ALCOHOL AND HIV/AIDS

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Addressing alcohol problems for improved HIV/AIDS response

The pervasive HIV/AIDS epidemic presents a major challenge to poverty eradication and development in many low- and middle-income countries. Although progress has been made in combating the disease, many challenges remain. Addressing the impact of alcohol consumption in those countries will help meet some of them.

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Alcohol consumption threatens progress in fighting HIV/AIDS

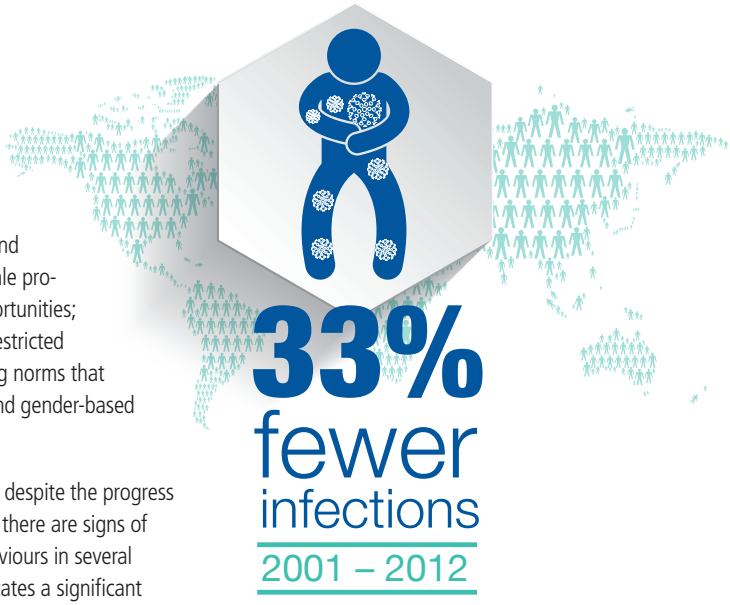
HIV/AIDS is a major impediment to development, and combating the disease is recognized by the United Nations in Millennium Development Goals. Progress has been significant, as the number of new HIV infections has declined steadily in most regions around the world. From 2001 to 2012 new infections reduced by 33% and access to treatment increased 40-fold (UNAIDS, 2013). Nonetheless, millions of people are newly infected each year and the disease continues to impose a heavy burden in many low- and middle-income countries in Africa and Asia. As treatment expands, fewer people die of AIDS and more people live with HIV than ever before (UN, 2013).

Current efforts to combat HIV/AIDS include disseminating information; providing life-skills education; promoting condom use and medical male circumcision; using treatment as prevention; emphasizing a reduction of unsafe sex to curb new transmissions; and achieving universal access to antiretroviral therapy (ART) for those already infected.

Beyond current initiatives, effective strategies for combating HIV/AIDS must also address the structural forces – legal, economic and social factors – that shape the HIV risk of individuals and populations. STRIVE is one research consortium that examines those factors. Led by the London School of Hygiene and Tropical Medicine, the consortium is investigating the social norms and inequalities that drive HIV, particularly: gender inequality and gender roles that encourage male promiscuity; limited livelihood opportunities; stigma and criminalization; unrestricted alcohol availability, and; drinking norms that exacerbate sexual risk-taking and gender-based violence (STRIVE, 2014).

The United Nations reports that despite the progress made in combating the disease there are signs of an increase in risky sexual behaviours in several countries. Recent evidence indicates a significant increase in the number of personal sexual partners in some countries, as well as a decline in condom use (UNAIDS, 2013). Another trouble spot involves gender-based violence, which increases the risk of HIV infections. Women who have experienced intimate partner violence have a 50% higher likelihood of acquiring HIV than women who have been spared that horror (UNAIDS, 2013).

An increasing amount of research is being conducted on HIV/AIDS and alcohol, and the scientific connections are becoming gradually clearer. As a practical matter, those connections have long been experienced by many ordinary people, HIV experts, and development workers.



This paper outlines three aspects of the linkage between alcohol and HIV/AIDS: First, alcohol's contribution to the spread of HIV/AIDS; second, alcohol consumption and HIV/AIDS progression, and the final aspect of alcohol's effects on the course of medical treatment.

Alcohol's biological and behavioural effects on the body must both be considered. Heavy drinking has clearly negative consequences for the immune system, as well as for the individual's self-control and decision making. These effects are relevant for the three linkages.

Does alcohol contribute to the spread of HIV/AIDS?

