Mental Health, Substance Use, and HIV: Calming the "Perfect Storm"

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Introduction

• Rationale
• Definitions
• Epidemiology on Links: Drug Use, Mental Health Disorders and Relevant HIV Outcomes
  – HIV Positive
  – HIV Negative
• Proposal for Relevant HIV Prevention Strategy
Those who can readily access and adhere to multimodal HIV prevention and care strategies do so.

Significant minority unable to sustain viral suppression (if positive) or to sustain PrEP vigilance (if negative).

Disorganizing effects of substance use and mental health disorders link with deficits in relevant HIV outcomes.
Not Just the Needle: The State of HIV-Prevention Science Among Substance Users and Future Directions

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(J Acquir Immune Defic Syndr 2013;63:S174–S178)

HIV Outbreaks for PWID

Scott County IN
West VA
Lowell and Lawrence MA
Seattle WA
Mental Health Disorders: A Spectrum?

Past year prevalence of common symptoms: ~20%

Steel et al., 2014. *Int. J. Epi.* 476-493
Definitions of a Spectrum: Drug Use to Drug Use Disorder, Mild to Moderate to Severe

- No use or use that does not cause problems
- Occasional use causes problems occasionally to frequently
- Mild to Moderate SUD
- Severe SUD (Addiction)

Fun → Fun with Problems → Problems
Global Epi of Common Mental Health Disorders

Baxter et al. *PLoSOne*. 2013. 8:e65514
Global Burden of Amphetamines, Cannabis, Cocaine, Opioids – DALYs

Degenhardt et al., LANCET, 2014
Co-Location: HIV, SUD, MHD

Prevalence of HIV among adults aged 15 to 49, 2017
By WHO region

Prevalence (%) by WHO region
- Eastern Mediterranean: 0.1 [<0.1–0.1]
- Western Pacific: 0.1 [<0.1–0.2]
- South-East Asia: 0.3 [0.2–0.4]
- Europe: 0.4 [0.4–0.4]
- Americas: 0.5 [0.4–0.6]
- Africa: 4.1 [3.4–4.8]

Global prevalence: 0.8% [0.6–0.9]
Many PLWHA drink alcohol

• Meta-analysis of 21 intervention studies of >8400 PLWHA, ~69% problem drinkers, ~47% had alcohol use disorders, 51% use drugs with alcohol (Scott-Sheldon et al. AIDS Behav. 2017, 21(S2):126-143)
  – Interventions reduced VL compared to controls

• Meta analysis of Latin American studies, >22K PLWHA, 53 studies show 70% adherent to ART
  – Comorbidities of alcohol use, substance use, depressive symptoms, high pill burden, unemployment and unstable housing (de Mattos Costa et al. JIAS, 2018, 21:e25066)
Methamphetamine Effects on HIV Transmission…

- A biological mechanism to explain a behavioral assumption

Ellis et al., 2003, *JID*: 188:1820-26

Fulcher et al. *JAIDS*. 2018, 78: 119-123
Depression and Viral Load

- Depression is most common comorbidity for PLWHA, with 20-33% affected
  - For Latin America (de Mattos Costa et al. JIAS, 2018, 21:e25066)
- Depression is very common comorbidity to non-injection substance misuse
- Depressive symptoms interfere with HIV disease progression beyond ART, ↓ CD4+ counts, ↑ VL (Carrico AW et al. JAIDS, 2011, 56:146).
Meta analysis: ART Adherence, Substance Use, Depression

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<th>Brazil</th>
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<td>3 month substance use ↓ UDL?</td>
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<td>Did Adherence mediate this link?</td>
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Brazil MSM: Etoh misuse → viremia; # substances → viremia in het men

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Thailand MSM: Etoh misuse ↑ Dep Sxs, but not VL

Key HIV-negative Populations

Women/Girls – Generalized epidemic
• Alcohol – risks for HIV, STIs, unintended pregnancy, IPV, Fetal Alcohol Syndrome
• Stimulants – stigma; sex – both interest and risks; weight loss (+!)
• Poly Substance Use – nayope, alcohol, cannabis

Transgender women
• Substance use facilitates sex risk (Global Findings); high HIV prevalence

MSM – Chemsex
• Stimulants – 16%-33% attributable risk to HIV incidence
• Poly Substance Use – ED drugs, “poppers,” fentanyl?

Female (and Male) Sex Workers
• Stimulants – many sex-functional purposes; linked with HIV incidence when used to enable sex work
• Poly Substance Use (including opioids)
### Youth: Meta Analysis of Substance Use, Comorbidities, HIV

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For the 80:
• Among those who can maintain HIV care and prevention, provide medicines and support to sustain suppression and prophylaxis

For the 20: (esp in areas co-located with mental health, substance use disorders and HIV)
• Conduct epi to monitor HIV hot spots and comorbidities linked to them
• Integrated culturally competent HIV prevention services for key populations living with mental health, substance use disorders and HIV risks
  – Women (and their male sex and drug partners), Trans Women, MSM, Sex Workers (♀ & ♂), Youth
  – Simultaneous services to meet mental health needs, physical health needs, inconsistent access to social determinants