadian Conference on HIV/AIDS Research, Vancouver, BC, April 23-26, 2009 (published abstract: *Can J Infect Dis Med Microbiol* 2009;20(Suppl B):40B) and was included as a chapter in L.J. Martin's PhD thesis.

Acknowledgements: This study was funded by the Alberta Heritage Foundation for Medical Research (AHFMR) Health Research Fund. L.J. Martin was supported by an AHFMR full-time studentship and a Canadian Institutes for Health Research Doctoral Research Award. We thank B.E. Lee from the Provincial Public Health Laboratory for providing viral load data; the NAHIVP clinic staff for helping to enrol patients and assisting with study management; J. MacDonald for administrative assistance; J. Kelečević for interviewing patients and entering data; and J. Bietz for entering data.

Conflict of Interest: None to declare.

Table 1. Patient Characteristics by Ethnicity and Injection Drug Use Exposure (N=96)

Characteristic	Aboriginal IDUs (n=21)	Aboriginal Non-IDUs (n=13)	Non-Aboriginal IDUs (n=19)	Non-Aboriginal Non-IDUs (n=43)	p-value
Sex, no. (%)					0.17
Male	13 (62)	8 (62)	15 (79)	36 (84)	
Female	8 (38)	5 (38)	4 (21)	7 (16)	
Age at interview in years, median (IQR)	41.1 (39.0-47.1)	43.9 (39.0-50.7)	47.2 (39.1-49.8)	46.0 (41.2-53.0)	0.39
HIV viral load at interview, copies/mL, median (IQR)	50 (50-44,000)	50 (50-71)	50 (50-140)	50 (50-50)	0.019
>400	7 (33)	2 (15)	3 (16)	3 (7.0)	0.058*
≤400	14 (67)	11 (85)	16 (84)	40 (93)	
CD4 cell count at interview, cells/μL, median (IQR)	280 (170-390)	270 (190-350)	250 (160-330)	440 (280-580)	0.002*
>350	7 (33)	3 (23)	4 (21)	28 (65)	0.002
≤350	14 (67)	10 (77)	15 (79)	15 (35)	
Years since starting HAART, median (IQR), total PHS	4.0 (1.7-6.1) 89.3	6.1 (3.2-8.0) 70.7	7.1 (3.8-8.9) 117.6	3.4 (2.3-5.7) 185.6	0.11
Median (IQR)	43.8 (36.6-50.7)	39.9 (37.8-44.5)	40.9 (29.6-53.6)	55.4 (44.9-60.5)	0.001
Mean (SD)	44.4 (10.5)	40.6 (9.9)	41.5 (12.4)	51.7 (11.1)	
MHS					
Median (IQR)	48.3 (41.9-55.7)	51.1 (37.4-54.7)	47.2 (36.5-56.8)	56.1 (47.1-60.9)	0.031
Mean (SD)	47.7 (10.5)	47.5 (10.2)	45.6 (12.8)	53.0 (11.3)	

* Fisher's exact test.

IDU=injection drug use, IQR=interquartile range, HAART=highly active antiretroviral therapy, SD=standard deviation.

non-IDUs vs. Aboriginal IDUs, Aboriginal non-IDUs, and non-Aboriginal IDUs; and 3) assess whether any of these associations could be explained by clinical status.

METHODS

Study patients

We assembled a cohort of patients using the Northern Alberta HIV Program (NAHIVP) clinic database and the following eligibility criteria: 1) started HAART between 1 January 1997 and 31 December 2005 (baseline); 2) previously ART-naïve; 3) ≥18 years of age (as of September 1, 2006); 4) had ever visited either of two local hospital-based clinics during their time at NAHIVP; 5) visited a NAHIVP clinic within the two calendar years before the study (2004-2006); and 6) were alive according to information available in the database at the time of data extraction. Using these criteria and our enrolment period of September 2006-August 2007, the possible range of time between starting HAART and interview was approximately 8 months-10½ years. We excluded patients if they started HAART ≤26 weeks before delivering a baby in an effort to limit the study to patients who started HAART for the purpose of treatment, rather than to prevent vertical transmission of HIV; we assumed that starting HAART earlier in pregnancy or after delivery would be for maternal indications. In addition, we excluded patients who did not have current clinical status available, which was assessed using a patient's most recent viral load and CD4 cell count in the 6 months before the interview date.

