

Dissertation Training

at

InnovatioCuris Pvt. Ltd.

Socioeconomic and Regional Variations in Prevalence of Substance Use in India:

A narrative review

By

Dr. Soumya Singh

PG/22/128

Under the guidance of

Dr. Pijush Kanti Khan

PGDM (Hospital & Health Management)

2022-24



International Institute of Health Management Research

New Delhi

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New Delhi

The certificate is awarded to

Dr. Soumya Singh

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Socioeconomic and Regional Variations in Prevalence of Substance Use in India:

A Narrative review

Date- 20th February to 20th May, 2024

She comes across as a committed, sincere & diligent person who has

a strong drive & zeal for learning.

We wish her all the best for future endeavors.



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This is to certify that Dr. Soumya Singh, a graduate student of the PGDM (Hospital & Health Management) has worked under our guidance and supervision. She is submitting this dissertation titled “**Socioeconomic and Regional Variations in Prevalence of Substance Use in India: A Narrative review**” at “**InnovatioCuris Pvt. Ltd.**” in partial fulfillment of the requirements for the award of the PGDM (Hospital & Health Management). This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.



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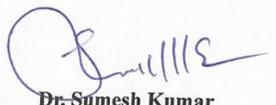
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I wish her success in all her future endeavors.



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Name of the Organization in Which Dissertation Has Been Completed: InnovatioCuris
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Use in India: A Narrative review

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Deliverables: Narrative review

Strengths: Hardworking, sincere, motivated

Suggestions for Improvement: None. Keep up the good work

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):



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Abstract

Substance use is a significant public health concern worldwide, with varying prevalence rates influenced by socioeconomic and regional disparities. In India, the patterns of substance use are shaped by diverse cultural, economic, and geographical factors. This narrative review aims to synthesize the existing literature on the prevalence and determinants of substance use in India, focusing on tobacco and alcohol consumption. The review highlights the significant influence of socioeconomic status, regional variations, and familial factors on substance use behaviors.

The study utilized the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to identify and analyze relevant studies. A total of 17 studies were selected, providing comprehensive insights into the patterns of substance use across different regions of India. Key findings include the high prevalence of tobacco use, particularly among disadvantaged socioeconomic groups and in rural areas, and the increasing trend of alcohol use starting from adolescence.

The review underscores the need for targeted interventions and policies that consider the complex interplay of socioeconomic, cultural, and geographic factors influencing substance use. Effective public health strategies should include educational and economic interventions, localized prevention programs, cultural norm changes, and robust policy measures to address the diverse needs of different population segments across India. By implementing these comprehensive strategies, it is possible to mitigate the impact of substance use and enhance the overall health and well-being of the population.

Table of Contents

SR NO	CONTENTS	PAGE NO
1	About Organization	13
2	Introduction	16
3	Rationale	18
4	Objective	18
5	Methodology	19
6	PRISMA Framework	20
7	Result	21
8	Discussion	28
9	Conclusion	30
10	References	31
11	Plagiarism Report	33

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About InnovatioCuris: InnovatioCuris (IC) is a pioneering organization in the healthcare sector, renowned for its integration of deep healthcare expertise with scientific rigor and global innovation models. The company leverages information technology to deliver high-quality healthcare services at optimal costs. IC collaborates with world-class academic institutions, government bodies, NGOs, and healthcare organizations worldwide to create a collaborative ecosystem aimed at piloting new interventions to improve healthcare delivery systems.

Mission and Vision: InnovatioCuris is dedicated to creating a conducive environment for exploring and sharing global healthcare ideas. The company focuses on identifying healthcare innovation needs, providing access to international markets through business delegations and matchmaking programs, and expanding community resources among members. Additionally, IC updates its members on healthcare and business issues through reports and interactive sessions with experts, and organizes various international conferences and seminars.

InnovatioCuris Foundation of Healthcare & Excellence (ICFHE): ICFHE is the not-for-profit arm of InnovatioCuris, focusing on social impact projects. Its mission includes supporting and engaging healthcare professionals in practice, research, leadership, and scholarship. ICFHE initiatives aim to improve healthcare delivery through innovative projects like the Young Innovator's Award, Experiments with Sugar, and the IC Nursing Innovator Forum.

