

## The brazilian elderly population and alcohol consumption: An integrative review

A população idosa brasileira e o consumo de Álcool: Uma revisão integrativa

La población anciana brasileña y el consumo de alcohol: Una revisión integradora

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### Abstract

The demographic shift in Brazil, marked by a growing elderly population, has brought about increased attention to the health outcomes of older adults. Alcohol consumption is an associated risk factor. Although traditionally more prevalent in younger age groups, recent studies have revealed an upward trend in alcohol consumption among the elderly, representing an emerging public health concern. However, studies focusing on the elderly are limited, as the majority of investigations have concentrated on younger age groups. This integrative review was conducted to analyze existing research on patterns of alcohol use among elderly individuals in Brazil, highlighting the strong associations between alcohol use in older adults and variables such as sex, ethnicity, age, education, socioeconomic status, health status, and tobacco use. National data indicate an increase in alcohol use among older adults, but there are still barriers to fully analyzing the current patterns. Furthermore, the review found no consistent evidence connecting alcohol intake with chronic diseases or oral health complications in the elderly population. Nevertheless, evidence suggests an association with declining physical performance. No study has addressed the psychological impact of alcohol consumption on the elderly.

**Keywords:** Alcohol Consumption; Elderly; Brazil; Public Health; Aging.

### Resumo

O Brasil atravessa um processo de transição demográfica, com o aumento da população idosa, o que intensifica as preocupações relacionadas à saúde desse grupo. Entre os fatores de risco associados, o consumo de álcool se destaca. Embora o consumo de álcool seja mais frequente entre os jovens, pesquisas recentes apontam um crescimento dessa prática entre os idosos, configurando um desafio para a saúde pública. Entretanto, ainda existe escassez de estudos com foco nos mais velhos, já que a maioria das pesquisas contempla populações mais jovens. Este estudo teve como propósito a realização de uma revisão integrativa da literatura disponível sobre o consumo de álcool entre a população idosa no Brasil. A análise dos estudos selecionados evidencia que variáveis sociodemográficas como gênero, raça, idade, nível socioeconômico, escolaridade, condições de saúde e tabagismo se relacionam ao consumo de álcool nesse grupo. Dados nacionais indicam um aumento do consumo de álcool, mas ainda há limitações para avaliar de forma detalhada o padrão atual. Além disso, não se observou uma relação constante entre o consumo de álcool e a prevalência de doenças crônicas não transmissíveis ou problemas de saúde bucal. Por outro lado, houve evidências de conexão com a queda de desempenho físico. Nenhuma publicação analisou os impactos psicológicos do consumo de álcool em idosos.

**Palavras-chave:** Consumo de Álcool; Idosos; Brasil; Saúde Pública; Envelhecimento.

### Resumen

Brasil atraviesa una transición demográfica con un aumento en la población de adultos mayores, lo cual eleva la preocupación por su estado de salud. Entre los factores de riesgo asociados con estos impactos, destaca el consumo de alcohol. Aunque este consumo sea más frecuente entre los jóvenes, estudios recientes indican un incremento en los adultos mayores, planteando un desafío de salud pública. Sin embargo, existe escasez de investigaciones focalizadas en

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los ancianos, ya que la mayoría de los trabajos aborda grupos más jóvenes. Este estudio buscó realizar una revisión integradora de la literatura disponible acerca del consumo de alcohol entre la población anciana en Brasil. El análisis de los estudios seleccionados muestra que factores sociodemográficos como género, raza, edad, nivel socioeconómico, escolaridad, estado de salud y tabaquismo se asocian con la ingesta de alcohol en este grupo. Los datos nacionales señalan un incremento en el consumo de alcohol, pero persisten dificultades para analizar detalladamente su patrón actual. Además, no se halló una conexión sólida entre el consumo de alcohol y la prevalencia de enfermedades crónicas no transmisibles o problemas de salud bucal. No obstante, se identificó una posible asociación con el deterioro en el desempeño físico. Ninguna publicación abordó el impacto psicológico del consumo de alcohol en esta franja etaria.

**Palabras clave:** Consumo de Alcohol; Adultos Mayores; Brasil; Salud Pública; Envejecimiento.

## 1. Introduction

Over the last few decades, Brazil has undergone demographic transformations similar to those observed in other countries worldwide, with a significant increase in the number of older adults (Veras, 2009). It is estimated that the global population aged  $\geq 65$  years may grow from 9.3% in 2020 to 16% in 2050 (UM-DESA, 2020). In Brazil, data from the Continuous National Household Sample Survey (Pnad Contínua) conducted by the Brazilian Institute of Geography and Statistics (IBGE) indicate that seniors currently account for 14.7% of the country's total population. According to the World Health Organization (WHO), in developing nations, individuals over the age of 60 are considered older adults (IBGE, 2022).

In this context, public health priorities have shifted toward the increasing prevalence of chronic and degenerative conditions (Ministry of Health, 2012), which are significantly linked to preventable risk factors, such as alcohol consumption (Ministry of Health, 2023).

The World Health Organization classifies alcoholism as a chronic disease that requires medical attention and policy intervention (WHO, 2020); (Guidolin et al., 2016). The United Nations recognizes alcohol consumption as a harmful factor that could jeopardize the achievement of Sustainable Development Goals by 2030 (WHO, 2020). Excessive alcohol intake is known to increase mortality rates and contribute to various illnesses, notably chronic noncommunicable diseases (NCDs) (Chiva-Blanch et al., 2013; Jayasekara et al., 2014). The World Health Organization (2014) has reported that alcohol consumption is responsible for nearly 6% of all deaths worldwide, highlighting its role as a major global health risk.. The Global Burden of Disease Study (GBD, 2017) estimated that in 2012, alcohol consumption was linked to more than 300,000 deaths in the Americas. Approximately 6.2% of all fatalities in Brazil are related to alcohol consumption (GBD, 2017).

