



# Alcohol Use and Mental Health in Developing Countries

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This paper provides an overview of mental health and alcohol use in developing countries. The review shows that mental disorders are common and pose a significant burden on the health of developing nations. There are close associations between poor mental health and other public health and social development priorities. Although the overall use of alcohol at the population level is relatively low, with high abstinence rate, drinking patterns among those who do drink are often hazardous. The consumption of alcohol is heavily gendered and is characterized by a high proportion of hazardous drinking among men. Hazardous drinkers do not only consume large amounts of alcohol, but also do so in high-risk patterns, such as drinking alone and bingeing. Hazardous drinking is associated with depressive and anxiety disorders as well as suicide and domestic violence. The limited evidence base suggests that moderate or casual drinking is not associated with social or health hazards; any likely benefits of moderate drinking for mental health have not been studied in developing countries. The implications of this evidence base for future research and policy are discussed.

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**KEY WORDS:** Mental Health, Developing Countries, Alcohol Abuse, Comorbidity.

## INTRODUCTION

This paper assesses evidence of mental health harm and benefits associated with drinking alcohol in the context of developing countries. Developing countries, categorized as low or middle income in the World Bank's classification, account for more than 80% of the world's population and, unsurprisingly, are home to the majority of individuals living with mental disorders.

This paper has 4 parts: it provides an overview of mental health in developing countries, reviews what we know about drinking patterns and their correlates in these countries, considers the evidence on the relationship between drinking and mental health, and suggests implications for policy and future research.

Research for this article has been derived from two major sources:

- A search of MEDLINE and PsycInfo databases, using the following search terms: alcohol\* AND (psycholo\* OR psychiatr\* OR mental\* health OR mental\* disorder\*) AND develop\* countr\*; and alcohol\* AND (psycholo\* OR psychiatr\* OR mental\* health OR mental\* disorder\*) AND (Africa\* OR Asia\* OR South America\*); for the period 1996 to date
- A hand search of books and chapters pertaining to alcohol use in developing countries, in particular two publications from the World Health Organization (WHO) (1, 2)

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\*Manuscript provided but not presented at symposium.

## MENTAL HEALTH IN DEVELOPING COUNTRIES

At any given time, about 10% of the adult population globally and about one in three adults attending a primary health center suffers from a mental disorder. Depression and anxiety (the “common mental disorders”) and alcohol and drug abuse (the “substance abuse disorders”) are the most frequent of all mental disorders. Psychotic disorders, such as schizophrenia and bipolar disorder, although relatively less common, are profoundly disabling. It is no surprise that mental disorders figure prominently in the list of leading global causes of disability (see Table 1) (3, 4). The burden is the greatest during the most productive years of life— young adulthood—when about 75% of all mental disorders seen in adults begin (5). Among people aged 10 to 59 years in developing countries, four conditions linked to mental health and alcohol abuse can be found in the 10 leading causes of death (road traffic accidents, self-inflicted injuries, violence, and cirrhosis of the liver) (4). If disease burden is measured through the number of years lived with disability (YLD), then unipolar depressive disorders is the leading contributor to disease burden in developing countries; schizophrenia and alcohol abuse disorders also figure in the leading 10 causes of YLD (4) (Table 1). Altogether, neuropsychiatric disorders account for 9.1% of disability-adjusted life years (DALYs) in low-income countries and 17.7% of DALYs in middle-income countries.

The enormous gap between mental health needs and services in developing countries has been addressed in a series of high-profile international documents, culminating in the 2001 World Health Report (3) and the WHO Mental Health Atlas (6). Of the 400 million people with mental

**Selected Abbreviations and Acronyms**

DALY = disability-adjusted life years  
 HIV/AIDS = Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome  
 ICD-10 = *International Statistical Classification of Diseases and Related Health Problems, 10th Revision*  
 MDG(s) = Millennium Development Goal(s)  
 WHO = World Health Organization  
 YLD = years lived with disability

disorders, most live in developing countries. Meanwhile, more than 90% of global mental health resources are concentrated in rich countries. In many developing countries, for example, there is about one psychiatrist for every million people (6). As a result, the majority of individuals suffering from mental disorders do not seek professional help, and families bear the brunt of the untreated morbidity and disability.