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- **Experiments with Sugar:** A not-for-profit initiative aimed at providing low-cost preventive strategies for managing diabetes.
- **InnoBRIDGE:** An initiative to create high-level access for Indian healthcare stakeholders to foreign healthcare markets.
- **IC Nursing InnovatorFORUM:** The Forum is to support and engage nurses in areas of practice, research, leadership and scholarship. While creating an environment in which professional nurses can share knowledge and support the learning, empowerment and professional development and are committed to make a difference and improve the care of populations in the Indian community.

Leadership:

- **Dr. V K Singh:** Founder and Managing Director, with extensive experience in national and international healthcare assignments.
- **Sachin Gaur:** Co-Founder and Director of Operations, an innovator with a strong background in mobile security and cryptography.

Introduction

Substance use is a significant public health concern globally, with varying prevalence rates influenced by socioeconomic factors and regional disparities(1). In India, the patterns of substance use exhibit complex dynamics shaped by diverse cultural, economic, and geographical factors. Understanding the prevalence patterns and familial effects of substance use in India is crucial for developing targeted interventions and policies to address this issue effectively(1).

In India, the prevalence of tobacco use remains alarmingly high, with over 275 million individuals engaged in various forms of tobacco consumption, including smoking, smokeless tobacco, or both(2). This widespread use reflects a complex interplay of socio-economic, cultural, and geographic factors that contribute to the persistence of tobacco use despite ongoing anti-tobacco campaigns and health warnings(3). Similarly, alcohol use, which often begins in adolescence, is a growing concern(4). Limited research has been conducted on the initiation, progression, and impacts of alcohol use among Indian adolescents. However, existing evidence highlights a concerning trend of early onset and increasing prevalence, which has significant implications for both short-term and long-term health outcomes(5).

Research studies have highlighted the intricate relationship between socioeconomic status and substance use. Socioeconomic disparities play a pivotal role in shaping patterns of substance use, with lower socioeconomic groups often facing higher risks of substance abuse(6). Additionally, regional variations within India further contribute to the diversity of substance use prevalence rates, with different states and regions exhibiting unique patterns influenced by local customs, availability of substances, and cultural norms(7). Various

epidemiological surveys have provided insights into the patterns and prevalence of substance use across different regions of India(4). These studies reveal substantial variability in substance use practices, influenced by factors such as geography, cultural beliefs, and socio-economic status. For instance, tobacco use is notably prevalent in rural areas, and the patterns of use and dependence vary significantly across different states and communities. In Arunachal Pradesh, a study identified a high prevalence of alcohol use linked to cultural beliefs(6), while in Madhya Pradesh, a significant portion of the urban population reported current drug use(8).

Moreover, familial influences have been identified as significant determinants of substance use behavior. Studies have shown that familial factors, including parental substance use, family dynamics, and genetic predispositions, can significantly impact an individual's likelihood of engaging in substance use (9). Understanding these familial effects is essential for developing comprehensive prevention and intervention strategies that consider the role of family environments in shaping substance use behaviors (10).

Understanding the patterns, predictors, and socio-economic factors associated with tobacco and alcohol use in India is crucial for devising effective public health strategies (10). The diverse findings from various studies emphasize the importance of region-specific approaches and comprehensive policies to mitigate the health impacts of substance use and address the underlying socio-economic determinants (11).

Rationale

Substance use, including tobacco, alcohol, and various drugs, is a significant public health issue in India, with impacts varying across different socioeconomic groups and regions. Factors such as income, education, regional development, and cultural norms influence substance use patterns, resulting in diverse health outcomes and varying burdens on the healthcare system. Understanding these differences is crucial for developing effective public health strategies and interventions tailored to the needs of diverse communities. Despite numerous studies on substance use in India, there is no comprehensive review synthesizing findings across various regions and socioeconomic groups. This absence hampers policymakers and healthcare providers in creating targeted interventions, making it challenging to address the unique needs of different population segments across the country.

Objectives

- To analyze how socioeconomic factors such as income, education, and employment status influence the prevalence of substance use.
- To examine the regional differences in substance use prevalence across Indian states and rural-urban settings.
- To investigate the role of familial risk factors and cultural practices in shaping substance use behaviors.