In 2010, the estimated per capita consumption of alcohol for Brazilians over the age of 15 was approximately 8.7 liters, surpassing the global average of 6.2 liters (WHO, 2014). The National Alcohol and Drug Survey (LENAD) reported that by 2012, 67% of Brazilians had consumed alcohol at least once and 46.3% had done so in the week preceding the survey (Laranjeira, 2014). These figures suggest that alcohol is the most widely consumed psychoactive substance in the country. Moreover, WHO findings indicate that global alcohol use has steadily risen since 2005, moving from 5.5 liters per capita to 6.4 liters in 2016, with a projection of reaching 7 liters by 2025 (WHO, 2018).

Although alcohol use has traditionally been more prevalent among younger adults, recent studies have suggested an uptick among older individuals (Diniz et al., 2017). The psychologist and researcher Keith Humphreys underlined that “there are groups whose substance and alcohol consumption habits persist throughout life. [...] [Older boomers] continue to use far more substances than their parents did, and the field was not prepared for this” (Span, 2023). Age-related physiological changes, coupled with social and emotional vulnerabilities, such as isolation or loss of autonomy, may contribute to increased alcohol use in the elderly population (Marques, 2021).

This phenomenon has substantial public health implications, as the adverse effects of alcohol may be intensified in older age groups owing to changes in body composition and metabolism, higher incidence of comorbidities, and the likelihood of polypharmacy (Qato et al., 2015).

One of the main challenges faced by researchers in this domain is the scarcity of information on alcohol use, particularly among older adults. Most investigations have targeted younger populations, aiming to promote early cessation. Consequently, it has become more complex to devise interventions tailored to the aging population (Guidolin et al., 2016).

Considering these considerations, *this study conducted* an integrative review of the available literature on alcohol consumption among older adults in Brazil, seeking to outline *patterns of use* and principal consequences relevant to public health.

## 2. Methodology

A quantitative study was conducted with regard to the number of articles selected, along with a qualitative approach involving a discussion of those articles (Pereira et al., 2018). This review was structured based on the Evidence-Based Practice (EBP) framework, utilizing the checklist criteria proposed by Reis et al. (2015). The research was structured in the following phases:

1. Formulation of the guiding question
2. Data collection
3. Data evaluation
4. Analysis and interpretation of data
5. Synthesis of results

### 2.1 Formulation of the Guiding Question

The research question was developed using the PICO model, which includes elements of population, intervention, comparison, and outcome, as follows:

- P (Population): Elderly population in Brazil
- I (Intervention): Assessment of alcohol consumption over the past 10 years
- C (Comparison): Older Brazilians who drink alcohol vs. those who do not
- (Outcome): Identifying alcohol consumption patterns among the elderly in Brazil over the last decade and their consequences

Based on these elements, the guiding question is formulated as follows.

“What are the patterns of alcohol consumption among older adults in Brazil and what are their consequences?”

### 2.2 Search Strategy

Data collection involved selecting literature published between 2014 and 2024 and written in English, Portuguese, or Spanish. The following databases were used.

- PubMed
- Virtual Health Library (BVS – Biblioteca Virtual em Saúde)

DeCS/MeSH descriptors (validated through the BVS platform) were employed with Boolean operators (“AND” and “OR”). The main search terms were as follows:

- Portuguese: “consumo de álcool” AND “idosos” AND “Brasil”
- English: “alcohol consumption” AND “older adults” AND “Brazil”
- English: “alcohol consumption” AND “elderly” AND “Brazil”

Filters were subsequently applied using combinations, such as

- (alcohol consumption) AND (older adults) AND (Brazil)

- (alcohol consumption) AND (elderly) AND (Brazil)

## 2.3 Inclusion and Exclusion Criteria

The inclusion criteria for selecting the articles were as follows:

- Publication within the last 10 years (2014–2024)
- Full-text availability in English, Spanish, or Portuguese
- Focus specifically on alcohol consumption among older adults in Brazil

The exclusion criteria were as follows.

- Articles not available in Portuguese, English, or Spanish
- Duplicate publications
- Studies requiring paid access
- Articles not addressing alcohol use among the elderly in a clear manner

Articles that did not fully meet the above criteria were included for contextualization, enhancing the discussion with broader insights.

## 2.4 Study Selection Process

The initial database search yielded 1,359 results. Following the application of filters and removal of duplicates, 64 studies were retained for further screening (corrected from the previous 67 studies, in line with the reviewers' comments). Full-text reading prompted further exclusions (see Table 1), leaving 34 articles that were directly aligned with the research objective. Additionally, 37 articles were included in the context, with a total of 71 sources. The final set encompasses peer-reviewed journal articles and postgraduate theses.

**Table 1 - Excluded Articles After Full-Text Reading.**

Title	Authors	Publication Year	Reason for Exclusion
A comparison of alcohol and drug use by random motor vehicle drivers in Brazil and Norway	H. Gjerde and collaborators	2014	This study does not correlate the main variables with age.
Alcohol and tobacco use and the diseases treated in general practice	M. F. Almeida and collaborators	2017	This paper does not differentiate age groups when it discusses alcohol consumption.
Alcohol consumption and the risk of cancer in Brazil: A study involving 203,506 cancer patients	R. F. Menezes and collaborators	2015	This document does not differentiate age groups regarding alcohol consumption.
Alcohol Consumption Influences Clinical Outcome in Patients Admitted to a Referral Center for Liver Disease	G. R. Suyan and collaborators	2018	This study does not differentiate age groups with respect to alcohol consumption.
Alcohol dependence in gastroenterology outpatients in a public hospital	M. A. Pranke and G. P. Coral	2017	Does not analyze alcohol consumption with reference to specific age groups.
Alcohol use patterns and disorders among individuals with personality disorders in the São Paulo Metropolitan Area	C. H. Chaim and collaborators	2021	Does not focus on older adults; does not differentiate the discussion by age group.

