

Alcohol and HIV/AIDS: State of the Literature

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Presentation Outline

- Introduction
- Alcohol and AIDS in Africa
- Mechanisms linking alcohol to HIV/AIDS
- Representative studies: Major findings
- Summary of findings
- Research and intervention issues

Alcohol in sub-Saharan Africa

what, how much and how we drink (2004)

- Total lifetime abstinence is 57.3%
 - Men 49%; Women 65%; total world 45%
- Total adult (15+ years) per capita consumption: 6.15 litres (world 6.13)
- Proportion of unrecorded consumption: 31.4%
- Most consumed drinks: beer (34%), fermented beverages (48%)
- Pattern of drinking in many countries is moderate to high risk.

Source: WHO, 2011: *Global status report on alcohol and health*

Drinking in Selected Countries

Country	APC (litres)	Per drinker
Angola	5.4	-
Botswana	8.0	26.5
Ethiopia	4.0	14.5
Kenya	4.1	28.4
Lesotho	5.6	16.2
Malawi	1.7	15.5
Mozambique	2.4	5.5
Namibia	9.6	31.6
Rwanda	9.8	-
South Africa	9.5	34.9
Swaziland	5.7	21.0
Tanzania	6.8	31.9
Uganda	11.9	28.2
Zambia	3.9	23.9
Zimbabwe	5.1	35.6

AIDS in Africa

- East and Southern Africa worst hit by the HIV epidemic, accounting for up to one-third of all cases in 2009.
- 22.5 million people live with HIV in SSA; this represents 68% of the global HIV burden
- Main mode of transmission is heterosexual intercourse.
- Major risk factor is unprotected sex with multiple partners.
- The epidemics have stabilized or are declining in some countries but the numbers remain very high.
- The need to continue to identify and address important risk factors remains, e.g., the role of alcohol.

The Problem

- Rates of harmful consumption of alcohol and HIV/AIDS are high in many African countries.
- Alcohol and HIV constitute twin epidemics in some of these countries.
- Better understanding of the connection between alcohol and HIV incidence and disease course will contribute to the implementation of more effective interventions.

What's the Connection?

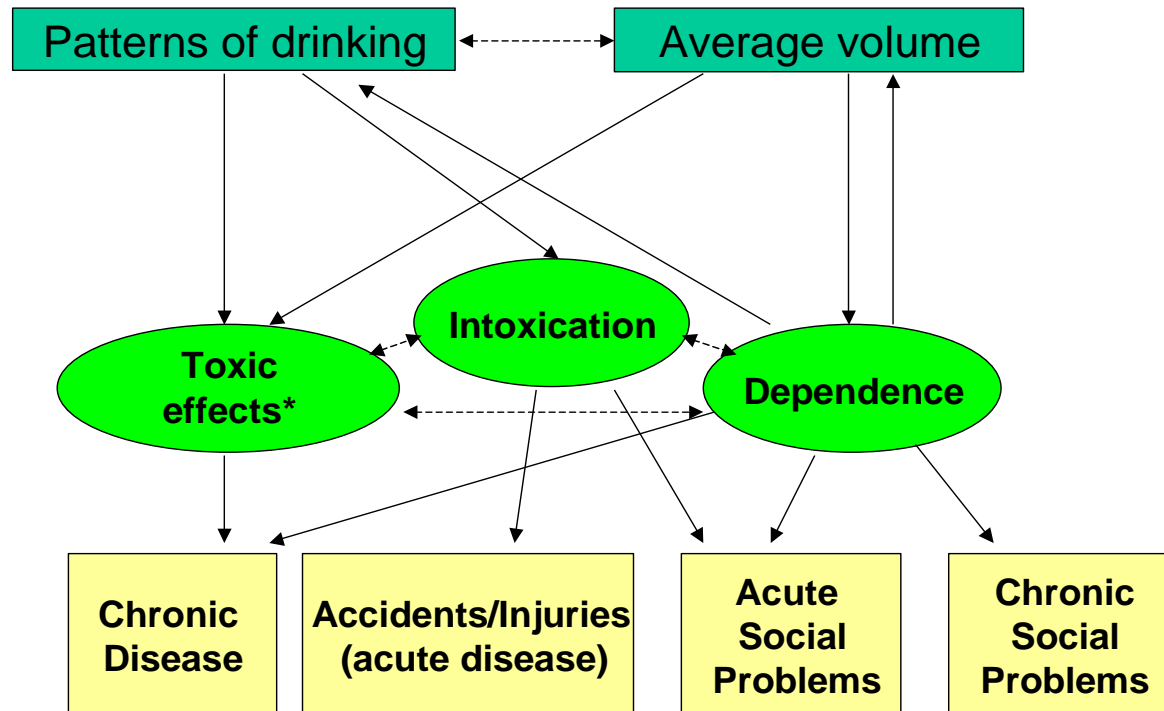
- Areas of possible association between alcohol and HIV/AIDS
 - *Effects on behaviour*: Alcohol and sexual risk taking
 - *Effects on cellular structures*: Alcohol and progression to AIDS
 - *Effects on treatment*: Impact of alcohol on adherence to medication