Methodology

source of information & selection of eligible studies

The preferred reporting items for systematic reviews and meta-analysis (PRISMA) framework was used for reporting this review(12).

A search of PubMed – Medline, Web of Science and Wiley online Library was conducted of literature published till 15 May 2023.

Relevant studies that focused on tobacco use, alcohol use and other drugs use in India and its socioeconomic, regional variations and familial effect.

Key terms included “Substance use”, “tobacco use”, “alcohol use”, “drug use”, “Socioeconomic”, “income level”, “income disparities”, “regional”, “India”, “family influence” “familial affect”.

Study Identification and Selection

A total of 195 titles were retrieved, and after removing duplicates, 173 titles remained. After screening 123 articles removed as per title and abstract and full access article restriction. 50 articles remained for screening as per eligibility criteria and 17 were selected for this review.

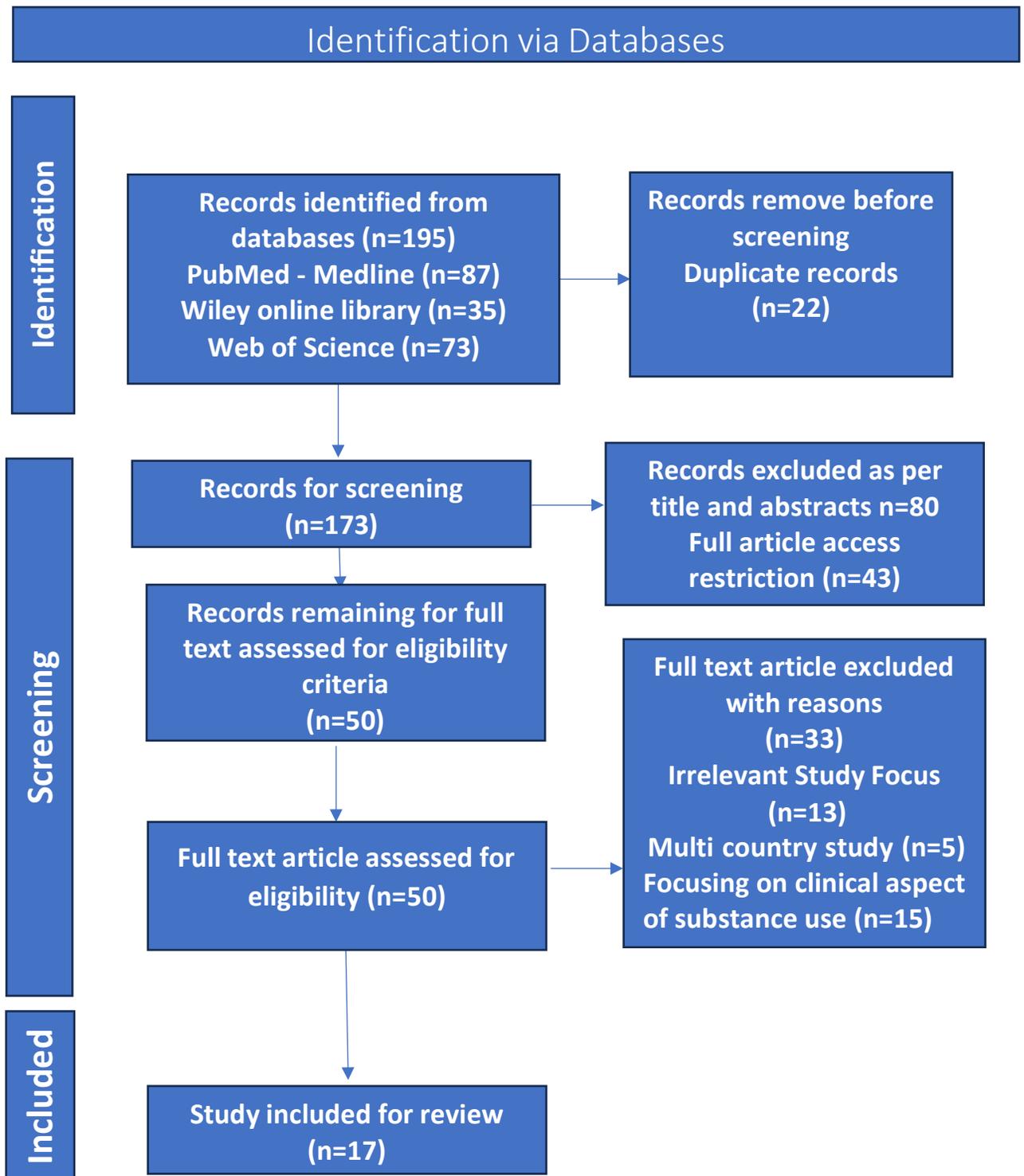


Figure 1. Preferred reporting items for systematic reviews and meta-analysis (PRISMA) diagram.

Result

All the 17 study were selected for this review based in Indian population which was also one of the eligibility criteria and were focused on the usage of substances mostly tobacco and alcohol and the impacts of socioeconomic factor, regional factor and familial or cultural factor.

Table 1. Overview of Included studies

Authors	Article	Findings
Barik et al. (2016)	Socio-economic Disparities in Tobacco Consumption in Rural India: Evidence from a health and demographic surveillance system (2)	Tobacco Use: 70% of men and 30% of women were current tobacco users. Smokeless Tobacco: Higher among women (26%) than men (22%). Bidi Use: Significantly higher among men (10 times more). Education and Income: Lower education and income levels were associated with higher tobacco use. Occupation: Higher tobacco uses among unemployed individuals and manual laborers.
Nadkarni A et al. (2022)	Alcohol Use Among Adolescents in India: a systematic review (5)	Prevalence: Ranged from 3.9% in school students to 69.8% in medical students. Gender Differences: Ever use in females ranged from 6.5% to 52%, and in males from 9.79% to 47%.

Table 1. continued

Authors	Article	Findings
		<p>Rural vs. Urban: Rural areas showed lower prevalence (7.37% to 20%) compared to urban areas (5.23% to 23.08%).</p>