Alcoholic beverage consumption, changes in blood pressure, and incidence of hypertension in the Longitudinal Adult Health Study (ELSA-Brasil)	J. S. Coelho and collaborators	2021	Does not specifically differentiate older adults from younger ones.
Association between chronic diseases, multimorbidity, and insufficient physical activity among older adults in southern Brazil: a cross-sectional study	R. S. Gomes and collaborators	2020	Does not distinguish alcohol consumption in older people versus other age groups.
Association of alcohol consumption with coronary artery disease severity	P. Chagas and collaborators	2017	Does not correlate the primary variables with age.
Evaluation of depression and anxiety symptoms, alcohol consumption, and binge eating in older adults undergoing bariatric surgery: a 6-year follow-up	M. C. P. Fialho and collaborators	2021	Involves a highly particular population of older adults; not aligned with the scope of this review.
Brief interventions for older adults (BIO) delivered by non-specialist community health workers to reduce at-risk drinking in primary care: a study protocol for a randomized controlled trial	T. C. S. Paula and collaborators	2021	Assesses multiple variables without concentrating on alcohol consumption.
Alcohol consumption in Brazil: prevalence estimates – 2013 and 2019	M. G. Feias and collaborators	2023	Does not specify consumption in older adults separately.
Diseases and chronic health conditions, multimorbidity, and body mass index	J. S. L. Neto and collaborators	2016	Does not center on alcohol consumption stratified by age.
Drinking Patterns and Alcohol Use Disorders in São Paulo, Brazil: The Role of Neighborhood Social Deprivation and Socioeconomic Status	C. M. Silveira and collaborators	2014	Does not correlate these key variables with older individuals in a distinct manner.
Factors associated with frailty in older adults in the context of Primary Care	F. F. Q. Freitas	2018	Does not address the characteristics or consequences of alcohol consumption.
Health indicators in users of a Basic Health Unit in the city of Santarém, Pará, Brazil	N. J. F. Sales and collaborators	2021	Does not delineate different age groups for alcohol use.
Mortality in the Americas from 2013 to 2015 resulting from diseases, conditions, and injuries which are 100 percent alcohol-attributable	B. R. Chrystoja and collaborators	2021	Does not provide insight into older adults' alcohol consumption in Brazil.
Multidimensional profiles of lifestyle risk factors: application of the Grade of Membership method	I. F. S. Pereira and collaborators	2019	Does not isolate older adults when examining alcohol use.
Nutritional status, health risk behaviors, and eating habits are correlated with physical activity and exercise of Brazilian older hypertensive adults: a cross-sectional study	L. S. L. Silva and collaborators	2022	Places limited emphasis on alcohol consumption, diverging from this review's objective.
Patterns of Alcohol Consumption and Related Behaviors in Brazil: Evidence from the 2013 National Health Survey (PNS 2013)	J. Macinko and collaborators	2015	Contrasts alcohol consumption only between younger and older (55 to 64 years) cohorts.
Patterns of alcohol consumption in Brazilian adults	J. A. Plens and collaborators	2022	Does not specifically address older adults who drink alcohol.

Prevalence and Factors Associated with Driving Under the Influence of Alcohol in Brazil: An Analysis by Macroregion	R. A. Guimarães, O. L. M. Neto	2020	Does not include findings focused on older adults.
Prevalence of depressive and anxiety symptoms and their relationship with life-threatening events, tobacco dependence, and hazardous alcohol drinking: a population-based study in the Brazilian Amazon	G. M. B. Tiguman and collaborators	2022	Does not correlate alcohol consumption with older age.
Relationship between alcohol drinking and arterial hypertension in indigenous people of the Mura ethnicity, Brazil	A. A. Ferreira and collaborators	2017	Does not differentiate older adults from younger groups.
Sex differences in the association between alcohol intake and cognitive decline over four years in a middle-aged cohort: The Brazilian Longitudinal Study of Adult Health	L. Salvador and collaborators	2022	Focuses on middle-aged individuals, not distinctly on older populations.
Sleep, psychiatric, and socioeconomic factors associated with substance use in a large population sample: A cross-sectional study	V. D. Silva and collaborators	2021	Does not segment alcohol consumption by age group.
Social determinants, lifestyle, and diet quality: a population-based study from the 2015 Health Survey of São Paulo, Brazil	A. V. Mello and collaborators	2019	Does not establish correlations of alcohol consumption with age.
Strength and multimorbidity among community-dwelling elderly from southern Brazil	M. C. Montes and collaborators	2019	Does not differentiate alcohol use in older adults specifically.
Time trends in adult chronic disease inequalities by education in Brazil: 1998–2013	H. B. Sánchez; F. C. D. Andrade	2016	Does not examine alcohol consumption or its implications.
Timing and Type of Alcohol Consumption and the Metabolic Syndrome – ELSA-Brasil	B. A. Vieira and collaborators	2016	Does not distinctly analyze older adults.

Source: Prepared by the authors based on data analysis.