Data sources

In addition to data from NAHIVP, we used viral load data from the Alberta Provincial Public Health Laboratory to replace missing baseline viral loads where possible. To measure HRQL, we used the Medical Outcomes Study (MOS)-HIV questionnaire and generated mental (MHS) and physical (PHS) health summary scores, which are standardized to have a mean 50 (SD 10) in a standard population.¹³

Definitions

We defined Aboriginals as Treaty and non-Treaty First Nations, Métis, and Inuit. HIV exposure categories were classified using an exposure category hierarchy.¹⁴ Patients were defined as IDUs if their HIV exposure was recorded as IDU or any exposure combined with IDU; patients with other exposure categories, including unknown or missing exposures, were considered non-IDUs. We defined HAART as a combination of at least three antiretrovirals, other than ritonavir, recorded as prescribed on the same date. We excluded ritonavir under the assumption that, during the HAART initiation period (1997-2005), ritonavir would have been prescribed at low dosages intended to "boost" other protease inhibitors, rather than at therapeutic levels. The HAART start date was the first date that a HAART prescription was recorded in the database. Baseline CD4 cell count and HIV viral load were defined as those measures taken closest to the HAART start date, which was ≤6 months before, and not after starting HAART.

Study management

In September 2006-August 2007, clinic staff approached eligible patients about the study; interested patients spoke with the research assistant, provided written consent, and self-administered the MOS-HIV questionnaire; however, the research assistant was available to help patients and administer the questionnaire if needed. The present study was conducted in conjunction with a more in-depth interview for Aboriginals and IDUs; these patients were administered the MOS-HIV first and given \$10 for their participation because of the longer duration of the second interview. The study procedures were approved by the University of Alberta Health Research Ethics Board.

Data management and statistical analyses

We double entered the MOS-HIV questionnaires using EpiData 3.1 and linked patients' MOS-HIV results with their NAHIVP record and current CD4 cell counts and viral load results. We used the "MOS-HIV Scoring Program – Scales and Summary Measures" to calculate MOS-HIV scores; missing values were imputed using the

Table 2. Unadjusted and Adjusted Models Describing Physical Health (PHS) Summary Scores (N=96)

Variable	Unadjusted Model*			Multivariable Model (Excluding Clinical Variables)*			Multivariable Model (Including Clinical Variables)*		
	Parameter Estimate	95% CI	p-value	Parameter Estimate	95% CI	p-value	Parameter Estimate	95% CI	p-value
Aboriginal ethnicity and IDU exposure status									
Aboriginal IDUs	-7.3	-13.1, -1.4	0.016	-8.2	-14.3, -2.2	0.008	-4.7	-10.7, 1.3	0.12
Aboriginal non-IDUs	-11.0	-18.0, -4.1	0.002	-11.4	-18.5, -4.2	0.002	-7.9	-14.9, -0.92	0.027
Non-Aboriginal IDUs	-10.1	-16.2, -4.1	0.001	-10.2	-16.5, -3.9	0.002	-6.3	-12.6, -0.06	0.048
Non-Aboriginal non-IDUs (ref)	0.0	—	—	0.0	—	—	0.0	—	—
Age at interview (years)†	—	—	—	-0.2	-0.5, 0.03	0.082	-0.3	-0.5, 0.007	0.057
Sex									
Female	—	—	—	0.09	-5.3, 5.5	0.97	0.6	-4.6, 5.8	0.82
Male (ref)	—	—	—	0.0	—	—	0.0	—	—
Follow-up years†	—	—	—	-0.2	-1.0, 0.7	0.68	-0.3	-1.1, 0.5	0.44
CD4 cell count									
>350 cells/μL	—	—	—	—	—	—	7.2	2.4, 11.9	0.003
≤350 cells/μL	—	—	—	—	—	—	0.0	—	—
HIV viral load at interview									
≤400 copies/mL	—	—	—	—	—	—	5.2	-1.0, 11.4	0.099
>400 copies/mL	—	—	—	—	—	—	0.0	—	—

* The intercepts for the unadjusted model, the multivariable model excluding clinical variables, and the multivariable model including clinical variables were: 51.7, 59.2, and 50.3, respectively.

