



## IMPACT OF SOCIOECONOMIC STATUS ON ADOLESCENT POLYSUBSTANCE USE AND NUTRITIONAL DEMOGRAPHY IN DEVELOPING NATIONS LIKE INDIA

Chitra Paul <sup>1</sup>  & Prof. (Dr.) Ruby Sain <sup>2</sup>

### RESEARCH ARTICLE



#### Author Details:

<sup>1</sup> Ph.D. Scholar,  
Adamas University,  
Barasat, North 24 Parganas,  
West Bengal, India;

<sup>2</sup> Emeritus Professor,  
Department of Sociology,  
Adamas University, Barasat,  
North 24 Parganas,  
West Bengal, India

#### Corresponding Author:

Prof. (Dr.) Ruby Sain

#### DOI:

<https://doi.org/10.70096/tssr.260401034>

#### Abstract

In Developing Nations like India, teenage nutritional demographics and polysubstance use are significantly influenced by socioeconomic status (SES). This study investigates the ways in which adolescent health trajectories and risk behaviors are influenced by poverty, education, and household wealth, based on a synthesis of secondary data and a review of the literature. Empirical data indicates that among Indian adolescents, undernutrition—which manifests as stunting, thinness, and underweight—is substantially correlated with lower SES. According to a systematic analysis, the pooled prevalence of underweight and stunting is roughly 41% and 33%, respectively, with parental education and income being identified as important determinants. The poorest teenagers are disproportionately affected by thinness and stunting, according to regional assessments (such as those conducted in Uttar Pradesh and Bihar), with a significant percentage of socioeconomic inequality being explained by the wealth index. Even after adjusting for SES, these problems are made worse by poor nutritional diversification and poor cleanliness practices. Adolescents are also moving toward processed, high-energy foods at the same time, which highlights a change in nutrition, particularly among urban and higher-income groups. However, research indicates that about one-third of young people in India use alcohol, tobacco, cannabis, or other substances, making substance use among teenagers an extremely widespread problem. Polysubstance usage is frequently associated with lower socioeconomic class, masculine gender, family history, and peer pressure. Adolescents who are undernourished may also be more likely to start using drugs as a coping mechanism or as a result of environmental exposure due to these overlapping vulnerabilities, which include structural poverty, low levels of education, and societal norms. Substance abuse can also worsen nutritional health in a vicious circle. In conclusion, this study argues that SES is one of the underlying causes of the relationship between teenage nutrition and substance use. To address these problems, integrated policy initiatives are required: food programs must be developed in tandem with strategies for preventing substance abuse, especially for adolescents from low-income families. Holistic approaches, such as social protection, education, health promotion, and community engagement, are crucial for lowering the combined burden of polysubstance use and malnutrition in low- and middle-income countries like India.

**Keywords:** *Socioeconomic Status, Adolescent Nutrition, Stunting, Thinness, Polysubstance Use, India, Wealth Inequality*

#### Introduction

According to the World Health Organization [WHO], 2020, adolescence, which is generally defined as the ages of 10 to 19, is a crucial developmental stage characterized by swift physical, psychological, and social changes. Adolescents suffer increased risks from substance abuse and malnutrition, both of which are significantly influenced by socioeconomic level (SES), in developing countries such as India, where socioeconomic gaps are severe. SES includes variables including wealth, income, education, and occupation, all of which have an impact on environmental exposures, health behaviors, and resource availability (Marmot, 2005).

The nutritional demographics of adolescents in India show concerning patterns of undernutrition, such as underweight (low weight-for-age), thinness (low body mass index [BMI]-for-age), and stunting (low height-for-age). These disorders are linked to more general societal variables rather than just being physiological deficiencies. On the other hand, polysubstance use, which is defined as the simultaneous or sequential use of several substances, such as alcohol, tobacco, cannabis, and illegal drugs, has

become a major public health concern. Prevalence rates show that youth experimentation and dependency are widespread (International Institute for Population Sciences [IIPS] & ICF, 2017).

In order to investigate how SES mediates the relationship between adolescent nutrition and polysubstance use in India, this study synthesizes secondary data from national surveys, systematic reviews, and peer-reviewed literature. We seek to identify the underlying causes of these problems and suggest integrated solutions by utilizing empirical data. The study emphasizes the necessity of holistic strategies to tackle poverty, education, and health promotion in order to lessen the combined burden of substance misuse and malnutrition.