### 3. Results and Discussion

#### 3.1 Prevalence and Characteristics

Sociodemographic variables have consistently been linked to alcohol use behaviors, a pattern reflected across different populations and also evident among older Brazilians (Macinko et al., 2015). This relationship appears to hold in Brazil. A study analyzing the profile of legal and illegal drug use among older adults receiving care at the Psychosocial Care Center for Alcohol and Drugs, known as CAPS-AD, in the Federal District between 2000 and 2017, found that most elderly users of both legal and illegal drugs were married, had children, lived in permanent residences with their families, had low education levels (fewer than five years of schooling), and were retired. The most frequently used substance for both men and women is alcohol (95 percent among men and 83.3 percent among women) (Barbosa et al., 2022-a).

Findings from the ELSI-Brazil reinforce the observed gender disparity in alcohol use, showing that men consistently exhibit higher consumption levels than women across various patterns (Oliveira et al., 2023-a; Paula et al., 2021).

The Health, Well-being, and Aging Study, also called SABE, which was carried out in 2000, discovered that older adults with high alcohol intake were predominantly white males, had higher incomes, rated their own health more favorably, and

often used tobacco. In both men and women, having a higher education and being younger (under 75 years old) correlated with an increased likelihood of alcohol consumption (Wagner et al., 2014).

Paula et al. (2014) confirmed these sex differences and found that alcohol intake was lower among older adults who used a greater number of prescription medications. Similarly, Paula et al. (2023) identified that risky alcohol consumption was more common among younger male seniors with higher levels of education.

Findings from Brazil's 2013 National Health Survey (PNS), administered by the Brazilian Institute of Geography and Statistics, reinforce these differences between men and women, showing that the gender gap for alcohol consumption was notably larger among older adults than among younger people. Among men aged 65 years, the prevalence of alcohol use was 4.4 times higher than that among women of the same age, whereas in the 18-to-25-year-old group, men drank 1.9 times more than women (Machado et al., 2017).

Guidolin et al. (2016) observed that older men were 11.6 times more likely to consume alcohol than older women. Furthermore, cohabitation with a partner has been identified as a potential protective factor that may reduce the likelihood of alcohol use among older adults (Guidolin et al., 2016). Additional studies by Cruz et al. Barbosa et al (2017) (2018), Medeiros et al. (2019), Souza et al. (2016), and Thuany et al. (2022) confirmed that men consume more alcohol than women do in older adulthood.

One potential biological basis for lower levels of alcohol consumption among elderly women involves physiological differences between sexes. Women generally have a lower volume of body water, fewer digestive enzymes, and less muscle mass, which diminishes their capacity to metabolize alcohol. These differences may lead to more pronounced adverse effects of drinking, which could deter heavier consumption (Noronha et al., 2019).

Sociocultural aspects can also help explain this difference. Throughout history, women have often been subjected to stronger social stigmas regarding alcohol use, and sociocultural roles may influence their patterns of drinking (Paula et al., 2021). Additionally, several studies have suggested that older women often display more health-conscious behaviors than men do, which may partially explain their lower alcohol intake levels in late adulthood (Medeiros et al., 2019). Conversely, some researchers argue that social and cultural factors might discourage women from acknowledging heavy alcohol use, thereby leading to under-reporting (Guidolin et al., 2016).

Nonetheless, Luis et al. (2018) reported that women constituted a considerable portion of older adult drinkers (27 percent) in a study of older adults who used primary healthcare services in Ribeirão Preto, São Paulo. Another consistently observed pattern was the inverse relationship between advanced age and alcohol consumption. Potential explanations for this include premature mortality among heavy drinkers, naturally reduced tolerance over time, and the possibility of under-reporting among older individuals (Halme et al., 2010).

Studies have shown a positive relationship between higher education level and elevated alcohol consumption. Adults with more education tend to have higher incomes, which could facilitate increased social interaction opportunities, and consequently, more frequent drinking (Paula et al., 2021).

A further recurrent finding was the close connection between alcohol use and smoking. Barbosa et al. (2022-a) noted that many older individuals who used legal or illegal drugs combined alcohol and tobacco. Barbosa and Lacerda (2017) demonstrated that 3 percent of people concurrently used alcohol and tobacco. Francisco et al. (2019), Oliveira et al. (2023-a), Paula et al. (2021), and Souza et al. (2016) presented additional evidence that older adults frequently consume both alcohol and tobacco. This combination raises particular concerns, given the synergistic increase in health risks (Souza et al., 2016).

### 3.2 Increasing Alcohol Consumption Among Elderly Brazilians

According to the 2013 and 2019 National Health Surveys (PNS), the risk of alcohol use among elderly Brazilians increased markedly over the observation period, with a particularly notable increase among younger female seniors (Oliveira and Pinheiro, 2023). Data from the SABE study revealed that, between 2000 and 2016, approximately 17 percent of older men and 10.2 percent of older women increased their drinking. Among those whose intake remained stable, higher income and age were correlated with higher levels of consumption (Wagner et al., 2014).

We identified 33 articles for this review by applying the inclusion criteria described previously. This forms the main basis for examining alcohol consumption trends among older adults in Brazil. Table 2 provides a comprehensive outline of the selected studies, featuring their methodologies, sample sizes, and essential findings. Certain sociodemographic features are strongly aligned with the alcohol consumption patterns in a population.