† Centred variables at 18 years for age at interview and 1 year for follow-up years.
IDU=injection drug use.

average score for multi-item (≥ 4 items) questions if at least half the items were completed.¹⁵ Patient characteristics were tabulated and compared between Aboriginal IDUs, Aboriginal non-IDUs, non-Aboriginal IDUs, and non-Aboriginal non-IDUs using χ^2 and Fisher's exact tests for categorical variables and Kruskal-Wallis equality of populations rank test (with ties) and Wilcoxon rank sum test for continuous variables. In unadjusted analyses, we compared each HRQL outcome (PHS and MHS scores) between Aboriginal IDUs, Aboriginal non-IDUs, non-Aboriginal IDUs, and non-Aboriginal non-IDUs, with the last category as the reference group, using linear regression.

We developed two multivariable regression models for each HRQL outcome. In the first model, we entered the following covariates: indicator variables for our exposure variables of interest (Aboriginal IDUs, Aboriginal non-IDUs, non-Aboriginal IDUs, and non-Aboriginal non-IDUs), with the last category as the reference group; age at interview; sex; and years of follow-up since baseline. The indicator variables for our exposure variables of interest are equivalent to assessing two main effect variables (Aboriginal ethnicity and IDU status) and their interaction. In the second model, we additionally adjusted for patients' current clinical condition by entering current viral load (>400 copies/mL vs. ≤ 400 copies/mL) and CD4 cell count (>350 cells/μL vs. ≤ 350 cells/μL) into the model. Additionally, we assessed how using continuous variables for $\log_{10}$ viral load and CD4 cell count in our second models impacted the estimates for our exposure variables of interest. The first models estimate the differences in the two HRQL outcomes between Aboriginal IDUs, Aboriginal non-IDUs, and non-Aboriginal IDUs vs. non-Aboriginal non-IDUs without accounting for patients' current clinical status, while the second models estimate the differences in HRQL that remain after accounting for differences in clinical status. We assessed model assumptions (homoscedasticity, normality of residuals, and the linearity of relationships between the outcomes and continuous predictors) and explored unusual and influential observations by examining residuals, leverage values, and DFBeta values for the Aboriginal ethnicity and IDU variables.¹⁶ Data were analyzed using SAS® (version 9.1; SAS Institute Inc., Cary, NC) and Stata SE 9.2 (College Station, TX).

RESULTS

Derivation of the study sample

Of the 424 potentially eligible patients identified, 119 (28%) were approached to participate in the study. These 119 patients were not significantly different from the 305 patients who were not approached with respect to Aboriginal ethnicity, IDU, sex, or baseline age; however, approached patients were more likely to have started HAART recently (in 2003-2005) compared to those not approached (50% vs. 37%, $p=0.018$). One hundred patients (84%) consented and were interviewed; four patients were excluded for missing current CD4 cell counts or viral load test results. The remaining 96 patients constituted the study sample. Compared to patients who declined to participate or were ineligible, study patients had a higher median baseline viral load (160,000 vs. 28,000 ($n=18$) copies/mL, $p=0.028$) and tended to have a lower median baseline CD4 cell count (170 vs. 220 ($n=15$) cells/μL, $p=0.066$). The study patients were not more likely to be Aboriginal or IDU, nor did they differ with respect to sex, age, or baseline calendar year. Four of the 96 study patients were missing a total of 6 items on the MOS-HIV.

Description of study patients

Of the 96 (72 male, 24 female) study patients, most were Caucasian (52, 54%) or Aboriginal (34, 35%); 40 patients (42%) were IDU. At interview, most (84%) had a viral load ≤ 400 copies/mL, but fewer than half (44%) had a CD4 cell count >350 cells/μL (Table 1). Across the four exposure groups of interest, viral loads ($p=0.019$), CD4 cell counts ($p=0.002$), PHS scores ($p=0.001$), and MHS scores ($p=0.031$) differed significantly (Table 1). Although the median viral load was the same for all groups (50 copies/mL), the 75th percentile of the interquartile range was highest for Aboriginal IDUs (44,000 copies/mL) (Table 1). Median CD4 cell counts, PHS scores, and MHS scores were highest for non-Aboriginal non-IDUs and lower for the other three groups. Of note, median MHS scores were higher than median PHS scores for all groups.