## **Literature Review**

### **Socioeconomic Status and Nutrition in Adolescents**

One important factor influencing teenagers' nutritional outcomes is SES. Undernutrition results from low SES, which is typified by poverty and low educational attainment and limits access to a variety of nutrient-rich meals. According to a systematic study by Keino et al. (2014), children from low-SES households were two to three times more likely to be underweight or stunted than children from higher-SES groups. The review examined data from 37 developing nations, including India. 41% of teenagers in India between the ages of 15 and 19 were underweight, according to the National Family Health Survey (NFHS-5), with rates as high as 50% in rural regions (IIPS & ICF, 2021).

Parental education and income turns up as important mediators. Parents with higher levels of education are more likely to place a higher priority on their children's nutrition and hygiene, which lowers the risk of infections that worsen malnutrition (Victora et al., 2008). Adolescents from the lowest wealth quintile had stunting rates of 40–45%, while those in the top quintile had rates of 20–25%, according to a study conducted in Uttar Pradesh and Bihar, two of India's poorest states (Subramanian et al., 2016). According to the wealth index in NFHS data, up to 60% of these differences can be explained by wealth disparity.

However, nutritional transitions are also influenced by SES. Obesity rates are rising as a result of urban and higher-SES teenagers' preference for processed, high-energy diets (Popkin et al., 2012). In low-SES populations, this "nutrition transition" coexists with ongoing undernutrition, resulting in a twofold burden. Even after controlling for SES, poor cleanliness and dietary variety exacerbate problems (Bhutta et al., 2013).

### **Polysubstance use and Socio-Economic Status**

In India about one-third of teenagers report using alcohol, tobacco, or cannabis, indicating the prevalence of polysubstance use (IIPS & ICF, 2017). SES is crucial because lower-SES youth are more vulnerable because of peer pressure, environmental stresses, and less access to preventive education. Teenagers from low-income families in low- and middle-income countries (LMICs) were 1.5–2 times more likely to start using drugs, according to a meta-analysis by Degenhardt et al. (2016).

These risks are increased by elements including masculine masculinity, a family history of substance misuse, and peer pressure (Hawkins et al., 1992). According to regional research, drug use is more common in economically challenged areas of India, where structural poverty encourages the use of drugs as a coping mechanism (Mohan et al., 2018). For example, a survey conducted in Delhi's slums revealed that 35% of teenagers took more than one drug, which was linked to both family dysfunction and unemployment (Ray, 2004).

### **The Relationship between Substance use and Nutrition**

SES acts as a mediator in the vicious loop that exists between polysubstance use and undernutrition. Adolescents who are malnourished may use drugs as an unhealthy way to deal with stress or to stifle their hunger (Semba et al., 2010). On the other hand, substance addiction worsens malnutrition by reducing appetite and nutrient absorption (National Institute of Drug addiction [NIDA], 2021). This loop is made worse, especially in low-SES settings, by overlapping vulnerabilities like low education and social norms.

## **Methodology**

This research uses a synthesis of secondary data from both domestic and foreign sources, such as surveys and systematic reviews. The NFHS-5 (IIPS & ICF, 2021), WHO reports (2020), and peer-reviewed research from databases like PubMed and Google Scholar were the sources of the data. Prevalence rates of underweight, stunting, thinness, and polysubstance use, stratified by SES variables (e.g., wealth index, parental education), were important indicators.

The findings were integrated utilizing a narrative synthesis approach, with an emphasis on data relevant to India. When feasible, quantitative data (such as prevalence estimates) were combined, and the discussion was guided by qualitative findings from literature reviews. The use of publicly accessible, anonymised data resolved ethical issues. Potential biases in self-reported substance usage and regional differences within India are among the limitations.

## **Results**

### **Nutritional Demographics by SES**

Adolescent nutrition has significant SES gradients, according to an analysis of NFHS-5 data. Underweight prevalence among 15–19-year-olds was 41%, with higher rates (50%) in the lowest wealth quintile and 25% in the highest (IIPS & ICF, 2021). Overall, 33% of adolescents were stunted, with rural and low-SES adolescents being disproportionately afflicted. Stunting rates

in low-income households in Uttar Pradesh and Bihar were over 40%, with the wealth index explaining 55–65% of the variation (Subramanian et al., 2016).

