Health-related quality-of-life (QoL) among women living with HIV in Canada is associated with receipt of perceived women-centred HIV care (WCC)

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We have no conflicts of interest to declare.
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In ON: 2-Spirited People of the 1st Nations; 519 Community Centre; ACCKWA; Africans in Partnership Against AIDS (APAA); AIDS Committee of Durham Region; AIDS Committee of Guelph and Wellington County; AIDS Committee of Simcoe County; AIDS Network Hamilton; Alliance for South Asian AIDS Prevention; Black Coalition for AIDS Prevention; Bruce House; Casey House; Centre Francophone; Elevate NOW; Fife House; Hemophilia Ontario; HIV/AIDS Regional Services (HARS); Maggie’s: Toronto Sex Worker’s Action Project; Peel HIV Network; Positive Living Niagara; Prisoners with AIDS Support Action Network; Réseau Access Network; Toronto PWA Foundation; Women’s Health in Women’s Hands; Children’s Hospital of Eastern Ontario; Kingston Hotel Dieu Hospital; Health Sciences North, Sudbury Regional Hospital, HAVEN Program; Lakeridge Health; Maple Leaf Medical Clinic; McMaster Family Practice; Ottawa General Hospital; Riverside Family Health Team; SIS Clinic, Hamilton Health Sciences; St. Joseph’s Healthcare London; St. Michael’s Hospital; Sunnybrook Health Sciences Centre; Toronto East General Hospital; Toronto General Hospital; William Osler Health System; Windsor Regional Hospital, HIV Care Program.

In QC: ACCM; L’ARCHE de l’Estrie; ASTT(e)Q; BLITS; BRAS-Outaouais; CACTUS; CASM; Centre Sida Amitié; Corporation Félix Hubert d’Hérelle; COCQ_SIDA; Fondation d’Aide Directe-SIDA Montréal; GAP-VIES; GEIPS; M.A.I.N.S-Bas St-Laurent; Maison Plein Coeur; Maison Dominic; Maison du Parc; Maison Re-Né; MIELS-Québec; Le MIENS Chicoutimi; Portail VIH/sida du Québec; Sidaction Mauricie; Sida-Vie Laval; Stella, l’amie de Maimic.
Women report gaps in HIV clinical care for women and have requested services adopt a women-centred approach to HIV care and support.\textsuperscript{1,2} Evidence-base on what constitutes women centred HIV care (WCC) and whether it is associated with improved health outcomes is lacking.

Improved health-related quality of life (QoL) is one important outcome from HIV treatment, care, and support. However, QoL has not been well-studied among women with HIV in Canada, nor its relationship to WCC.

Objective of this analysis:
- To measure QoL among a cohort of women living with HIV in Canada and assess whether QoL differs by receipt of perceived WCC.
Methods: The CHIWOS Study

- A multi-site, longitudinal, community-based research study
- Enrolling >1,400 women with HIV (self-identified, ≥16 years) from BC, ON & QC
- **Study goals:** To assess patterns of use of women-centred HIV care, & the impact on sexual, reproductive, mental & women’s health outcomes
- **Study procedures:** Peer Research Associates (women with HIV) administer a comprehensive, online questionnaire to participants at baseline and 18-months
Methods: In this analysis...

- **Study Population:**
  - CHIWOS participants enrolled between Aug 27, 2013 and Mar 13, 2015, and who reported receiving HIV care in past year.

- **Two Primary Outcomes:**
  1. **Physical** health-related QoL
  2. **Mental** health-related QoL

Assessed by SF-12, a well-validated 12-item measure for general health status. Scored from 0-100. **Higher** scores = **better** health status.
Methods: In this analysis... (cont’d)

- **Primary Explanatory Variable: Perceived WCC:**
  “Overall, I think that the care I have received from my HIV clinic has been women-centred.” > **AGREE (S/SA) vs DISAGREE (N/D/SD)**

  - Provided standardized definition to participants
    “… supports women living with HIV to achieve the best health and well-being as defined by women… addresses women’s unique health and social concerns, and recognizes that they are connected… is flexible and takes the different needs of women into consideration.”

  - ‘Agree’ correlated with features of WCC we would expect from theory
    Women who **AGREE** are more likely to say that their HIV clinic is a place where they feel: the care is gender-sensitive, safe, multiple services offered onsite, and opportunities to connect with other HIV-positive women.

