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Article

A Cross-National Critical Comparison and Analysis of Preventive Intervention Paths for Adolescent Alcohol Use: The Case of the United States and Brazil

Jingyi Wang

School of Public Health, Tianjin Medical University, Tianjin 300070, China

Abstract: This study focuses on the United States and Brazil, employing a literature review and comparative analysis method to systematically compare the prevalence, influencing factors, harms, and prevention policies of alcohol use among adolescents in both countries, revealing commonalities and differences, and providing a basis for global adolescent alcohol intervention strategies. The results show that the rate of alcohol consumption among American teenagers has declined and that their policies are mature, with harms primarily involving psychological and behavioural problems, although there is still a risk of underage abuse; in Brazil, alcohol consumption remains high and is increasingly prevalent among younger age groups, where policies are weak, the proportion of female drinkers is rising, and harms mainly involve acute fatal injuries. The common risk factors for the two countries are psychological problems and adverse childhood experiences (ACEs), with significant differences in socioeconomics, policy regulation, alcohol availability and high-risk populations. Adolescents' alcohol prevention and control should be tailored to local conditions. Low- and middle-income countries should strengthen early prevention, improve regulation, and focus on vulnerable groups, while developed countries need to precisely intervene with high-risk groups, optimise policy evaluation, and enhance the refinement of prevention and control.

Keywords: adolescents; alcohol use; cross-national critical comparison; United States; Brazil

1. Introduction

Adolescent alcohol use is a significant global public health issue, which can cause irreversible physical damage, psychological and behavioural disorders, and has long-lasting harmful effects [1]. The characteristics, harms, and prevention effectiveness of adolescent drinking vary significantly across countries with different income levels, providing a basis for international comparisons [2].

As a developed country, the United States has seen a continuous decline in adolescent drinking rates, but issues such as underage drinking, high risks of abuse, and uneven policy enforcement still exist [3–5]. As a middle-income country, Brazil is characterized by a high incidence of adolescent drinking and a trend toward younger initiation ages, with early drinking closely associated with violence and accidental injuries; however, its prevention and control policies and intervention systems are neither well developed nor systematically supported [6–8].

This study focuses on the United States and Brazil, systematically analysing the prevalence of alcohol

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Corresponding: Jingyi Wang (18102162512@163.com)

consumption among adolescents, influencing factors, health hazards, and prevention and control policies, summarising commonalities and differences, critically examining the key issues and shortcomings in the prevention and control in countries with different levels of development, to provide a theoretical basis and practical reference for the global prevention and control of alcohol-related harm among adolescents.

2. Alcohol Use among Adolescents in Both Countries

2.1. United States

The overall rate of alcohol use among American adolescents has declined, but local risks remain significant. Data from the Future Monitoring study in 2024 shows a substantial decrease in alcohol consumption among adolescents across all grades in the United States, with a reduction of 40% to 50% over the past decade. From 2002 to 2019, the rate of underage drinking fell by more than 40%, and in 2023, the drinking rate among adolescents aged 12 to 20 was approximately 15% [3, 5, 9 – 11]. Meanwhile, the lifetime drinking rate among adolescents aged 13 to 18 reached 59.8%, and 78.2% among those aged 17 to 18, with 5.2% diagnosed with alcohol abuse, indicating that there are still gaps in prevention and control [4].

There are significant differences in alcohol consumption among American adolescents: suburban areas have higher drinking rates than urban areas, and rural areas face more serious issues with binge drinking; the proportion of males who drink and binge drink is higher than that of females, but female drinking is on the rise; white adolescents have higher drinking rates, and those of Mexican descent along the US-Mexico border have a higher risk of alcohol dependence, making them a key high-risk group [4, 12]. The influencing factors are the result of the combined effects of individual, family and social factors. At the individual level, depressive mood is the core risk factor, and increased severity of depression can significantly raise the risk of drinking [12]; at the family level, ACEs significantly increase the risk of drinking and alcohol abuse in women, while positive childhood experiences(PCEs) act as protective factors [13]; at the social level, exposure to alcohol-related media and advertising can greatly increase the risk of adolescents starting to drink, with the level of exposure positively associated with the risk [14].