<p>Saikia et al. (2019)</p>	<p>Socioeconomic correlates of substance use among male adults in Northeast India(13)</p>	<p>Higher Prevalence: Substance use in Northeast India (70.83%) is significantly higher than the national average (50.37%).</p> <p>Alcohol Consumption: Higher in Northeast states (46.74%) compared to the national figure (29.51%).</p> <p>State Variations: Highest substance use in Mizoram, lowest in Sikkim.</p> <p>Education and Wealth: Substance use decreases with higher education and wealth.</p>
<p>Chaturvedi HK et al. (2004)</p>	<p>Sociocultural Diversity and Substance Use in Arunachal Pradesh(14)</p>	<p>Substance Use Prevalence: High prevalence, with significant variations by altitude, gender, and socio-demographic factors.</p> <p>Types of Substances: Tobacco (30.9%), alcohol (30%), and opium (4.8%).</p> <p>Altitude and Substance Use: Higher prevalence of different substances at varying altitudes.</p> <p>Education: Inverse relationship with substance use.</p>

Chavan BS et al. (2007)	Prevalence of Alcohol and Drug Dependence in Chandigarh(6,9)	<p>Overall Dependence: 6.88% of the population showed substance dependence.</p> <p>Primary Substance: Alcohol was the most common substance of dependence.</p> <p>Age of Onset: Earlier initiation in urban slums compared to rural areas.</p> <p>Impact: Significant health, family, marital, and occupational issues among substance users.</p>
Shah S et al. (2018)	Socioeconomic and Cultural Impact of Tobacco in India(3)	<p>Urban vs. Rural: Smoking tobacco is more common in urban areas, while smokeless tobacco is more prevalent in rural areas.</p> <p>Gender and Age: Smoking is more common among males and increases with age.</p> <p>Socioeconomic Status: Higher tobacco uses in disadvantaged groups.</p> <p>Cultural Practices: Cultural acceptance of practices like paan chewing contributes to high smokeless tobacco use.</p>
Parmar A et al. (2023)	Understanding the Epidemiology of Substance Use in India: A review of nationwide surveys(1)	<p>Tobacco Use Trends: Decrease over recent years, from 45% to 39% among men and from 7% to 4% among women.</p> <p>Alcohol Use Trends: Current prevalence at 14.6%, with higher rates among men.</p> <p>Cannabis and Opioid Use: Lower prevalence compared to tobacco and alcohol but significant in certain regions.</p>