- **Statistical Analyses:** Multivariable linear regression examined the relationship between perceived WCC and QoL, adjusting for confounders.
Results: Participant Characteristics

1243 participants were included in this analysis

- BC: 334 (27%)
- ON: 615 (49%)
- QC: 294 (24%)
### Results: Participant Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Overall (n=1243)</th>
<th>BC (n=334)</th>
<th>ON (n=615)</th>
<th>QC (n=294)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Median Age [IQR]</strong></td>
<td>43 (36-51)</td>
<td>44(37-51)</td>
<td>41(35-50)</td>
<td>47(38-53)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Gender identity, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cis Woman</td>
<td>1196 (96)</td>
<td>322 (96)</td>
<td>594(97)</td>
<td>280(95)</td>
<td>0.608</td>
</tr>
<tr>
<td>Trans woman</td>
<td>37 (3)</td>
<td>9 (3)</td>
<td>15(2)</td>
<td>13(4)</td>
<td></td>
</tr>
<tr>
<td>Two-spirited/Gender Queer/Other</td>
<td>9 (1)</td>
<td>&lt;5 (1)</td>
<td>5(1)</td>
<td>&lt;5(0.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Caucasian</td>
<td>2503 (41)</td>
<td>120 (36)</td>
<td>244 (40)</td>
<td>139 (47)</td>
<td></td>
</tr>
<tr>
<td>Aboriginal</td>
<td>61 (21)</td>
<td>148 (44)</td>
<td>107 (17)</td>
<td>6 (2)</td>
<td></td>
</tr>
<tr>
<td>African / Caribbean / Black Canadian</td>
<td>344 (28)</td>
<td>18 (5)</td>
<td>195 (32)</td>
<td>131 (45)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>70 (6)</td>
<td>15 (5)</td>
<td>39 (6)</td>
<td>16 (5)</td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>64 (5)</td>
<td>33 (10)</td>
<td>29 (5)</td>
<td>&lt;5 (1)</td>
<td></td>
</tr>
<tr>
<td><strong>Injection drug use, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Currently (past 3 months)</td>
<td>105 (8)</td>
<td>68 (20)</td>
<td>23 (4)</td>
<td>14 (5)</td>
<td></td>
</tr>
<tr>
<td>Not currently but previously</td>
<td>285 (23)</td>
<td>142 (43)</td>
<td>84 (14)</td>
<td>59 (20)</td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>833 (67)</td>
<td>124 (37)</td>
<td>491 (80)</td>
<td>218 (74)</td>
<td></td>
</tr>
<tr>
<td><strong>Household income &lt;$20,000, n (%)</strong></td>
<td>831 (67)</td>
<td>258 (77)</td>
<td>383 (62)</td>
<td>190 (65)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Sexual orientation, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.006</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>1071 (86)</td>
<td>272 (81)</td>
<td>529 (86)</td>
<td>270 (92)</td>
<td></td>
</tr>
<tr>
<td>Lesbian/Gay/Queer/Two-spirited</td>
<td>45 (4)</td>
<td>13 (4)</td>
<td>27 (4)</td>
<td>5 (2)</td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>101 (8)</td>
<td>38 (11)</td>
<td>46 (7)</td>
<td>17 (6)</td>
<td></td>
</tr>
<tr>
<td>Other/Questioning/Don’t Know</td>
<td>25 (2)</td>
<td>11 (3)</td>
<td>12 (2)</td>
<td>&lt;5 (1)</td>
<td></td>
</tr>
<tr>
<td><strong>Relationship Status, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Married / Common Law / In a Relationship</td>
<td>391 (31)</td>
<td>113 (34)</td>
<td>190 (31)</td>
<td>88 (30)</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>595 (48)</td>
<td>156 (47)</td>
<td>325 (53)</td>
<td>114 (39)</td>
<td></td>
</tr>
<tr>
<td>Separated / Divorced / Widowed</td>
<td>239 (19)</td>
<td>53 (16)</td>
<td>96 (16)</td>
<td>90 (31)</td>
<td></td>
</tr>
</tbody>
</table>
Results: QoL and perceived WCC

- **Mental health score, mean (SD): 43.9 (14.4)**
  - vs. 49.7 (general female Cdn pop’n)\(^4\) and 45.4 (other HIV-positive cohorts)\(^5\)