Many studies in southern and eastern Africa suggest that alcohol is the forgotten drug in the HIV/AIDS epidemic. Those studies have associated alcohol use with HIV infection, as well as with behaviours that lead to infection, such as engaging in unprotected and commercial sex, and having multiple partners. (Fritz et al. 2010). Similar patterns have also been observed in India (Schensul et al. 2010).

Alcohol and behavioural factors

A growing body of research in Sub-Saharan Africa has revealed consistent evidence of a strong correlation between alcohol use and high-risk sexual practices (e.g., sex without a condom) and increased risk of HIV infection (Woolf-King et al. 2013, Hahn et al. 2011, Shuper et al. 2010).

An updated review of studies (Woolf-King et al. 2013) confirmed earlier results that drinkers have a 70% greater chance of being HIV positive than non-drinkers. That review also determined that "problem drinkers" (using several definitions) were twice as likely as non-drinkers to contract an HIV infection. (Fisher, 2007, Hahn et al. 2011). The observed increase in risk at hgher levels of alcohol consumption supports the presence of a dose-response relationship between alcohol use and risk of HIV infection (Woolf-King et al. 2013).

In the updated meta-analysis of studies from Sub-Saharan Africa consumption of alcohol in sexual contexts (compared to no use of alcohol) was associated with a nearly two-fold increase in the odds of HIV infection (Woolf-King et al. 2013). Alcohol use has also been found to directly cause risky sex intentions (Schuper, 2013); greater alcohol intake and the subsequent elevated level of Blood Alcohol Content (BAC) correlate with stronger intentions to engage in unsafe sex (Rehm et al. 2011).

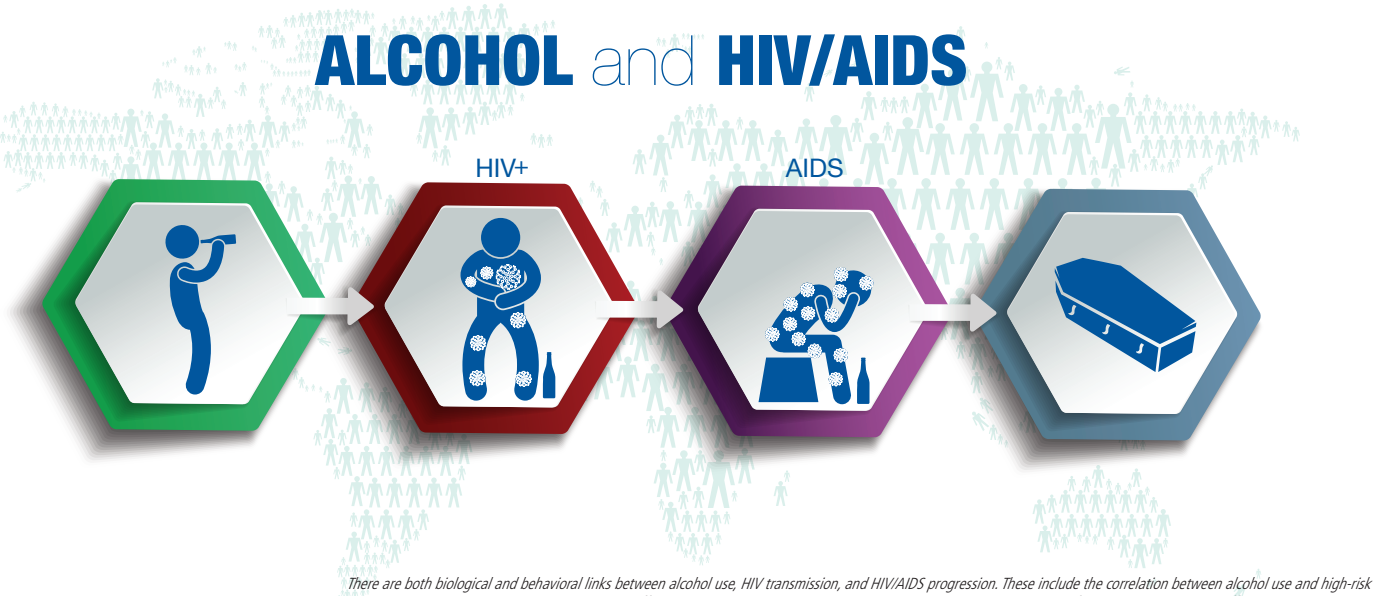
The World Health Organization's report, *Alcohol Use and Sexual Risk Behaviour: A Cross-Cultural Study in Eight Countries*[1], identifies other key patterns of interaction between alcohol use and sexual behaviour related to (among others) the following issues: the construction of maleness in terms of alcohol use; denial and neglect of risk as a way of coping with life; the use of alcohol-serving venues as contact places for sexual encounters; the use of alcohol at/during (first) sexual encounters; and the promotion of alcohol use in pornographic materials (WHO, 2005).