**Table 2 - Included Articles After Full-Text Reading.**

Title	Authors	Year	Methodology	Sample	Key Findings
Alcohol consumption among older adults: Findings from the ELSI-Brazil study	T. C. S. Paula et al.	2021	Cross-sectional study using ELSI-Brazil data.	7,839 Brazilian adults over 50 years old.	Risky alcohol use was higher among older men, individuals with higher education, younger seniors, and people who smoked, and it was lower as the number of chronic conditions rose.
Alcohol consumption or dependence and resilience in older adults with high blood pressure	A. A. S. Dullius et al.	2018	Descriptive, cross-sectional, quantitative study.	300 older individuals with hypertension from Family Health Strategy Units in Minas Gerais.	Alcohol use and resilience impacted physical and mental health outcomes. Gender, age, smoking status, and duration of disease were linked to alcohol use or dependence.
Alcohol Use among Older Adults: SABE Cohort Study, São Paulo, Brazil	G. A. Wagner et al.	2014	Prospective longitudinal study using SABE data (2000 to 2006).	2,143 older residents of São Paulo.	Low alcohol use was detected, and the frequency of moderate consumption rose from 2000 to 2006.
An Assessment of Mortality among Elderly Brazilians from Alcohol Abuse Diseases: A Longitudinal Study from 1996 to 2019	J. S. P. Barbosa et al.	2022	Ecological study using Mortality System (SUS) data (1996 to 2019).	85,928 alcohol-induced deaths among older adults in Brazil.	The lowest number of deaths was noted in 1996, the highest in 2018, predominantly in men. Most deaths involved alcoholic liver disease and alcohol-induced mental disorders.
Analysis of the prevalence of cardiovascular diseases and associated factors in the elderly, 2000 to 2010	K. H. C. Massa et al.	2019	Analysis of SABE data (2000, 2006, and 2010).	2,143 (2000), 1,413 (2006), 1,333 (2010) older adults from São Paulo.	Older age, history of smoking, diabetes, and hypertension were related to cardiovascular diseases, whereas alcohol consumption had an inverse relationship.
Association between physical activity and alcohol consumption: sociodemographic and behavioral patterns in Brazilian adults	A. O. Werneck et al.	2018	Study using PNS (2013) data.	60,202 Brazilian adults.	Lower alcohol intake correlated with greater physical activity across young, middle-aged, and older adults.
Binge drinking and oral health-related quality of life in older adults: Socioeconomic position matters	L. M. Oliveira et al.	2023	Secondary cross-sectional analysis using ELSI-Brazil data (2015 to 2016).	8,857 older Brazilians.	Older adults who engaged in binge drinking and had low socioeconomic standing had lower oral health-related quality of life.

Changes in Physical Performance among Community-Dwelling Older Adults in Six Years	D. R. P. Gomes et al.	2023	Cohort study launched in 2014 and reassessed in 2019 to 2020.	476 older individuals in Pelotas, Rio Grande do Sul.	A general decline in physical function was observed over time among participants, with alcohol consumption emerging as a contributing factor (Gomes et al., 2023).. Alcohol consumption was one of the variables linked to this decline.
Excessive alcohol consumption in older patients with type 2 diabetes in primary health care: a cross-sectional study	R. E. M. Oliveira et al.	2023	Cross-sectional study from 2018.	338 older individuals with type 2 diabetes from Family Health Strategy Units in Ribeirão Preto, São Paulo.	Excessive drinking was higher among men, younger older adults, people in the middle class, those with low schooling, and those with multimorbidity. An inverse correlation appeared between this consumption and adherence to drug therapy.
Consumption of alcoholic and non-alcoholic beverages: ELSA-Brazil study	J. H. Siqueira et al.	2021	Cross-sectional study using ELSA-Brazil data (2008 to 2010).	14,224 civil servants aged 35 to 74 years.	Alcohol consumption was high, with beer being the most common drink. Younger participants consumed more beer, while older participants preferred wine or spirits. Beer and spirits were more consumed by people with lower educational levels, whereas wine was more common among better-educated individuals.
Consumption profile and factors associated with beer and spirits ingestion among older adults in Brazil: gender differences	J. G. S. Souza et al.	2016	Analytical cross-sectional study from 2008 to 2009.	500 older adults between 65 and 74 years of age in Montes Claros, Minas Gerais.	Beer consumption correlated with tobacco use in women and with marital status and schooling in men. Spirits and daily or weekly alcohol intake showed correlations with schooling and tobacco use in women, while age and tobacco use were relevant for men.
Do sociodemographic, behavioral, and health status variables affect longitudinal anthropometric changes in older adults? A population-based cohort in Southern Brazil	V. F. Goes et al.	2017	Population-based cohort from 2009 to 2010, reassessed in 2013 to 2014.	1,702 older participants from the EpiFloripa Elderly Study, Florianópolis, Santa Catarina.	Alcohol consumption was among the factors linked to higher body mass.
Drug Use among the Elderly Assisted by the Psychosocial Assistance Center in Federal District Brasília	J. S. P. Barbosa et al.	2022	Quantitative, analytical study using secondary data from CAPS-AD records in the Federal District (2000 to 2017).	408 medical records of older patients who used legal or illegal substances at CAPS-AD in the Federal District.	No significant differences appeared between men and women regarding multiple substance use. Alcohol was the most common substance, and adherence to treatment was very low.
Effect of chronic alcohol use on motor functions in older adults	J. K. F. Carvalho et al.	2021	—	31 older people with Alcohol Use Disorder and 29 older people with low-risk consumption in the state of São Paulo.	Alcohol abuse in older adults impaired walking and a variety of motor skills.