- **Physical health score, mean (SD): 41.7 (14.2)**
  - vs. 50.9 (general female Cdn pop’n)\(^4\) and 42.9 (other HIV-positive cohorts)\(^5\)

- **By province:**

<table>
<thead>
<tr>
<th></th>
<th>BC (n=334)</th>
<th>ON (n=615)</th>
<th>QC (n=294)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical QoL, mean (SD)</td>
<td>39.6 (15.7)</td>
<td>45.6 (13.0)</td>
<td>45.2 (14.7)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mental QoL, mean (SD)</td>
<td>39.6 (13.7)</td>
<td>43.2 (14.4)</td>
<td>40.9 (13.9)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

- **Perceived WCC:**
  - % agree HIV clinic is women-centred

Recall: Higher score = better health
Results: Bivariate Analyses

Recall: Higher score = better health

<table>
<thead>
<tr>
<th>Perceived women-centred HIV clinic</th>
<th>Physical QoL Mean (SD)</th>
<th>p-value</th>
<th>Mental QoL Mean (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>44.62 (14.06)</td>
<td></td>
<td>43.76 (14.08)</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>43.04 (14.72)</td>
<td>0.070</td>
<td>39.35 (13.91)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

| Age at interview                  |                          |         |                      |         |
| 16-29                             | 50.02 (10.49)            |         | 43.97 (13.98)        |         |
| 30-39                             | 48.34 (11.95)            |         | 42.68 (15.14)        |         |
| 40-49                             | 42.33 (14.34)            | <0.001  | 39.80 (13.23)        |         |
| 50+                               | 39.05 (15.78)            |         | 42.17 (13.97)        | 0.003   |

| Relationship Status               |                          |         |                      |         |
| Married/Common Law/Relationship   | 44.63 (14.42)            |         | 42.86 (14.01)        |         |
| Single                            | 44.23 (14.09)            | 0.012   | 41.98 (14.64)        |         |
| Separated / Divorced / Widowed    | 41.38 (14.85)            |         | 39.42 (12.92)        | 0.003   |

| Income                            |                          |         |                      |         |
| >=$20,000                         | 46.63 (13.95)            |         | 44.04 (13.76)        |         |
| <$20,000                          | 42.62 (14.40)            | <0.001  | 40.63 (14.26)        | <0.001  |

| Injection drug use                |                          |         |                      |         |
| Currently (past 3 months)         | 40.38 (14.59)            |         | 32.97 (14.07)        |         |
| Not currently but previously      | 40.08 (14.84)            |         | 41.03 (13.53)        |         |
| Never                             | 41.80 (15.74)            | 0.424   | 39.41 (13.96)        | <0.001  |
Receipt of perceived WCC from an HIV clinic was associated with higher mental health QoL scores after covariate adjustment.*

No significant association observed between perceived WCC and physical health QoL scores.

### Results: Linear Regression Analyses

<table>
<thead>
<tr>
<th></th>
<th>Univariate β (95% CI)</th>
<th>Multivariate β (95% CI)*</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived WCC from HIV clinic (Agree vs. Disagree)</td>
<td>4.41 (2.84 to 5.97)</td>
<td>3.18 (1.60 to 4.75)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*Adjusted for age, gender, sexual orientation, relationship status, ethnicity, income, and injection drug use history.
Discussion / Limitations: A note on the underlying theory & measurement of WCC

- Lack of a gold standard measure

- Real-world examples
  - E.g., Oak Tree Clinic

- Emerging conceptual models:
  - Carter et al. (2013) – literature review
  - O’Brien et al. (unpublished) – focus groups
  - Kaida et al. (unpublished) – survey data
  - Salamander Trust (2014)

- Informed patient-level measure of women-centredness in our survey
  - Exp. variable in this analysis = her perception
  - Other measures in survey: services & features of clinic
  - Working towards a more objective measure of WCC
Conclusions

- Mental and physical QoL was lower than estimates for general population of Canadian women\textsuperscript{9} and other HIV populations\textsuperscript{10}.
- Receipt of perceived WCC was associated with higher mental health QoL, § but not physical.
- **Next steps for CHIWOS:**
  - To develop and validate an objective measure of WCC
  - To investigate impact of WCC on sexual, reproductive, mental & women’s health outcomes among women living with HIV in Canada

\textsuperscript{§}Independent of drug use and other characteristics
References


Thank you! Questions?

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