Table 3. Unadjusted and Adjusted Models Describing Mental Health (MHS) Summary Scores (N=96)

Variable	Unadjusted*			Multivariable Model (Excluding Clinical Variables)*			Multivariable Model (Including Clinical Variables)*		
	Parameter Estimate	95% CI	p-value	Parameter Estimate	95% CI	p-value	Parameter Estimate	95% CI	p-value
Aboriginal ethnicity and IDU exposure status									
Aboriginal IDUs	-5.3	-11.3, 0.7	0.080	-5.6	-11.7, 0.6	0.075	-3.4	-9.8, 3.1	0.30
Aboriginal non-IDUs	-5.5	-12.6, 1.6	0.13	-4.7	-12.0, 2.5	0.20	-3.1	-10.5, 4.4	0.42
Non-Aboriginal IDUs	-7.5	-13.7, -1.3	0.019	-6.3	-12.7, 0.1	0.054	-4.5	-11.2, 2.2	0.19
Non-Aboriginal non-IDUs (ref)	0.0	—	—	0.0	—	—	0.0	—	—
Age at interview (years)†	—	—	—	-0.1	-0.4, 0.2	0.44	-0.1	-0.4, 0.2	0.39
Sex									
Female	—	—	—	-0.9	-6.4, 4.6	0.74	-1.0	-6.6, 4.5	0.71
Male (ref)	—	—	—	0.0	—	—	0.0	—	—
Follow-up years†	—	—	—	-0.7	-1.5, 0.1	0.10	-0.8	-1.6, 0.06	0.068
CD4 cell count									
>350 cells/μL	—	—	—	—	—	—	2.7	-2.4, 7.8	0.29
≤350 cells/μL (ref)	—	—	—	—	—	—	0.0	—	—
HIV viral load at interview									
≤400 copies/mL	—	—	—	—	—	—	5.2	-1.4, 11.9	0.12
>400 copies/mL (ref)	—	—	—	—	—	—	0.0	—	—

* The intercepts for the unadjusted model, the multivariable model excluding clinical variables, and the multivariable model including clinical variables were: 53.0, 58.6, and 52.6, respectively.

† Centred variables at 18 years for age at interview and 1 year for follow-up years.

IDU=injection drug use.

Health-related quality of life

Physical Health

In our unadjusted analysis, Aboriginal IDUs, Aboriginal non-IDUs, and non-Aboriginal IDUs had significantly lower PHS scores than non-Aboriginal non-IDUs (Table 2). These results remained similar in our first model, adjusting for age, sex, and follow-up years (Table 2). In our second model, which additionally adjusted for current CD4 cell count and viral load, compared to non-Aboriginal non-IDUs, PHS scores were significantly lower among Aboriginal non-IDUs and non-Aboriginal IDUs; however, PHS scores were no longer statistically significantly lower for Aboriginal IDUs (Table 2). When we used continuous, rather than dichotomous, variables for CD4 cell count and log₁₀ viral load in our second model, the parameter estimates for our exposure variables of interest remained similar (Aboriginal IDUs [-4.4; 95% CI -10.5, 1.7; p=0.16], Aboriginal non-IDUs [-8.5; 95% CI -15.4, -1.6; p=0.017], and non-Aboriginal IDUs [-6.6; 95% CI -12.8, -0.4; p=0.038]).

Mental Health

In our unadjusted analysis, non-Aboriginal IDUs had significantly lower MHS scores than non-Aboriginal non-IDUs (Table 3). The other exposure groups of interest (Aboriginal IDUs and Aboriginal non-IDUs) also had lower MHS scores than non-Aboriginal non-IDUs; however these were not statistically significant (Table 3). After adjusting for age, sex, and follow-up years, compared to non-Aboriginal non-IDUs, Aboriginal IDUs tended to have lower MHS scores (p=0.075) as did non-Aboriginal IDUs (p=0.054); however, no variables reached statistical significance in this model, and, after additionally adjusting for current clinical status, both of these relationships lost strength and significance (Table 3). When we used continuous, rather than dichotomous, variables for CD4 cell count and log₁₀ viral load in our second model, the parameter estimates for our exposure variables remained similar (Aboriginal IDUs [-2.8; 95% CI -9.2, 3.6; p=0.39], Aboriginal non-IDUs [-2.8; 95% CI -10.1, 4.5; p=0.45], and non-Aboriginal IDUs [-3.8; 95% CI -10.4, 2.8; p=0.25]).