Formal health care in developing countries often takes the form of primary and traditional medical care. In primary care, mental disorders typically go undetected, with patients receiving a cocktail of treatments targeting the various symptoms of mental disorders—for example, sleeping pills for sleep problems and vitamins for fatigue (7). Psychosocial treatments are rarely provided. Often, only persons with psychotic disorders with disturbed behavior are brought to specialist mental health services (if these are available). In such establishments, care is heavily biased toward drug therapies. Mental illness is strongly associated with stigma (8); human rights violations and institutionalization characterize services for severe mental disorders (9).

At the same time, the profile of mental health in developing countries is increasing. More governments are designing and implementing mental health policies (4); more donors are supporting mental health-related work; more

public health professionals and policy-makers are taking an interest in mental health issues. The pace of reform is slow, however. With every new challenge to the public health sector, mental health is relegated to the shadows.

Thus mental health is absent from the United Nations Millennium Development Goals (MDGs), which set out a vision for development with a focus on health and education (see Table 2) (10, 11), despite the close link of mental health with many of the individual MDGs (12). For instance, a major reason why children are not able to either enroll in schools or complete primary education (MDG 2) is related to their developmental and mental health (e.g., due to various types of learning disabilities). Depression is one of the most common health problems affecting women during pregnancy (MDG 5) and after childbirth; depression during motherhood is associated with low birth weight and infant failure to thrive, both of which are linked to infant mortality (MDG 4) (13, 14). There are several areas of confluence between HIV/AIDS (MDG 6) and mental health: people with mental health problems, particularly alcohol use disorders, are at greater risk for HIV/AIDS; individuals with HIV/AIDS are more likely to suffer mental health problems, and these problems, in turn, can affect their overall health outcomes (15). In general, virtually all population-based studies of the risk factors for mental disorders—particularly, for depressive and anxiety disorders and substance abuse disorders—show higher prevalence among the poor and marginalized. Mental disorders impoverish people through the costs of health care and as a result of lost employment opportunities (16). Treatment, thus, may help people rise out of poverty (MDG 1).

For many years, we lacked evidence that anything could be done for mental disorders in poor countries. However, a number of clinical trials have been published recently from across the developing world, demonstrating the efficacy and cost-effectiveness of locally-feasible treatments for depression, schizophrenia, and substance abuse. Studies have demonstrated that community care for schizophrenia is feasible and leads to superior clinical and disability outcomes (17). Both antidepressant and psychosocial treatments are efficacious for depression (18). Community initiatives reduce the rates of substance abuse disorders

**TABLE 1.** Leading causes of years lived with disability in low and middle income countries, 2001 (4)

Low- and middle-income countries			
	Cause	YLD (millions of years)	Percentage of total YLD
1	Unipolar depressive disorders	43.22	9.1
2	Cataracts	28.15	5.9
3	Hearing loss, adult onset	24.61	5.2
4	Vision disorders, age-related	15.36	3.2
5	Osteoarthritis	13.65	2.9
6	Perinatal conditions	13.52	2.8
7	Cerebrovascular disease	11.10	2.3
8	<b>Schizophrenia</b>	<b>10.15</b>	<b>2.1</b>
9	<b>Alcohol use disorders</b>	<b>9.81</b>	<b>2.1</b>
10	Protein-energy malnutrition	9.34	2.0

Note: Neuropsychiatric conditions and self-inflicted injuries are presented in bold font.  
 Source: Global Burden of Disease (4).