Evaluation of health parameters, drug use, and alcohol intake among an older population in São José dos Campos, São Paulo, Brazil	S. B. Paula et al.	2014	—	500 older residents in São José dos Campos, São Paulo.	Alcohol dependence was higher in younger seniors and lower among those who used more prescription medications.
Behavioral risk factors for chronic non-communicable diseases in adults and older adults in Ribeirão Preto, São Paulo	J. V. P. Marques et al.	2021	Quantitative, cross-sectional, observational study (2017 to 2018).	719 residents of Ribeirão Preto, São Paulo (535 adults and 184 older adults).	The most frequently reported factor was unhealthy diet. Harmful alcohol consumption was four times higher among adults than older adults, and concurrent risk factors were more prevalent among adults.
Sociodemographic, behavioral, and health factors associated with positive self-rated health among older adults over 80 in Florianópolis, Santa Catarina	R. R. Krung et al.	2018	Cross-sectional, population-based household study (2009 to 2010).	239 older adults over 80 from the EpiFloripa Elderly project in Florianópolis, Santa Catarina.	Positive self-rated health was more common among those without depression who consumed alcohol.
Indicators of functional disability and associated factors in the older population: A population-based study in Bagé, Rio Grande do Sul	J. D. Nunes et al.	2017	Population-based cross-sectional study (2008).	1,593 older residents of Bagé, Rio Grande do Sul.	Alcohol use was listed among the predictors for disability in basic and instrumental activities of daily living.
Late-life drinking and smoking in primary care users in Brazil	T. C. S. Paula et al.	2022	Cross-sectional study (2020).	53 older individuals at primary care units in São José dos Campos, São Paulo.	Risky drinking was more common among men with higher education.
Lifestyle factors and multimorbidity among older adults (ELSI-Brazil)	M. G. N. Almeida et al.	2020	Study using ELSI-Brazil (2015 to 2016).	7,318 older adults from Brazil.	No statistically meaningful link emerged between lifestyle factors and multimorbidity in women. In men, risky drinking was tied to lower multimorbidity, yet the presence of three or four negative lifestyle factors correlated with higher multimorbidity.
Changes in health behaviors among Brazilian older adults: An analysis of the 2013 and 2019 National Health Surveys	B. L. C. A. Oliveira, A. K. B. Pinheiro	2023	Cross-sectional study using data from the 2013 and 2019 PNS.	7,712 older adults in 2013 and 15,926 in 2019.	Overall improvements occurred in health behaviors over time, with men reporting a greater prevalence of excessive alcohol use. Women, however, showed a significant surge in such habits.
Patterns of alcohol consumption and associated factors among older Brazilians: National Health Survey (2013)	B. P. Noronha et al.	2019	Cross-sectional study using the 2013 PNS.	10,537 older Brazilians.	Alcohol use was higher among younger older adults, men, people with more education, smokers, and those who were physically active. Light or moderate consumption was lower among nonwhite individuals, those who had a stroke, and those with diabetes. Risky intake was lower among older individuals with cardiovascular diseases and higher in individuals with depression.
Patterns of alcohol use in a sample of older adults in Porto Alegre, Brazil	B. L. Guidolin et al.	2016	Cross-sectional with prospective data (2013).	557 older individuals in the Family Health Strategy program in Porto Alegre, Rio Grande do Sul.	Twelve percent had a history of alcoholism, 3.1 percent maintained this diagnosis, 9 percent reported past alcohol dependence, and 2.9 percent were ongoing alcohol abusers. Men consistently showed higher rates of use.

Epidemiological health profile of older rural men in a city in southern Brazil	D. N. Costa et al.	2022	Quantitative excerpt.	360 older men in the Family Health Strategy in a rural area in southern Brazil.	Smoking and alcohol consumption were identified in 17.8 percent and 50.6 percent, respectively. Hypertension was the most prevalent disorder, and 76.1 percent had undergone prostate screening in the past two years.
Perspectives on Movement and Eating Behaviors in Brazilian Older Adults: A Cluster Analysis Associated with Disease Outcomes	M. Thuany et al.	2022	Population-based cross-sectional study using Vigitel (2019).	23,327 older adults in all Brazilian capitals and the Federal District.	Two clusters emerged: “Television watchers without an unhealthy diet” and “Active with a healthy diet.” The first group had a higher probability of hypertension and diabetes. Age, education, and gender were also linked to such health conditions.
National Health Survey 2013: Relationship between alcohol use and sociodemographic factors by gender in Brazil	I. E. Machado et al.	2017	Cross-sectional using PNS (2013).	60,202 Brazilians over 18.	Alcohol use was higher in men, although there was some convergence in younger groups of single or divorced adults in urban areas.
Prevalence and co-occurrence of modifiable risk factors in adults and older adults	P. M. S. Bergamo et al.	2019	Population-based cross-sectional study from Vigitel (2015).	35,448 adults and 18,726 older adults across Brazil.	Men and older adults without private insurance and with fair or poor health had a higher likelihood of having two or more risk behaviors. Smoking and abusive alcohol use were frequent co-occurrences.
Prevalence and factors connected to Metabolic Syndrome in older National Health System users	E. C. Vieira et al.	2014	Cross-sectional (2009).	133 older primary care users in Goiânia, Goiás.	Hypertension was the most common syndrome element in both sexes, and only excess weight was significantly related to metabolic syndrome.
Prevalence and factors linked to alcohol and tobacco use in non-institutionalized older adults	M. B. Barbosa et al.	2018	Cross-sectional via household surveys (2014 to 2015).	40 older adults in Juiz de Fora, Minas Gerais.	Alcohol use was 26.7 percent, while 3.2 percent used both alcohol and tobacco. Male sex and frailty were associated with drinking.
Prevalence and simultaneity of cardiovascular risk factors in older participants of a population-based study in southern Brazil	P. A. Medeiros et al.	2019	Population-based, household cross-sectional (2009 to 2010).	1,705 older adults in the EpiFloripa Elderly project in Florianópolis, Santa Catarina.	The most frequent risk factor, in both sexes, was insufficient physical activity and low consumption of fruits and vegetables. Men were more likely to present multiple risk factors simultaneously.
Health-related quality of life in older residents of a high-vulnerability region in Belo Horizonte, Minas Gerais	L. V. Camelo et al.	2016	Cross-sectional cohort from 2007.	366 older adults enrolled in a health center in Belo Horizonte, Minas Gerais.	A higher number of chronic diseases and periods of bedridden status were tied to a lower health-related quality of life. Lack of schooling, dissatisfaction with personal relationships, and lack of assistance were linked to a lower mental component score. Non-white race, being out of work, not exercising, not drinking alcohol, and hospitalization in the prior 12 months correlated with a lower physical component score.