In most of the countries where alcohol/HIV research has been conducted, alcohol consumption is viewed as an important element of maleness. In South Africa, for example, "being able to hold one's drink and drink heavily were regarded as sign of masculinity." In those countries, being under the influence of alcohol was culturally accepted as an excuse for irresponsible behaviour, including risky sex. Additionally, multiple reviews that investigated drinking alcohol before sexual intercourse found significant links between alcohol and unprotected sex (Shuper et. al. 2010). In a number of correlation studies from India, consumption of alcohol before sex added a key dimension of sexual risk, including unprotected sex and anal sex (Schensul, et al. 2010).

Researchers in Chennai, India have repeatedly shown that those who frequent wine shops are much more likely to engage in HIV-risk behaviours than others. This has led public health advocates to argue in favour of using wine shops and related venues as sites for HIV interventions (Schensul et al. 2010).

A systematic review of alcohol use and sexual risks for HIV/AIDS in Sub-Saharan Africa identifies several of the most relevant, related connective factors: drinking venues and alcohol-serving establishments; sexual coercion and poverty; and quantity (rather than frequency) of alcohol consumption. Among people who drink, greater quantities of alcohol consumed predict greater sexual risk than does the frequency of drinking. Gender also affects alcohol use and sexual risk. Men are more likely than women to drink and engage in high-risk behaviour, although women's risks are often associated with their male sex partners' drinking (Kalichman et al. 2007). Male partners' alcohol use is often associated with decreased condom use, increased likelihood of

[1] *The countries studied were Belarus, India, Kenya, Mexico, Romania, South Africa, The Russian Federation, and Zambia.*



There are both biological and behavioral links between alcohol use, HIV transmission, and HIV/AIDS progression. These include the correlation between alcohol use and high-risk sexual practices, alcohol's effect in impairing the immune system, delays in HIV-testing and provision of treatment and negative effects on ART adherence.

sexual coercion and violence leading to unprotected sex, and increased pressure on commercial sex workers to engage in unprotected sex (Hahn et al. 2011).

Biological effects of alcohol

The biological effect of alcohol in impairing the immune system has important consequences for HIV/AIDS carriers, who may be considerably more vulnerable to infections. A growing body of evidence suggests a direct biomedical link between alcohol consumption and HIV infection and disease (Hahn et al 2011). Alcohol's impairment of the body's immune system is a well-recognized condition independent of the HIV/AIDS issue, and its negative effects increase with the level of alcohol consumption. Compromised immune systems can contribute to an increased incidence and severity of infections, such as pneumonia, tuberculosis, hepatitis C, sexually transmitted diseases, as well as other conditions, including depression and liver disease. Those conditions themselves may further depress the immune system and thus further increase susceptibility to HIV infections.

Despite the biological links and the strong and consistent association between alcohol use and HIV incidence, insufficient evidence exists from which to prove a causal connection between the two (Schuper et al. 2010, Rehm et al. 2009). Many other variables, such as personality characteristics and situational factors, could also be considered among explanations for the relationship between drinking and high-risk sex (Schuper et al. 2010). As Shuper and colleagues point out, alcohol-related beliefs and expectancies may themselves impact condom-related attitudes, risk perception and condom-use skills. An active behavioural component is needed to conclude that HIV transmission is a causal consequence of alcohol use (Schuper et.al 2010).

As a result of the absence of evidence that alcohol use and HIV/AIDS transmission are causally related, the calculations of WHO's Global Burden of Disease figures for alcohol do not include any burden related to infectious diseases. Clearly, this is an issue for increased research interest and deliberations.

Alcohol consumption and HIV/AIDS progression

HIV/AIDS researchers have also examined whether alcohol consumption and heavy drinking are possible causes for worsening the disease course among those already infected, beyond the known behavioural effect of alcohol consumption on adherence to Antiretroviral Therapy (ART). (see below). The results are mixed. Several experimental studies provide evidence for an effect of heavy alcohol consumption on simian immunodeficiency virus progression in macaque monkeys. Those results may not be applicable directly to HIV in humans. Of several older studies conducted during the pre-ART era, none found a positive association (Hahn et al. 2011) between alcohol consumption and a w worsening disease course.