**TABLE 2.** The UN Millennium Development Goals (MGD) (11)

<b>Goal 1</b>	Eradicate extreme poverty and hunger
<b>Goal 2</b>	Achieve universal primary education
<b>Goal 3</b>	Promote gender equality and empower women
<b>Goal 4</b>	Reduce child mortality
<b>Goal 5</b>	Improve maternal health
<b>Goal 6</b>	Combat HIV/AIDS, malaria, and other diseases
<b>Goal 7</b>	Ensure environmental sustainability
<b>Goal 8</b>	Develop a global partnership for development

(19). Perhaps the best examples that management of suffering is possible derive not from trials, but from the remarkable work of grassroots organizations implementing mental health interventions (20).

### ALCOHOL USE IN DEVELOPING COUNTRIES

The pattern of alcohol use in many developing countries is closely linked to three broad historical phases. The preindustrial, precolonial phase was characterized by traditional alcohol consumption, often within the context of specific culturally sanctioned events (such as religious ceremonies). Records of the use of traditional alcohols, brewed from locally grown grains, vegetables, or fruits, can be found in the majority of developing countries. The second phase was associated with the advent of colonial rule that affected vast regions of the developing world. The colonial rulers from Europe brought with them distilled alcohols and beer, native to their own cultures. The introduction of these foreign beverages led to new legislations in some countries regarding taxation and the consumption of alcohol. Traditional alcohols continued to be widely used but remained outside the tax net and concern of the colonists; European alcohols were more expensive than local drinks and were mainly consumed by the colonists and the more affluent sections of the local community. The third historical phase coincides with the postcolonial period. In many developing countries, it has been characterized by globalization of economic markets and the increasing availability of international brands of distilled alcohols.

Today, distilled alcohols are freely available in many developing countries and include both local and international brands. Significant variations exist in patterns of drinking between—and within—countries in terms of the proportion of total drinking accounted for by traditional and distilled alcohols. As a general rule, however, distilled alcohols and wine are generally consumed by more urban and affluent groups, while traditional alcohols (such as sorghum-based beer and palm wine in Africa) are consumed by more rural and poorer populations; beer seems to be popular across the social classes. In addition, in many societies, traditional beverages are more popular among older drinkers, while distilled malt and barley-based beers are preferred by younger generations and those with “more European or American cultural orientation” (1, p. 22). There is considerable variation in the age of initiation of drinking. In many tribal societies, this may take place relatively early, but typically in the context of a traditional ritual (as opposed to drinking for pleasure, as in developed countries).

A number of studies address the prevalence of alcohol use and alcohol use disorders in developing countries (e.g., 1, 2). However, there is wide variation in the study methods used,

including how alcohol use and various disorders are defined, as well as in the sampling strategies. These variations make comparisons difficult. Typically, surveys target populations considered to be at high risk (e.g., young people), individuals in primary health care, or those in psychiatric facilities. The recently completed World Health Surveys will provide a global picture of alcohol use and its association with socioeconomic and health factors. Meanwhile, a number of findings can be discerned from the existing literature.

First, per capita alcohol consumption is relatively low in developing countries (see Table 3), with the lowest rates reported in Africa, Southeast Asia, and the Middle East. This, in part, attests to the heavy influence of social, cultural, and economic factors on alcohol use. In comparison with developed countries, a much smaller proportion of population—in particular, among women—consumes alcohol in developing countries.

Second, alcohol use and alcohol use disorders are more prevalent in men than in women across regions, with gender gaps particularly wide in developing countries. It is likely that both psychosocial and biological etiologies converge to lead to the greater risk of alcohol use disorders in men. In many countries, drinking and intoxication among men are more socially acceptable than among women and may have important social meanings, such as maintaining friendships or coping with stressful situations. In many cultures, the role of machismo (as in Latin American cultures), the importance of male sexuality, is recognized as a key factor in shaping drinking patterns (e.g., 21). Thus excessive drinking celebrates male courage, sexual prowess, maturity, and the ability to take risks, including sexual risks. The association of masculinity and drinking and the use of alcohol as a means of coping with stress by men are key factors behind the rising toll of alcohol-related premature mortality in East European men (22).