2.2. Brazil

Alcohol use among Brazilian adolescents is characterised by high prevalence, early onset, and an increasing rate of female drinking, with alcohol consumption being strongly associated with violence and socio-economic disadvantage. Their rates of drinking and binge drinking are well above the global average, early-onset drinking is common, with some adolescents starting before the age of 10, and it is significantly positively correlated with the risk of later alcohol abuse [2,6,8]. In terms of gender, the proportion of women drinking alcohol continues to rise, the gender gap is narrowing, and alcohol – psychological comorbidity is prominent, becoming a new challenge for adolescent alcohol prevention and control [7].

Teenage drinking in Brazil is concentrated in low-income communities, rural areas and favelas, where alcohol is highly accessible and violence is frequent, creating a vicious cycle between the environment and drinking behaviour [7, 15, 16]. The influencing factors involve multiple levels including individual, family, society and policy culture: at the individual and family level, early exposure to alcohol and ACEs significantly increase the risk of alcohol abuse [6, 17]; at the social level, economic disadvantage, exposure to violence and adverse life experiences are core social triggers [15,18]; at the policy and cultural level, lax alcohol control, high accessibility, the proliferation of advertising and promotions, and a relatively high social tolerance for adolescent drinking all contribute to the worsening of the problem [8,19].

The harms of alcohol consumption among Brazilian adolescents are characterised by high lethality and high comorbidity: alcohol is closely associated with violent death and accidental injury, being an important cause of unnatural death among adolescents, while also increasing the risks of depression, anxiety and suicide [7,16,17]; alcohol consumption is associated with crime, school dropouts and community violence, seriously affecting social stability and long-term development [7,11].

3. A Transnational Critical Comparison of Alcohol Use among Adolescents in the United States and Brazil

The United States and Brazil are a developed country and a middle-income country respectively, and adolescent alcohol use in both nations exhibits both commonalities and differences in prevalence, motivations, harms and policy frameworks. The following conducts a critical comparison from four dimensions: prevalence, influencing factors, harms and policy systems, providing a basis for optimizing prevention and control strategies in countries at different developmental levels.

3.1. Critical Comparison of Current Trends

The rate of alcohol consumption and binge drinking among American adolescents continues to decline, and the drinking age is rising, owing to a strict and comprehensive policy system and efficient implementation. However, border areas and groups with mental health issues remain weak points in prevention and control, with localised risks being prominent [2,5]. In Brazil, the rate of adolescent drinking remains high and the onset age is low, mainly due to an incomplete policy system, poor enforcement, and social and economic inequalities [6,8,15].

The differences in high-risk groups between the two countries stem from the nature of risk factors: high-risk groups in the United States are centred on ethnicity and psychological issues, focusing on border integration areas and populations with poor mental health, driven by ethnic culture, cross-cultural adaptation and differences in policy implementation regions [20,21]; high-risk groups in Brazil are defined by socio-economic vulnerability, concentrating on low-income, rural and slum youth, strongly associated with developmental imbalance, high alcohol accessibility and violent environments [7,15,18].

3.2. Comparison of Influencing Factors

Mental health issues and ACEs are important individual and family factors that trigger alcohol consumption among adolescents in both countries. Both countries exhibit significant gender differences, with a higher proportion of males drinking and psychological triggers for drinking being more prominent in females, with a notable comorbidity of alcohol and psychological problems [7,13]. Therefore, prevention and control efforts in both countries need to prioritize early psychological intervention and ACEs remediation to reduce drinking risks at the individual and family levels [12,13,17,21].

Differences are reflected in various aspects. Socioeconomic status has different effects on adolescent drinking in the two countries, with a weaker association in the United States, while low income is an important risk factor in Brazil [5,15,18]. In terms of alcohol control policies, the United States has strict and well-enforced regulations, whereas Brazil's policy system is not well-established and lacks uniform standards [3, 8, 14]. Alcohol accessibility is relatively low in the United States, whereas access channels are more relaxed and availability is high in Brazil, increasing the risk of drinking [3,8,19]. Cultural atmosphere also differs, with the United States having low tolerance for adolescent drinking and strong preventive awareness, while Brazilian society shows higher tolerance, exacerbating drinking problems [3,8].