Other review studies have concluded that alcohol's effect on the immune system plays a role in worsening the course of existing infections. The effects vary, depending on a person's drinking habits, with the most severe effects on worsening the course of HIV infections appearing in heavy drinkers and people with alcohol use disorders (Shuper et. al. 2010). In addition to this biological effect on the immune system, behavioural factors may also influence the disease process in persons already infected. The combination of heavy drinking and HIV may be associated with increased medical and psychiatric complications leading to delays in HIV-testing and provision of treatment. Heavy drinkers also sometimes lead a life style that includes a generally unhealthy diet and higher exposure to opportunistic infections.

FACTS:

Alcohol and Tuberculosis (TB)

Alcohol-attributable TB and lower respiratory infections constitute a substantial global burden (Shield et al. 2013). Research has established sufficient evidence for a causal impact of alcohol on TB incidence (Rehm et al. 2009a). For TB patients, alcohol also plays a negative role in the clinical course of the disease. People who drink heavily or who exhibit alcohol use disorders show higher relapse rates, a higher probability of an unfavourable clinical course, and a higher probability of experiencing the most destructive forms of TB. These consequences result from the interruption of treatment that often follows heavy alcohol use and from the altered pharmacokinetics of medicines used in treatment of TB (Rehm et al. 2009b). The influence of alcohol on treatment compliance is of particular concern, given the evolution of new drug-resistant strains of TB.

Alcohol's effects on accessing and receiving medical treatment

For people living with HIV/AIDS, Highly Active Antiretroviral Therapy (HAART) treatment, often called "ART" treatment, can postpone the onset of AIDS and reduce the risk of other complications, leading to a longer and higher quality of life. ART treatment of HIV-positive people also has a preventative effect, in that it helps to reduce the transmission of the virus to others. According to UNAIDS (2013), 9.7 million people in low- and middle-income countries were receiving treatment at the end of 2012, a 40-fold increase in 10 years. Those 9.7 million comprise just 34% of the 28.6 million people in need of treatment (UNAIDS, 2013).

ART treatment requires regular medicine intake and proper adherence to medication schedules and plays a vital role both in general health status and in avoiding the emergence of a drug-resistant virus (Schuper et al. 2010). Several studies have determined the negative effect of alcohol use on ART adherence. Jaquet et al. found that alcohol use in West Africa was one of two factors (adherence counselling being the other) significantly associated with poor adherence to ART. The positive association was significant for present drinkers and even for non-hazardous drinkers (Jaquet, et. al. 2010). Other studies confirm that alcohol use has detrimental effects on HIV/AIDS patients' adherence to antiretroviral and other forms of treatment. This lack of adherence compounds any negative effects that alcohol use may have on the immune systems of those patients. The connection between the two behaviours is consistent even when the researchers checked for other possible explanations (e.g. depression, health status, etc.) (Shuper et al. 2010).

Conclusion — alcohol and HIV

Evidence shows close links between alcohol use and contraction of HIV/AIDS and between heavy alcohol use and detrimental effects on the immune system. The evidence supports a causal connection between alcohol use and adherence to ART treatment. While the link between alcohol and HIV/transmission is supported biologically, the behavioural causeway may be explained by other factors. Researchers therefore hesitate to conclude that there is a causal link between alcohol and HIV-transmission. Obviously, more research is necessary, both to further confirm the association between alcohol and risk of HIV infections and to characterize alcohol use as related to HIV infection at the level of the sexual event. (Wool-King et al. 2013).

Despite the absence of proof of causality the links are genuine. Human behaviours are rarely, if ever, determined by single causal factors, but rather by multiple, complementary elements that influence patterns of risk behaviour (Parkhurst, 2013). Multiple risk-elevating practices may often cluster together, creating common patterns of vulnerability. They may need to be addressed in combination. For example, sex workers and their potential clients congregate in alcohol-serving settings, increasing the likelihood that drinking will accompany sex and decreasing the likelihood of condom use. Local drinking norms often encourage binge drinking, which in turn boosts the chances of alcohol-induced violence and coerced sex. (Heise and Watts, 2013).

A focus on alcohol use is warranted in efforts to prevent the further spread of the HIV/AIDS pandemic. Such scrutiny should address drunken behaviour in the context of risky sexual behaviour (reduced condom use, multiple partners, and commercial sex). Addressing harmful gender roles (dominant form of masculinity), including violence against women (whether inside or outside of intimate partner relations) is one necessary strategy. Such efforts should also examine the status of alcohol-serving venues as contact places for sexual encounters.