Third, alcohol consumption among men often takes the form of binge drinking, typically outside of the home, with other men (e.g., 23, 24). A study from Papua New Guinea, for example, reported that men tend to drink in groups,

**TABLE 3.** Median per capital consumption of alcohol per adult 15 years of age and over, by who geographical region

Region	Consumption (L)		Countries with survey data/total number of countries	Percent of population covered
	Mean	Median		
AFRO	1.37	0.95	28/46	76.72
AMRO	6.98	5.74	32/35	99.96
EMRO	0.30	0.53	12/21	90.33
EURO	8.60	8.26	49/52	99.99
SEARO	1.15	0.99	7/11	98.38
WPRO	5.54	1.95	20/27	99.94

Modified from World Health Organization (35), World Health Organization (1). L = liters. AFRO-African; AMRO-Americas; EMRO-Eastern Mediterranean; EURO-Europe; SEARO-South-east Asia; WPRO-Western Pacific.

usually with a goal to get drunk (2). Drink-diary studies of male hazardous drinkers in India reported that binge drinking was significantly associated with the use of traditional and illicit alcohols (25). Beverage choice was related to socioeconomic status, with cost and ease of access being key determinants. In Mexico and some other Latin American countries, the legacy of fiesta has been identified as an important influence on male binge drinking (2).

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## THE RELATIONSHIP BETWEEN ALCOHOL USE AND MENTAL HEALTH

It must be acknowledged that the evidence base for the association of alcohol use and mental health in developing countries is weak, particularly from a population perspective. Alcohol dependence and harmful alcohol use are mental disorders in their own right in WHO's *International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)* (26). For the purpose of this section, however, this paper will concentrate on their association with other mental disorders.

A number of important recent studies of high-risk populations in developing countries indicate moderate levels of comorbidity between alcohol abuse and mental illness. A study in São Paulo, Brazil revealed that the prevalence of substance misuse among Brazilians with severe mental illness was lower than in developed countries (27). Nevertheless, the very presence of comorbidity worsens the prognosis and impact of mental disorders. Another Brazilian study reported an association between severity of alcohol dependence and psychiatric symptoms, stressing the importance of early detection (28). In a study from India, a linear relationship was found between comorbidity of mental disorders and alcohol and poorer quality of life (29).

Population-based studies reveal a strong association among hazardous drinking, poor mental health (especially, depressive and anxiety disorders), and suicide. For example, two studies on the association of alcohol use and mental health were carried out on a sample of male industrial workers in Goa, India (23, 24). A survey of 1013 workers found that one fifth of all respondents were hazardous drinkers (24). In general, these men had begun drinking at an earlier age and had lower educational levels than nonhazardous drinkers. While hazardous drinkers often recognized that they had a drinking problem, only a small proportion (14%) had sought help. Hazardous drinkers were significantly more likely to suffer from a common mental disorder (depressive or anxiety disorders) or to have experienced an adverse health outcome, such as hospital admission. This study demonstrated a significant degree of comorbidity between common mental disorders and hazardous drinking,

similar to that reported by researchers in developed countries (30, 31).

In a subsequent case-control investigation of the impact of alcohol consumption, two groups of drinkers (hazardous and nonhazardous or moderate drinkers) were compared with a group of abstinent men (23). Hazardous drinkers reported a higher number of sick leave days, increased rates of tobacco use, more frequent injury in the form of fractures, higher disability scores, more money spent on health, and poorer mental health than their moderate-drinking or abstinent counterparts. Whereas hazardous drinkers did not report financial difficulties, their spouses were more likely to attribute financial difficulties to their husbands' drinking. The study did not find any trends suggesting adverse impact of moderate drinking on any of these indicators. As compared with moderate drinkers, hazardous drinkers tended to drink alone, in bars, and preferred noncommercial alcoholic beverages, which are cheaper and have relatively high alcohol concentration. These findings suggest that the adverse association between male alcohol use and mental health in India is concentrated among men who drink hazardedously.