Table 1. continued

Authors	Article	Findings
Pradhan et al. (2019)	Pattern and Predictors of Tobacco Use in India (NFHS 2015–2016)(7)	<p>Overall Prevalence: 11.6% of adults use tobacco.</p> <p>Gender Differences: Higher prevalence among males.</p> <p>Socioeconomic Factors: Higher use among lower education and income groups.</p> <p>Regional Variations: Highest use in the North-East region.</p>
Corsi et al. (2014)	Tobacco use, smoking quit rates, and socioeconomic patterning among men and women: a cross-sectional survey in rural Andhra Pradesh, India(15)	<p>Current Smoking: High prevalence among men (50.3%) compared to women (4.8%).</p> <p>Chewing Tobacco: Lower prevalence compared to smoking.</p> <p>Socioeconomic Factors: Higher smoking rates among lower education and income groups.</p> <p>Occupation: Higher prevalence among unemployed individuals and those in unskilled manual jobs.</p>
Thakur JS et al. (2015)	Widespread Inequalities in Smoking and Smokeless Tobacco Consumption Across Wealth Quintiles in India(11)	<p>Prevalence: Overall smoking prevalence at 13.9%, smokeless tobacco at 25.8%.</p> <p>Wealth Disparities: Significant differences in tobacco use across wealth quintiles, with higher use among poorer populations.</p> <p>Regional Variations: Notable differences in tobacco consumption across Indian states, with some states showing reverse trends.</p>

Authors	Article	Findings
Kumar K et al. (2018)	Prevalence and Socio-demographic Correlates of Alcohol Consumption: survey findings from Five States in India(16)	Overall Prevalence: 38.6% of the sample reported alcohol consumption. Gender Differences: Higher prevalence among men (56%) compared to women (9.6%). Socioeconomic Factors: Higher consumption among individuals with higher income and urban residents. Education: Inversely related to alcohol consumption
Boishali saikia et al. (2021)	Changing pattern of tobacco consumption and quitting behavior in Northeast India(17)	Prevalence Changes: <ul style="list-style-type: none"> • SLT use increased from 36.6% to 40.5%. • Any tobacco use increased from 44.1% to 49.5%. • Smoking declined from 19.3% to 16.9%.
Gupta PC et al. (2003)	Alcohol consumption among middle-aged and elderly men: a community study from western India(18)	Prevalence: 19.78% of men reported alcohol use. Age Distribution: Highest among 25-34 years age group. Occupation: Higher prevalence among laborers and government servants. Education: Higher prevalence among those with basic education
Hazirika et al. (2000)	Prevalence and Pattern of Substance Abuse at Bandardewa, Assam and Arunachal Pradesh(6)	Tobacco Use: 40.4% prevalence, higher among males. Alcohol Use: 36.5% prevalence, with higher use among illiterates. Other Substances: Limited use of other drugs like injecting substances.

Table 1 continued

Authors	Article	Findings
Ghulam R et al. (1996)	Epidemiological Study of Drug Abuse in Urban Population of Madhya Pradesh(8)	Prevalence: 387 per 1000 population had used drugs. Common Drugs: Tobacco, alcohol, painkillers, and cannabis. Sociodemographic Factors: Higher prevalence among males, younger age groups, and lower education levels. Reasons for Use: Social reasons, curiosity, and stress relief.
Jena R et al. (1996)	Drug Use in a Rural Community in Bihar(19)	Prevalence: 28.9% of individuals were current drug users. Common Drugs: Alcohol and cannabis. Demographic Distribution: Higher prevalence among younger age groups and males.
Rastogi A et al. (2022)	Alcohol consumption in India: a systematic review and modelling study for sub-national estimates of drinking patterns(20)	Prevalence: The highest current drinking prevalence among males was in Arunachal Pradesh (76.1%), Manipur (64.1%), and Sikkim (62.9%), and among females in Arunachal Pradesh (63.7%), Sikkim (50.9%), and Chhattisgarh (19.1%). The lowest prevalence for males was in Lakshadweep (6.4%), Jammu and Kashmir (14.5%), and Gujarat (21.2%), and for females in Delhi (1.3%), Uttarakhand (1.4%), and Lakshadweep (1.5%). Regional Variations and Influencing Factors: <ul style="list-style-type: none"> • North and South Regions: Northern states generally had lower prevalence rates, while southern states like Karnataka showed higher rates of alcohol use Northeast and Central Regions: The Northeast had higher current drinking rates, particularly in Arunachal Pradesh and Sikkim. Central states displayed mixed prevalence rates influenced by local factors.