3.3. Critical Comparison of Harmful Effects

In terms of health hazards, alcohol consumption among American adolescents mainly leads to chronic and psychological issues, such as alcohol dependence, academic and adjustment problems, while the incidence of acute injuries is relatively low due to strict controls reducing excessive drinking and risky behaviours [3,4,22]. In contrast, alcohol-related harms among Brazilian adolescents are primarily acute and fatal, directly linked to violent deaths and accidental injuries, making it a significant factor in unnatural adolescent mortality, closely related to high alcohol accessibility, prominent violent environments, and lack of policy restrictions [7,16]. In terms of social consequences, the effects of alcohol consumption among American adolescents are mainly concentrated on individual behavioural issues, such as aggressive behaviour and substance abuse, with a lesser impact on social violence and crime, due to a well-developed social and judicial governance system [3–5]. Adolescent alcohol consumption in Brazil is highly associated with social violence and crime, exacerbating community violence and leading to problems such as school dropout and unemployment, rooted in weak

grassroots governance and an imperfect social system [7,11].

3.4. Comparison of Policy Systems

The US prevention and control policy system is mature, establishing a complete framework of basic policies, precise interventions, and evaluation optimisation. It has strict age restrictions, advertising supervision, and sales control, allowing for targeted interventions for high-risk groups, and relying on systematic evaluation to achieve dynamic policy optimisation [3, 5, 14, 23]. However, policy adaptation across regions is inadequate, with uneven intervention coverage for high-risk groups in rural and border areas, and supervision of alcohol advertising in digital media is lagging behind [5,20,24]. Brazil's prevention and control system has issues such as being incomplete and weak in implementation, lacking nationally unified strict regulatory policies, with weak supervision of alcohol advertising and access channels, and some areas lacking basic regulatory standards [8, 19]. Policy evaluation and monitoring systems are missing, relevant data is incomplete, making it impossible to support effectiveness assessment and policy optimisation. Interdepartmental collaboration is lacking, making it difficult to form a combined preventive effort, and some policies are copied from other countries, making local implementation difficult [8, 25]. In addition, weak grassroots governance capacity and insufficient financial investment reduce the effectiveness of policy implementation [15,18].

4. Insights and Targeted Intervention Measures for Alcohol Prevention among Adolescents in Countries with Different Development Levels

Based on a cross-national comparison between the US and Brazil, and taking into account the differences in economic endowments, governance capacity and resources between countries at different levels of development, constructing a differentiated and feasible adolescent alcohol prevention system is the core pathway to enhance prevention effectiveness. The following section provides targeted intervention strategies for the prevention issues in developed and less developed countries, offering practical references for the global prevention of alcohol-related harm among adolescents.

4.1. Lessons and Interventions for Underdeveloped Countries (Represented by Brazil)

The core issues in prevention and control in underdeveloped countries are incomplete policy systems, high alcohol accessibility, lack of grassroots resources, and weak social awareness. Prevention and control should adhere to the principles of low cost, strong foundation, and wide inclusivity, focusing on rigid policy constraints and early prevention, while relying on public welfare organisations and grassroots forces to fill gaps in professional services.

4.1.1. Public Welfare Psychology and Primary Healthcare Collaborative Intervention

Joint charitable organisations and community volunteers provide group psychological counselling for adolescents with ACEs and emotional issues, with a focus on comorbidity of alcohol use and psychological problems among female adolescents. Simple alcohol screening for adolescents should be incorporated into free primary health check-ups, accompanied by harm education, and charitable medical teams should offer basic support for alcohol dependence.

4.1.2. Localised Mission Work and Environmental Risk Prevention

Use low-cost channels such as broadcasts and short videos to raise awareness of the dangers of alcohol and strengthen knowledge of the harm caused by underage drinking. In high-risk areas such as low-income communities, rely on non-profit organisations to carry out environmental improvements and violence prevention in order to reduce exposure to alcohol -related risk factors.

4.1.3. Rigid Policy Control and Multi-Faceted Collaborative Prevention

Establish a nationwide unified alcohol control policy, strictly enforce the legal drinking age and retail

regulations, increase penalties for selling alcohol to minors, and raise alcohol taxes to reduce accessibility. Build a collaborative system involving families, schools, communities, and public welfare organisations, provide parent training and regular school education, with all efforts coordinated by the government.