DISCUSSION

Aboriginal IDUs, Aboriginal non-IDUs, and non-Aboriginal IDUs reported worse PHS scores compared to non-Aboriginal non-IDUs. These differences appear to be partly, though not entirely, explained by clinical status. Current CD4 cell count was the most significant predictor of PHS in this study. Regarding mental health, compared to non-Aboriginal non-IDUs, Aboriginal IDUs and non-Aboriginal IDUs tended to have worse MHS, but these relationships weakened after adjusting for current clinical status, especially for Aboriginal IDUs; Aboriginal non-IDUs did not report statistically significantly worse MHS scores. Overall, the variables assessed in our study were not as strongly associated with MHS as they were with PHS.

Several factors may account for the differences in PHS scores we observed. First, the poorer clinical status of Aboriginals and IDUs appears to be partially responsible, especially for Aboriginal IDUs and non-Aboriginal IDUs. This is demonstrated by our second model that controlled for CD4 cell count and viral load: the difference in PHS for these two groups weakened and became statistically non-significant. Although the lack of statistical significance may be due in part to a lack of power in our study, these findings support the importance of clinical status as a determinant of PHS, which suggests that these observed inequalities in physical HRQL may be diminished by helping to improve patients' clinical status, for example, through improved adherence to HAART.

Second, we did not assess current IDU or non-injection drug or alcohol use at the time of the study, which could have contributed to the poorer physical HRQL we observed among Aboriginals and IDUs. For example, Aboriginals have been shown to have higher rates of alcohol dependence/abuse compared to non-Aboriginals,¹⁷ which may also be true for the Aboriginal patients in our study, and HRQL has been shown to be worse among individuals with alcohol dependence and HIV combined compared to those with either condition separately.¹⁸ Therefore, future studies should measure ongoing injection and non-injection drug and alcohol use to assess how it may impact HRQL in this population.

Clinical status (especially CD4 cell count >350 cells/ μ L) also appeared to be an important independent predictor of PHS. Research reports discrepant results with respect to the association between clinical status and physical HRQL. Some studies have found no significant relationship,^{8,9} while others have found higher CD4 cell counts associated with better physical HRQL.^{6,7} In our study, patients may have been aware of their clinical status before completing the MOS-HIV and this knowledge could have influenced patients' perceptions about their HRQL. However, it makes intuitive sense that better clinical status would be associated with better HRQL.

In contrast to our results for PHS, although Aboriginal IDUs and non-Aboriginal IDUs tended to have worse MHS scores than non-Aboriginal non-IDUs, these relationships were not statistically significant and weakened after adjusting for current clinical status. This suggests that these differences are at least partly attributable to poorer clinical status. On the other hand, this non-significance could also be due in part to a lack of statistical power caused by our small sample size. Although the results for MHS scores were not statistically significant, the estimated MHS scores for Aboriginal IDUs, Aboriginal non-IDUs, and non-Aboriginal IDUs were 3-6 units lower than for non-Aboriginal non-IDUs in the multi-variable models. Since the MHS scores are standardized to a population with a mean of 50 and a SD of 10, these differences correspond to approximately one third to one half the SD, which could be interpreted as small to medium effect sizes.¹⁹ Given the dearth of research in this area and the over-representation of Aboriginals in Canada's HIV epidemic,¹⁰ more research is needed to understand mental HRQL in this population.

Limitations

This study has several limitations. First, we had a small sample size. Although we achieved an excellent response rate, with 84% of patients approached by clinic staff agreeing to participate in the study, only 28% of potentially eligible patients were approached, creating a low rate of enrollment. One possible reason for this was the busy clinic environment within which the study was conducted, which made patient enrollment challenging. Nevertheless, despite the small sample size of our study, these results provide an initial description of the relationships investigated as a basis for future research. Second, a clinical database, which has inherent limitations, was used to identify eligible patients and provide data on exposure and confounding variables. Data quality can be affected by data entry errors and omissions. Using these data, we could not be certain of the date patients started HAART or whether they were ART-naïve when starting HAART. Misclassifications may have occurred; for example, we may have misclassified patients by categorizing individuals with unknown or missing exposure categories as non-IDUs. Furthermore, we lacked data on potentially important confounders, including use of and adherence to HAART at the time of the interview, education, income, employment, medical and psychiatric comorbid conditions, active substance use, unstable housing, and social support which may influence HRQL. Future studies should assess these variables, which could provide a more comprehensive understanding of quality of life, and might help to better explain the relationships investigated in this study. Last, the MOS-HIV instrument showed some psychometric weaknesses in this patient population. Several of the domains demonstrated ceiling and floor effects. Further, among Aboriginals and IDUs, one of the MOS-HIV domains (role functioning) had a Cronbach alpha score <0.70, which suggests that, for these two groups, the internal consistency reliability for this domain was less than satisfactory. Comparing different cultural groups to each other does pose some difficulties. For example, Aboriginals and non-Aboriginals may perceive quality of life differently; therefore, these two groups may have responded to the MOS-HIV questions differently. This may be a possible explanation for the differences we observed in HRQL between Aboriginals and non-Aboriginals.

