Neighborhood disorder, HIV treatment access and ARV diversion: a mediation study of drug-involved HIV positive individuals in South Florida

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Abstract

Aims: Recent research has indicated the presence of an illicit market for HIV antiretroviral (ARV) medications in South Florida. We examine possible environmental contributors to ARV diversion among impoverished HIV+ substance abusers. In particular, this analysis focuses on the role of neighborhood disadvantage in impacting access to HIV treatment and subsequent ARV diversion.

Methods: Participants were at least 18 years old, confirmed HIV+, and had used cocaine, crack or heroin at least 12 times within the last 3 months. By design, approximately half of participants endorsed recent diversion of ARVs (n=251). 503 participants completed a one-time face to face structured interview using standardized assessments. Mediation models were tested that examined the effects of neighborhood disorder and HIV treatment access on ARV diversion.

Results: Significant correlations were found between neighborhood disorder and ARV diversion (r=0.09, p<0.05), neighborhood disorder and HIV treatment access (r=0.10, p<0.03), and HIV treatment access and ARV diversion (r=0.12, p<0.01). During mediation analysis, the correlation of neighborhood disorder and diversion became non-significant, leading to the assumption of mediation through the indirect path of HIV treatment access. An increase in neighborhood disorder was associated with a decrease in HIV treatment access, while a reduction in HIV treatment access was correlated with ARV diversion.

Conclusions: ARV diversion is problematic both for the health of individuals and from a public health standpoint. Results indicate a need for further study of neighborhood effects on HIV disease management. Community-level interventions may be warranted to increase HIV treatment access and reduce the risk for ARV diversion among HIV-positive individuals in disadvantaged communities.

Introduction

• There is an ARV diversion market in South Florida, consisting of HIV positive individuals who sell or trade their medications.
• Perceived neighborhood disorder indicates a lack of safety and order that residents feel in their communities (Ross and Mirowsky, 1999).
• HIV treatment access is the quantity and quality of care that a person living with HIV/AIDS feels they have (Bodenlos et al., 2004).

Methods

• Participants were recruited using targeted sampling strategies in South Florida.
• A single face to face interview was conducted by trained interviewers following informed consent.
• Assessment instrumentation used in this analysis included a newly developed ARV diversion questionnaire, the Attitudes Towards HIV Health Care Providers Scale (Bodenlos et al., 2004) and the Perceived Neighborhood Disorder Scale (Ross and Mirowsky, 1999).
• We used Pearson’s r to examine bivariate correlations.

Results

Bivariate Correlations, Pearson’s r (n=503)

<table>
<thead>
<tr>
<th></th>
<th>ARV Diversion</th>
<th>HIV Treatment Access</th>
<th>Neighborhood Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARV Diversion</td>
<td>1</td>
<td>-0.12**</td>
<td>0.09*</td>
</tr>
<tr>
<td>HIV Treatment Access</td>
<td>-0.12**</td>
<td>1</td>
<td>-0.10*</td>
</tr>
<tr>
<td>Neighborhood Disorder</td>
<td>0.09*</td>
<td>-0.10*</td>
<td>1</td>
</tr>
</tbody>
</table>

Discussion

• Significant bivariate associations:
  • Increased perceived neighborhood disorder and ARV diversion
  • Perceived neighborhood disorder and decreased HIV treatment access
  • Decreased HIV treatment access and ARV diversion

• The mediation model has a significant indirect effect and a non-significant direct effect.

• Indirect effect:
  • Neighborhood disorder does appear to influence ARV diversion through HIV treatment access.
  • Proportion of total effect mediated is 14%.

Conclusion

• Our a priori hypothesis appears to be supported by the results: perceived neighborhood disorder influences ARV diversion through reduced HIV treatment access.
• Results point toward environmental influences on ARV diversion, with diversion occurring in areas with higher perceived neighborhood disorder and lower HIV treatment access.
• ARV diversion is problematic both for the health of individuals and from a public health standpoint. Results indicate a need for further study of neighborhood effects on HIV disease management.

Reference


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