Examples of successful interventions abound. In South Africa, recognition of the important role of alcohol use in influencing risky sex led to the creation of an HIV- and alcohol-linked skills programme that reduced the rate of unprotected sex by 65 percent (compared to a control group receiving HIV education alone) (Parkhurst, 2013).

HIV/AIDS is but one of many health-related development concerns in which addressing alcohol will be useful (Bakke, 2008). Harmful use of alcohol is one of four risk factors driving a global epidemic of non-communicable diseases (NCD) that the 2011 UN High Level Meeting identified as a major threat to public health (UN, 2011). That conclusion has increased attention on the role of global producers in promoting increased consumption of unhealthy products, of which alcohol is one. (Stuckler, et. al. 2012). Some have suggested that a public health warning may be warranted (Babor et al. 2013).

Recommendations

Recognizing the strong links described above, changing alcohol consumption patterns should be included as an integral element in HIV/AIDS prevention. Conversely, HIV/AIDS should be taken into consideration during the design of alcohol policies and interventions.

Integrated counselling: Alcohol use should be addressed as a key issue in HIV/AIDS counselling and treatment in order to avoid delays in testing and potential reduction in ART adherence. Providing screening and brief interventions for alcohol use is a cost-effective measure to reduce alcohol harm. Combined interventions in both areas may improve the outcome for HIV-positive persons.

Integrated programming: The design of HIV/AIDS prevention strategies should take alcohol-use patterns into consideration, for example, in identifying target areas and studying target populations. Reducing the harmful use of alcohol will have ancillary beneficial effects, including the mitigation of other HIV/AIDS risk factors such as interpersonal violence. Bars, restaurants, shebeens, etc. have been identified as potential hot spots for HIV transmission and may be targeted for broader interventions.

Challenging harmful masculinities: Addressing harmful gender roles and dominant forms of masculinity may prove productive in reducing vulnerability to HIV. Manifestations of masculinity that encourage men to prove their manhood through exerting control over women, engaging multiple sexual partners, and abusing alcohol warrant integrated prevention initiatives targeting gender-based violence, harmful alcohol use, and HIV/AIDS.

Challenging glamorization of alcohol consumption in advertisements: In a wider context, measures should be explored to reduce the ubiquitous promotion that links alcohol to masculinity, social and sexual success, and the flouting of social norms. Those themes form a major current that flows through a considerable proportion of the advertisements and sponsorships for alcohol products.

Evidence-based alcohol interventions: Steps should also be taken to address alcohol use in the wider societal context through the implementation of proven alcohol control policies. Such potentially effective interventions are well-documented in the WHO Global Strategy to reduce the harmful use of alcohol (WHO, 2010) and in a wide range of research evidence (Babor, et. al. 2010). They include cost-effective measures such as addressing alcohol availability (hours of sale, age limits, outlet density, etc.), price (taxation), drink-driving measures (e.g., enforced maximum blood alcohol concentration levels) and restrictions on alcohol marketing.

National alcohol policy: Every country should adopt a national alcohol policy, approved by the government and developed in consultation with civil society organisations and relevant professional groups. Such a policy also represents an important part of implementing the WHO global alcohol strategy. HIV/AIDS organisations should advocate for such policies and for the inclusion of HIV/AIDS perspectives.

Drinking venues: In addition to conducting prevention activities at drinking venues, existing legislation or regulation of alcohol sales and service should be rigorously enforced. If licensing systems are not in place, NGOs should advocate for their introduction. Licences should require bars and restaurants to have physical environments that prevent or deter risky sexual behaviour.

Public health focus: According to the WHO, the alcohol industry has no role in the formulation of alcohol policies, which must be protected from distortion by commercial or vested interests (ref). Alcohol policies need to be firmly based in promoting public health and welfare. Although the alcohol industry will offer assistance in developing national alcohol policies, that help will rarely result in a benefit to public health (Bakke and Endal, 2010).

Avoiding conflict of interest: NGOs in the HIV/AIDS field should protect against alliances with alcohol-industry interests. Such relationships may compromise the integrity and independence of civil society organisations.

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Alcohol and HIV/AIDS

HIV/AIDS presents a major obstacle for international development. Although progress in combating the disease has been significant, driving the number of new HIV infections steadily lower in many regions of the world, major challenges lie ahead. One of those involves the linkage between alcohol use and HIV/AIDS.

This paper outlines three aspects of the association of alcohol use and HIV/AIDS, including: alcohol's contribution to the spread of HIV/AIDS; alcohol consumption and the progression of the disease, and the effect of alcohol use on the course of medical treatment. Research findings indicate that both the biological and behavioural effects of alcohol on the body must be considered.

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