CONCLUSIONS

In summary, we observed a difference in physical HRQL between the groups investigated (Aboriginal IDUs, Aboriginal non-IDUs, and non-Aboriginal IDUs vs. non-Aboriginal non-IDUs). These associations for physical HRQL appear to be partially, though not completely, explained by poorer clinical status, especially for Aboriginal IDUs, which suggests that the observed inequalities may be diminished by improving patients' clinical status; for example, through improving adherence to HAART. Improving clinical status may help to alleviate these observed inequalities; however, broader issues of social and economic marginalization need to be addressed to achieve overall improvements in these patients' lives.

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Received: June 5, 2012

Accepted: October 5, 2012

RÉSUMÉ

OBJECTIF : Nous avons comparé la qualité de vie liée à la santé (QVLS) de patients autochtones et non autochtones atteints du VIH après le début d'une thérapie antirétrovirale hautement active (TAHA) à Edmonton (Alberta) et cherché à savoir si leur état clinique (numération des lymphocytes CD4 et charge virale) pouvait expliquer les différences observées.

MÉTHODE : En 2006-2007, des patients admissibles ayant entamé une TAHA en 1997-2005 ont rempli le questionnaire MOS-HIV, qui mesure la QVLS. À l'aide de modèles de régression linéaire multiple, nous avons comparé les cotes sommaires de santé physique (CSP) et de santé mentale (CSM) de quatre groupes : les Autochtones infectés par le VIH via l'utilisation de drogues par injection (Aut./UDI); les Autochtones non-UDI (Aut./non-UDI); les non-Autochtones UDI (non-Aut./UDI); et les non-Autochtones non-UDI (non-Aut./non-UDI). Pour déterminer si l'état clinique pouvait expliquer les différences observées entre ces groupes, nous avons adapté un modèle en tenant compte des caractéristiques sociodémographiques (âge et sexe) et du nombre d'années depuis le début de la TAHA seulement, puis en tenant compte, en plus, de l'état clinique actuel.

RÉSULTATS : Quatre-vingt-seize patients étaient admissibles (35 % d'Autochtones, 42 % d'UDI). Compte tenu des caractéristiques sociodémographiques et du nombre d'années depuis le début de la TAHA, les Aut./UDI ($p=0,008$), les Aut./non-UDI ($p=0,002$) et les non-Aut./UDI ($p=0,002$) avaient des cotes CSP inférieures à celles des non-Aut./non-UDI. En tenant aussi compte de l'état clinique, ces relations demeuraient significatives pour les Aut./non-UDI ($p=0,027$) et les non-Aut./UDI ($p=0,048$), mais pas pour les Aut./UDI ($p=0,12$). Les Aut./UDI et les non-Aut./UDI avaient tendance à présenter des CSM inférieures à celles des non-Aut./non-UDI, mais ces relations n'étaient pas significatives, et elles s'affaiblissaient après la prise en considération de l'état clinique actuel.

CONCLUSION : La QVLS physique des Aut./UDI, des Aut./non-UDI et des non-Aut./UDI était significativement inférieure à celle des non-Aut./non-UDI. Ces différences semblent s'expliquer en partie par un moins bon état clinique, surtout pour les Aut./UDI, ce qui laisse entendre que les inégalités observées dans la QVLS physique peuvent être réduites si l'on améliore l'état clinique des patients, par exemple en améliorant l'observance de la TAHA.

MOTS CLÉS : populations autochtones; thérapie antirétrovirale hautement active; toxicomanie intraveineuse; résultat thérapeutique; qualité de vie liée à la santé