Co-occurring Mental Health and Substance Use Disorders Among HIV+ Women: Impact On Antiretroviral Therapy Use, Adherence, and Immune health

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Introduction

HIV+ women have high rates of co-morbid mental health and substance use disorders (MH/SUD)1,2 but little epidemiological evidence exists regarding these disorders in large, well-characterized cohorts.3 Considerable research evidence suggests that MH/SUD co-morbidities lower the likelihood of medical care, including initiation of highly active antiretroviral therapy (HAART), continued use of HAART, and adherence to HAART regimens.4 Other studies suggest that MH/SUD are significantly associated with more rapid HIV disease progression, as well as morbidity and mortality.5,6 However, the nature of these influences remains poorly understood. This study assessed the prevalence of co-occurring MH/SUD in a multi-site cohort of HIV+ women in the Women’s Intergenary HIV Study (WIHS).

Study Hypotheses:

1) Women with co-occurring MH/SUD will be less likely than those without to be receiving highly active antiretroviral therapy (HAART).
2) Co-occurring disorders will be associated with poorer antiretroviral (ARV) therapy adherence.
3) Women with co-occurring MH/SUD will have poorer HIV outcomes than those without co-occurring MH/SUD.

Methods

889 HIV+ WIHS participants completed the World Mental Health Composite International Diagnostic Interview (WMH-CIDI). http://www.hcp.med.harvard.edu/wmhcidi/

Prevalence of mood, anxiety, alcohol, and drug use disorders was calculated. Results were matched to 12-month data regarding receipt of HAART, ARV adherence (95% or better and 100%), plasma HIV-RNA (<1,000), and CD4 (>200 copies/ml). Outcomes were analyzed using logistic regression with multivariate models controlling for age, race/ethnicity, and education.

Subjects (N=889)

- Average Age: 48 years (range = 27-77)
- Race/Ethnicity: 68% African American; 16% Latina; 12% White; 4% Other
- Education: 42% < High School; 58% HS/GED or greater
- Income: 51% < $12,000 annually
- On HAART: 84%
- 95% Adherent to ARV (any regimen): 77%
- 100% Adherent to ARV (any regimen): 48%
- HIV-1 RNA Viral Load > 100,000 copies/ml: 3%
- CD4<200: 12%

Results

Of those assessed (N=889), lifetime prevalence of co-occurring MH/SUD is 44%; 12-month prevalence is 7%. Figure 1 displays the most frequently co-occurring conditions among those with 12-month MH/SUD. Tables 1 and 2 show the likelihood of HAART use, adherence, and poor immune health among those with 12-month MH/SUD. Women with 12-month MH/SUD were less likely to be on HAART, and less likely to be ARV adherent at 95%+ and 100% levels. They were also more likely to have poor immune health (CD4<200) even controlling for age, race/ethnicity, education, HAART use, ARV adherence, and viral load.

Figure 1: Type and Prevalence of Co-Occurring Conditions Among 12-Month MH/SUD

Table 1: Logistic Regression Models Predicting Likelihood of HAART Use and Adherence Among HIV+ Women with 12-Month MH/SUD

|----------------------------|------|-------|------|-------|------|-------
| 12-Month MH/SUD           | 0.48*| .26-.89| .48*| .26-.89| .475*| .25-.89 |
| Age                       | 1.05**| 1.02-1.07| 1.02*| 1.01-1.05| 1.01| .99-1.03 |
| Race/Ethnicity            | 0.45*| .21-.96| 0.63| .48-1.43| 1.21| .78-1.88 |
| HS Education              | 0.91 | .20-4.22| 0.73| .16-3.38| 0.69| .22-2.20 |

Table 2: Logistic Regression Model Predicting Likelihood of Poor Immune Health in HIV+ Women with 12-Month MH/SUD

<table>
<thead>
<tr>
<th>Variables</th>
<th>O.R.</th>
<th>C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-Month MH/SUD</td>
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<td>1.10-4.95</td>
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<tr>
<td>Age</td>
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<td>.95-1.02</td>
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<tr>
<td>Race/Ethnicity</td>
<td>1.20</td>
<td>.54-2.69</td>
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<tr>
<td>HS Education</td>
<td>1.40</td>
<td>.78-2.18</td>
</tr>
<tr>
<td>HAART Use</td>
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<td>.06-1.22</td>
</tr>
<tr>
<td>95% ARV Adherence</td>
<td>0.53*</td>
<td>.31-9.1</td>
</tr>
<tr>
<td>HIV-1 RNA</td>
<td>1.00***</td>
<td>1.00-1.00</td>
</tr>
</tbody>
</table>

Conclusion

Co-occurring MH/SUD is associated with women’s lower likelihood of HAART use and being adherent at the 95% and 100% levels, even when controlling for age, race/ethnicity, and education. As well, co-occurring MH/SUD is also associated with greater likelihood of having poor immune health as indicated by a CD4 of less than 200. Even controlling for HAART use and adherence, women with co-occurring MH/SUD have poorer immune health. This suggests the need for treatment approaches that address these conditions in combination, in order to reduce morbidity and mortality of this population.

References


Funded by grant number 1R01MH098830 from the National Institute of Mental Health (NIMH, P.J.J. Cook); and by grants to the Women’s Intergenerational HIV Study Collaborative Study group from the National Institute of Allergy and Infectious Diseases (U01-AI-35004, U01-AI-31994, U01-AI-34994, U01-AI-34989, U01-AI-34993, and U01-AI-42590). Contents are solely the responsibility of the authors and do not necessarily represent the official views of the National Institutes of Health.