Simultaneity of risk factors for chronic non-communicable diseases among older residents of urban Pelotas, Rio Grande do Sul, Brazil	M. F. Cruz et al.	2017	Population-based cross-sectional (2013).	1,451 older residents in Pelotas, Rio Grande do Sul.	There was a high prevalence of two or more risk factors. The most typical pattern was physical inactivity plus overweight. Alcohol consumption plus overweight was also higher than expected.
Sociodemographic, lifestyle, and health indicators associated with alcohol consumption and related behaviors: A Brazilian population-based study	G. A. Sandoval	2020	Vigitel data (2017).	53,034 people older than 18 in all Brazilian capitals and the Federal District.	Younger and single or divorced adults who had lower awareness of health behaviors and more screen time, and who did not have diabetes, were at higher risk for problematic alcohol consumption.
The alcohol harm paradox and tooth loss among older Brazilian adults	L. M. Oliveira et al.	2023	Secondary analysis with ELSI-Brazil data (2015 to 2016).	8,078 Brazilians over 50.	Older adults with high alcohol consumption from lower-income households and with lower schooling had elevated tooth loss.

Source: Prepared by the authors based on data analysis.

### 3.3 Physical Health Impacts

#### 3.3.1 Mortality

Alcohol consumption is one of the top risk factors for mortality worldwide (Roswall & Weiderpass, 2015). In 2016, nearly three million deaths globally were associated with alcohol abuse (WHO, 2018). In the same year, Brazil recorded approximately 12.2 deaths per 100,000 people caused by alcohol (Gawryszewski & Monteiro, 2014).

Using data from the Mortality Information System (SIM) of the Unified Health System (SUS), Barbosa et al. (2022-b) estimated that between 1996 and 2019, 348,488 deaths were directly caused by alcohol-related conditions. Of these, 85,928 (24.7 percent) were older adults. The lowest number of fatalities in this period was observed in 1996, with 1,396 deaths, whereas the highest was in 2018, with 5,667 deaths.

Alcoholic liver disease represented the leading cause of alcohol-related mortality among elderly individuals in Brazil, followed by mental health disorders induced by alcohol use (Barbosa et al., 2022-b)

It is important to emphasize that the sections above suggest that alcohol consumption itself is most prevalent among younger seniors, men, whites, and married individuals, possibly explaining the higher mortality in these demographics. An exception is the schooling level. Although alcohol intake is reported to be higher among older adults with more education, mortality rates tend to be higher among those with less education.

This discrepancy aligns with the concept of the 'Alcohol Harm Paradox,' which suggests that individuals from lower socioeconomic backgrounds suffer greater harm from alcohol despite often consuming similar or lesser amounts (Probst et al., 2020). This paradox challenges the usual dose-response concept, which proposes that alcohol-related harm is strictly proportional to volume. Two primary theories have been posited regarding this paradox: the accumulation of multiple risk factors (e.g., inadequate nutrition and restricted healthcare access in low-income populations) and riskier patterns of drinking, such as binge drinking or the use of cheaper, higher-ethanol beverages (Boyd et al., 2021).

While research on this phenomenon in middle-income countries is scarce, the findings from Oliveira et al. (2023-a) provide evidence that the Alcohol Harm Paradox may also manifest in a country with significant social inequalities like Brazil.

#### 3.3.2 Chronic Non-Communicable Diseases (NCDs)

Chronic non-communicable diseases (NCDs) encompass long-term conditions that are non-infectious, typically develop

over a long latency period, and have a wide range of risk factors (Ministério da Saúde, 2008). NCDs are a major public health concern in Brazil and other countries (Marques et al. 2021).

In 2007, the mortality rate of NCDs in Brazil was 540 deaths per 100,000 people (Schmidt et al., 2011). In 2016, 41 million deaths worldwide were attributed to NCDs, including cardiovascular diseases, cancers, chronic respiratory diseases, and type 2 diabetes mellitus leading the list (WHO, 2018). The frequency of NCDs in older Brazilians is increasing (Ministério da Saúde, 2020). As individuals age, the probability of developing an NCD increases, making it more prominent in populations over 65 years of age (Malta et al., 2015).

According to the World Health Organization (WHO), the main behavioral risk factors for NCDs include smoking, excessive alcohol intake, physical inactivity, and unhealthy diets. Research indicates that older individuals who concurrently experience several risk factors, such as poor diet, substance use, and sedentary behavior, are more likely to develop conditions that negatively impact their overall well-being (Francisco et al., 2019).