		<ul style="list-style-type: none">• Socioeconomic and Cultural Factors: Alcohol prohibition and higher literacy rates correlated with lower current drinking prevalence, while higher prevalence was often associated with cultural acceptance and socioeconomic conditions that encouraged alcohol consumption.
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Discussion

The comprehensive analysis of substance use patterns in India reveals a multifaceted and complex landscape influenced by socio-economic, demographic, and regional factors. The data highlights significant disparities in the consumption of tobacco and alcohol, with clear patterns emerging based on gender, education, income, occupation, and geographical location.

Tobacco Use

Tobacco use, both smoking and smokeless, remains a pervasive issue across India, particularly among disadvantaged socio-economic groups. Studies such as Barik et al. and Thakur JS et al. illustrate that tobacco use is significantly higher among men compared to women, although smokeless tobacco is more prevalent among women in certain areas. The association of higher tobacco use with lower education and income levels, as reported by Barik et al., Pradhan et al., and Corsi et al., underscores the role of socio-economic status in influencing substance use behaviors. Additionally, cultural practices such as paan chewing contribute to the high prevalence of smokeless tobacco, particularly in rural areas (Shah S et al.).

Regional variations further complicate the tobacco use landscape. For instance, the Northeast region, as highlighted by Saikia et al. and Pradhan et al., shows alarmingly high rates of tobacco consumption, driven by socio-cultural factors and lower levels of education and wealth. This contrasts with the declining trends observed in other parts of the country (Parmar A et al.), indicating the need for targeted interventions in high-prevalence regions.

Alcohol Use

Alcohol consumption patterns also display significant regional and socio-economic disparities. Nadkarni A et al. and Kumar K et al. reveal that alcohol use among adolescents and adults varies widely, with higher prevalence rates observed in urban areas and among higher income groups. The gender disparity in alcohol consumption is evident, with men consistently showing higher rates of use compared to women. This is particularly pronounced in states like Arunachal Pradesh and Sikkim, where cultural acceptance of alcohol is higher (Rastogi A et al.).

The impact of socio-economic status on alcohol use is complex. While higher income and urban residence are associated with increased alcohol consumption (Kumar K et al.), there are also significant issues related to alcohol dependence among lower socio-economic groups, as evidenced by Chavan BS et al. The earlier initiation of alcohol use in urban slums compared to rural areas highlights the role of socio-environmental factors in shaping substance use behaviors.

Other Substances

The use of other substances, such as cannabis and opioids, while less prevalent than tobacco and alcohol, remains a concern in specific regions. Studies like Hazarika et al. and Chaturvedi HK et al. point to the significant variations in substance use within different states and altitudes, suggesting the influence of local socio-cultural and environmental factors.

Conclusion

In conclusion, addressing substance use in India necessitates a multifaceted approach tailored to the diverse socio-economic, cultural, and regional factors influencing consumption patterns. The data reveals significant gender disparities, with men exhibiting higher rates of tobacco and alcohol use, and highlights the association of lower education and income levels with increased substance use. Regional variations, particularly high prevalence in the Northeast and cultural acceptance in certain areas, further complicate the landscape. Effective public health strategies should include targeted educational and economic interventions, localized prevention programs, cultural norm changes, and robust policy measures such as stringent regulations, public awareness campaigns, and accessible treatment services. By implementing these comprehensive strategies, it is possible to mitigate the impact of substance use and enhance the overall health and well-being of the population.

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