Alcohol and risk taking

How alcohol can influence HIV-risk behaviour

- **Behavioural disinhibition:** Drunkenness as a pharmacologically induced state
- **Temperament:** Drunkenness coloured by personality; or there is a constellation of problem behaviour traits
- **Drinking context:** Drunken behaviour is shaped by the immediate situation and cues
- **Culture:** Drunken comportment is shaped by culture
- **Beverage type:** Some varieties of alcohol are more problematic than others

Relations among alcohol consumption, mediating variables and consequences



Risks of intoxication and dependence

Intoxication

- The main cause of alcohol-related harm in the general population is alcohol intoxication.
- Drinking patterns that lead to rapidly elevated blood alcohol levels result in problems associated with acute intoxication, such as accidents, injuries, and violence.

Dependence

- Sustained drinking may result in alcohol dependence .
- Dependence impairs a person's ability to control the frequency, context and amount of drinking.
- Alcohol dependence can result from genetic vulnerability, but it is a condition that is contracted by repeated exposure to alcohol: the heavier the drinking, the greater the risk.

Pattern of consumption

- Focuses on **how** people drink
- Pattern of drinking score (PDS) assigned to countries ranging from 1 to 5: least risky to most risky pattern
- Based on how alcohol is usually consumed, including
 - Usual quantity consumed per occasion
 - Whether it is usually consumed with meals
 - Frequency of drinking and drunkenness
 - Festive drinking or drinking in public places

Most African countries have a pattern score of 3 (moderate risk); 4 in two countries

Alcohol and HIV: Early findings

- Alcohol suspected to play a role in risky sexual practices.
- Early studies in clinical populations showed seropositivity rates of around 13%.
- Higher prevalence of HIV found among heavy drinkers in cross-sectional studies.
- However, not all studies supported the suspected link at least to some variables (e.g., inconsistent condom use).

Measuring consumption and risks

Alcohol use variables	Risk behaviour variables
Quantity	Number of sexual partners
Frequency	Unprotected sex
Context of drinking	Not using condom
Heavy consumption	Inconsistent condom use
Heavy episodic	HIV infection
Abstention (past yr, lifetime)	

Data collection methods

- Survey
- Diary methods
- Prospective studies
- Randomized clinical trials

Alcohol as a risk factor for infection

Most studied aspect of alcohol/HIV relationship in Africa and elsewhere.

General findings: More alcohol drinkers engage in high risk behaviours than non-drinkers and are at a higher risk of contracting HIV than non-drinkers.

Alcohol drinkers overrepresented among people with HIV/AIDS.

The Message: “GET DRUNK, GET STUPID, GET AIDS”.

Alcohol and disease progression

- Time from infection to sero-conversion is shortened by alcohol.
 - Alcohol increases cell wall permeability
 - Alcohol suppresses the immune system; reduces infection fighting white blood cells; etc.
- All categories of alcohol consumption is associated with lower CD 4 counts.
- Systematic reviews show causal relation between alcohol consumption and worsening of disease course.

Alcohol effects on treatment outcomes

- *Outcome variables:* adherence to treatment, CD 4 counts

Findings:

- Becoming an alcohol user is associated with worse outcomes;
- Switching to non-use status is associated with improvement.
- Abstinence is associated with better outcome compared to moderate or high-risk use

Conclusions

- *Behavioural effects:* Too many alternative explanations (e.g., personality, context) for observed association between alcohol consumption and various behaviours. More studies, including RCTs, needed to establish causality.
- *Effects on cellular structure:* Consistent findings that alcohol is associated with worsening of disease outcomes (death, re-infection) due to impact on cells and the immune system.
- *Effects on treatment:* Alcohol associated with poor adherence to medications -- more drinking, less adherence.

Research Issues

- Quality of data from self report: problem with validity, reliability and generalizability
- Difficulty in measuring consumption
- Time between drinking and sexual activity
- Individual differences in what is consumed and how
- Wide variety of drinking contexts & types of alcohol consumed
- Biphasic nature of alcohol effects
- Predominance of cross-sectional studies: difficulty in establishing causality
- The gender dimension:
 - Women as drinkers
 - Women as victims; being infected vs. infecting others

Implications for policy and intervention programmes

- General principle: a multi-faceted approach to prevention
- The context of prevention, e.g, sex work
- Training of caregivers to deal with stigma and denial
- Focusing on what works in preventing and treating alcohol problems
- The role of screening and brief intervention
- Special consideration for alcohol use among patients receiving HAART
- Working together: HIV and alcohol people
“Precautionary principle” -- where in doubt ...