Similar relationships have been reported elsewhere in the world. In some East European countries, a strong association between per capita alcohol consumption and suicide rates has been reported (1). In Chile, in the early 1980s, 38.6% of suicides were identified as "alcohol-related"; a more recent study from Ethiopia revealed a linear relationship between adolescent suicide attempts and alcohol consumption (1). Several causal explanations have been cited. For example, alcohol may disinhibit suicidal impulses (and aggression in general), whereas chronic and heavy alcohol use may lead to a gradual disintegration of the person's social life, depression, and, thus, an elevated risk of suicide (1).

Another important consequence of alcohol consumption in developing countries is related to mental health of individuals living with problem drinkers. Several studies from developing countries have shown higher levels of family dysfunction and family violence among alcohol-dependent people and alcohol abusers (23). In studies conducted either with samples of alcohol-dependent subjects or in clinical situations, spouses (usually, female) of alcoholics were reported to suffer from significant stress levels and various physical and mental health problems. Studies of individuals in primary care in India showed significantly higher rates of depressive and anxiety disorders among women (32); concerns about spousal drinking behavior and the related experience of domestic violence were key risk factors. Higher rates of common mental disorders in women have been found in virtually all studies from developing countries (and, indeed, in developed countries); gender disadvantage, intimate partner violence, and alcoholism were cited as major factors to explain this increased risk (33). A recent



community survey of women in India has confirmed these hypotheses; depressive and anxiety disorders were strongly—and independently—associated with intimate partner violence and concerns about spouses' drinking habits (34).

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## IMPLICATIONS

The evidence base on the prevalence of alcohol use and alcohol use disorders in developing countries presents a mixed picture. Although the overall use of alcohol at the population level is relatively low, with high abstention rate, drinking patterns among those who do drink are often hazardous. Poor people are more likely to consume cheaper, traditional alcohols, linked to some adverse health and social consequences. The consumption of alcohol is heavily gendered and is characterized by a high proportion of hazardous drinking among men. Hazardous drinkers do not only consume large amounts of alcohol, but also do so in high-risk patterns, such as drinking alone and bingeing. Hazardous drinking is strongly associated with common mental disorders and suicide and domestic violence, especially among women. Rates of alcohol dependence are relatively low in many developing countries, but this condition is associated with high levels of disability and mortality. The recent report "Global Burden of Disease and Risk Factors" (5) has highlighted the contribution of alcohol, as a risk factor, to the global burden of disease; alcohol use disorders account for nearly 4% of the attributable-disease burden. The disease outcomes assessed include depression and suicide. This burden was concentrated in men under the age of 60 years.

On the other hand, there is little evidence on the harms—or benefits—of moderate drinking. Moderate consumption may be beneficial to individuals, although the "less tangible benefits of conviviality, sociability, and in some cases social solidarity are difficult to quantify" (1, p. 46). Little attention has been paid to these nonquantifiable aspects of moderate consumption as they relate to mental health and the general quality of life. Important research questions remain on health and social impacts of different patterns of alcohol consumption in developing countries. Such research should not only focus on the negative impact of hazardous drinking, but also address the potential benefits of moderate consumption. The use of qualitative research methods would be highly relevant in such inquiries.

The major challenge in terms of alcohol use and mental health in developing countries is to reduce the rates of hazardous drinking and alcohol dependence in the population. This may be achieved, for example, by linking alcohol taxation to the level of alcohol content in a given beverage and by strengthening the enforcement of licensing to sell drinks with high alcohol concentration. In addition, since

relatively few hazardous drinkers seek help because of stigma, lack of services, and lack of awareness, a concerted campaign is needed to educate the community about the health dimensions of hazardous drinking and definitions of moderate consumption, combined with community-based interventions. This strategy provides the potential for primary prevention.

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