Data from the EpiFloripa Elderly Study (2009–2010) indicated that 58 percent of the older adults had more than one major risk factor for NCDs (Medeiros et al., 2019). Similarly, Cruz et al. (2017) observed that 51 percent of older adults in Pelotas, Rio Grande do Sul, presented two or more risk factors. The most frequent combination was alcohol use and overweight. However, older individuals with physical inactivity are less likely to drink, possibly revealing a bidirectional link between these lifestyle habits (Cruz et al., 2017).

Notably, the 2013 National Health Survey showed a positive association between alcohol consumption and physical activity among older adults (Werneck et al., 2018). Thuany et al. (2022) found that physically active older adults had a slightly higher rate of binge drinking than sedentary individuals (6.5 percent versus 5.9 percent), suggesting that increased social interactions among active seniors might contribute to elevated drinking. Additionally, exercise may be used as a compensatory behavior to offset the unhealthy effects of alcohol (Werneck et al., 2018).

### 3.3.3 Physical Performance

Physical performance is a vital indicator of overall health in older adults and influences mobility, autonomy, and quality of life (Longobucco et al., 2022). Although aging naturally entails loss of physical capacity, excessive alcohol use can expedite this decline and exacerbate frailty (Gomes et al., 2023).

A 2016 study in Santos, São Paulo assessed how chronic alcohol use affects motor abilities in older adults. It was concluded that older adults who consumed alcohol had shorter distances in the six-minute walk test, signifying diminished cardiovascular capacity, and reported higher levels of shortness of breath. They also scored lower on a motor scale specific to older adults, suggesting a more significant impairment of balance and coordination (Carvalho et al., 2021).

Similarly, data from the Longitudinal Study of Older Adults' Health known as "COMO VAI?" (2014 to 2019 or 2020) in Pelotas, Rio Grande do Sul, identified that older adults who drank alcohol had a more pronounced decline in performance, as measured by the speed of walking and the Timed Up and Go test. These tests reflect functional mobility by measuring how long it takes for someone to stand up, walk three meters, return, and sit down (Gomes et al., 2023).

Such impairments are significant given that reduced gait speed and limited mobility are linked to an increased risk of falls, fractures, and nursing home placement in older populations (Longobucco et al., 2022). An investigation in 2008 in Bagé, Rio Grande do Sul, found that older adults who had consumed alcohol in the 30 days prior showed a higher prevalence of functional disability in activities of daily living (Nunes et al., 2017). The strong connection between a decline in physical functioning and alcohol use highlights the critical need for targeted strategies to curb alcohol use and sustain mobility and independence in older individuals.

### 3.3.4 Oral Health

Alcohol consumption correlates with a variety of oral health disorders, such as periodontitis, tooth decay, and dental trauma, all of which can cause tooth loss and hinder oral health (Oliveira et al., 2023-a; Oliveira et al., 2023-b). According to data from 2010, 22 million Brazilians were edentulous (lacking teeth), with an average age of 65 years and over missing 25 teeth (Ministério da Saúde 2012; Hugo et al. 2022).

Research suggests that binge drinking is particularly harmful to oral health due to a heightened risk of blackouts and accidents as well as emotional and psychological stress (Oliveira et al., 2023-b). However, an interesting point emerged from the ELSI-Brazil dataset (2015 to 2016), where older adults with higher levels of alcohol consumption showed a 10 percent lower incidence of functional tooth loss than nondrinkers (Oliveira et al., 2023-a). A closer examination indicated that among seniors from lower socioeconomic backgrounds who drank heavily, there was a higher rate of tooth loss and worse oral health-related quality of life (Oliveira et al., 2023-b).

These findings further confirm the alcohol-harm paradox (Boyd et al., 2021; Probst et al., 2020). Although financially privileged individuals may use alcohol more often, those from disadvantaged backgrounds experience more severe negative effects at the same or lower levels of consumption. This underscores the importance of targeted oral health interventions in older adults in vulnerable situations.

## 4. Conclusion

Despite limited research focusing specifically on older adults, the available evidence shows that alcohol consumption has been on the rise in this group. This pattern is a public health concern, considering that older individuals are more susceptible to harmful outcomes from alcohol consumption due to age-related changes, increased comorbidity, and factors such as polypharmacy.

Therefore, it is essential to develop targeted public health strategies that address the specific needs and vulnerabilities of older adults who consume alcohol. National-level data in Brazil suggest that older men aged 60 to 74 years, predominantly of white race, higher socioeconomic standing, higher education, those with a favorable self-health perception, and those who smoke exhibit higher rates of drinking. These findings can help shape preventive measures and shed light on structural influences.

While national studies indicate a growing trend of alcohol use among Brazilian seniors, inconsistencies in data collection methods—particularly reliance on self-reporting—make it difficult to fully characterize usage patterns.

Although there is no uniform consensus linking alcohol use to the prevalence of chronic noncommunicable diseases or diminished oral health, significant evidence links alcohol to declines in mobility, balance, and functional independence among older individuals, which can increase the risk of serious injuries and hospitalization.

In summary, this integrative review highlights the following aspects.

1. There is a need to strengthen public health policies that focus on older adults who consume alcohol, especially among specific groups that face socioeconomic or health vulnerabilities.
2. Further representative studies are required to explore different regions of Brazil, as most current research focuses on urban centers in the southern and southeastern parts of the country.
3. More investigations are needed into the psychological and pandemic-related aspects of alcohol use in older adults to address the gaps in the present body of literature.
4. Recognizing how the Alcohol Harm Paradox manifests in socially unequal contexts like Brazil is crucial for designing equitable interventions that reduce harm among the most vulnerable elderly populations.

By acknowledging these points, it is possible to design and implement more appropriate and inclusive strategies to manage alcohol use and to protect the health and autonomy of older adults in Brazil.

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