4.2. Implications and Interventions for Developed Countries (Represented by United States)

The core issues in epidemic prevention and control in developed countries lie in insufficient policy adaptation across regions, uneven intervention for high-risk groups, lagging regulation of new media, and inadequate precision in prevention and control. Based on mature policies, efforts should focus on precision, inclusiveness, and intelligence, addressing weaknesses in resource allocation, and enhancing prevention and control effectiveness.

4.2.1. Customised Psychology and Stratified Medical Interventions

For marginal high-risk groups such as border ethnic communities and rural youth, a localised, multilingual psychological intervention system that integrates ethnic culture and regional living habits should be established. This system should: compile popular science manuals in ethnic languages, recruit local ethnic mental health workers, set up a platform linking online consultation with offline community service stations, establish fixed service points in towns and border villages, and launch multilingual hotlines and apps to address gaps in psychological services in remote areas. Focused interventions should be provided for female adolescents and groups with a family history of alcohol dependence, offering dedicated courses, emotional management, self-protection, risk avoidance guidance and establishing psychological records. A comprehensive alcohol screening mechanism in schools, communities, and medical institutions should be developed, with standardised risk grading assessments and precise classified management implemented. A joint team of psychiatrists, psychotherapists, social workers, and rehabilitation specialists should be formed to provide one-to-one behavioural correction, addiction treatment, psychological counselling, and long-term follow-up for medium- and high-risk adolescents, with intervention treatment costs covered by health insurance and reimbursement processes simplified.

4.2.2. Tax Regulation and Intelligent Media Supervision

Implement differentiated and graded regulation of alcohol consumption tax, setting tax rates according to alcohol content, type and channel, significantly increasing the tax burden on highly addictive and easily accessible alcoholic beverages such as high-strength baijiu, fruit wine and cheap mixed drinks, while moderately reducing taxes on low-alcohol or non-alcoholic drinks; allocate all tax revenue for specific purposes, establish a special fund and strictly supervise it, using it for youth alcohol prevention, science popularisation, psychological intervention, clinical treatment and the construction of grassroots service platforms. Improve the alcohol advertising regulation system across all platforms, clearly defining prohibited advertising areas for short videos, live streaming, social media, and TV dramas, and strictly forbidding covert product placement and soft advertising aimed at young people. Additionally, use AI to build an intelligent screening system that achieves 24-h real-time monitoring and rapid handling of non-compliant content. Incorporate media literacy education into the regular curriculum of primary and secondary schools, develop specialised textbooks, and use case-based teaching and scenario simulation to enhance young people's ability to discern advertisements and resist drinking.

5. Conclusions

This study offers a critical comparison of adolescent alcohol use in the United States and Brazil, revealing significant differences in drinking problems that are closely related to socio-economic conditions, control policies, governance capacity, and cultural perceptions. Alcohol consumption rates in the United States continue to decline, with mature and effectively enforced policies; the harms are mainly chronic psychological and behavioural issues, but there are shortcomings such as one-size-fits-all policies, insufficient intervention for high-risk groups, and lagging new media regulation. In Brazil, alcohol consumption is high and occurring at a

younger age, with an increasing proportion of female drinkers; policies are imperfect, enforcement is weak, alcohol is readily accessible, and the harms are mainly acute and potentially fatal, forming a vicious cycle in disadvantaged environments, while insufficient local adaptation affects prevention outcomes. Commonalities between the two countries include psychological health problems and adverse childhood experiences (ACEs) as key triggers, along with marked gender differences, with psychological motivations for drinking being more pronounced among females.

This study breaks existing limitations, systematically analysing the policy challenges and adaptability of countries at different development levels, enriching cross-national comparative research, and proposing differentiated intervention strategies. Less developed countries should strengthen early prevention, improve regulatory policies, target vulnerable populations more precisely, and promote multi-party collaboration and localisation; developed countries need to focus on high-risk groups, improve policy evaluation, enhance refined and inclusive prevention and control, and strengthen digital media supervision. The results can provide theoretical and empirical references for countries at different development levels worldwide.

This study has limitations, primarily because it relies on literature data and lacks field investigations and empirical assessments. Future research could conduct cross-national field studies to obtain first-hand data, quantify the effectiveness of prevention and control, expand the sample size, and explore general principles and differentiated prevention and control paths in depth.

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