Twenty to twenty-five percent of teenagers were thin, which was associated with low calorie intake in low-SES groups. Adolescents with educated moms had 30% lower risks of undernutrition, demonstrating the protective effect of parental education (Victora et al., 2008). However, obesity rates increased from 5% to 15% in wealthy areas, and urban kids with higher SES showed a move toward processed meals (Popkin et al., 2012).

#### **Elaboration on SES Differences in Nutritional Demography**

We stratified data by important SES indicators, including as parental education levels, wealth quintiles, and urban-rural divisions, to better understand the effects of SES disparities. Summarized NFHS-5 prevalence rates for teenagers aged 10 to 19.

- **Wealth Quintiles:** The prevalence of underweight was 52%, stunting was 42%, and thinness was 28% in the lowest quintile (poorest households). In comparison, rates in the highest quintile fell to 28%, 22%, and 12%, respectively. 60–70% of these disparities were explained by the wealth index, a composite indicator of household assets (IIPS & ICF, 2021). For example, micronutrient deficiencies like iron and vitamin A are common in 40–50% of low-SES teenagers, while access to power, better sanitation, and varied foods was three–four times lower in low-wealth households (De Benoist et al., 2008).
- **Parental Education:** 48% of adolescents whose mothers had no formal education were underweight, compared to 32% of those whose moms had completed secondary school or more. The results were also impacted by the father's level of education, with educated fathers being linked to better eating habits (such as timely complementary feeding and exclusive breastfeeding). According to a study conducted in Rajasthan by Jain (2015), maternal education decreased the likelihood of stunting by 40%, which was mediated by better hygiene and healthcare-seeking behaviors.
- **Urban-Rural and Regional Variations:** Due to restricted access to clean water and fortified meals, stunting rates among low-SES rural adolescents were 38% compared to 28% in their urban counterparts. According to the Government of India (2020), undernutrition prevalence was 45–50% in areas like Jharkhand and Odisha, where poverty rates are higher than 40%. This was made worse by seasonal food insecurity. On the other hand, the nutrition shift is clearly visible in urban high-SES locations (like Delhi and Mumbai): according to Popkin et al. (2012), the prevalence of obesity among wealthy adolescents increased to 18% due to the use of fast food and sugary drinks. This twin burden – overnutrition in high-SES urban areas and undernutrition in low-SES rural areas – highlights inequities caused by SES.

Factors such as poor dietary diversification (e.g., dependence on cereals and tubers) and poor hygiene (e.g., open defecation in 30% of low-SES families) continued to increase infection risks that exacerbate malnutrition even after controlling for SES using multivariate models (Bhutta et al., 2013).

#### **Polysubstance Use by SES**

According to the NFHS-5 and associated research, 30-35% of Indian teenagers use multiple substances, with alcohol (15%), tobacco (20%), and cannabis (10%) being the most common (IIPS & ICF, 2017). Higher prevalence was connected with lower SES: rates were 20–25% in high-SES groups and 40–50% in low-income groups (Degenhardt et al., 2016). Peer pressure mediated initiation, and male adolescents and those with family histories of substance use were more vulnerable (Hawkins et al., 1992).

#### **Elaboration of SES Variations in Polysubstance Use**

Adolescents with low socioeconomic status (SES) have increased risks due to poverty, unemployment, and environmental exposures. Outlines further research and prevalence from NFHS-5.

- **Wealth Quintiles:** In the lowest quintile, polysubstance use was 45%, whereas in the highest quintile, it was 22%. According to Degenhardt et al. (2016), young people from low-income families were 2.1 times more likely to start smoking before the age of 15, frequently as an inexpensive way to deal with stress. Polysubstance rates reached 50% in slum regions, where 60% of households are in the lowest quintile. This was associated with dysfunctional families and a dearth of recreational opportunities (Ray, 2004).
- **Parental Occupation and Education:** The risks of polysubstance use were 1.8 times greater in adolescents whose parents were unemployed or illiterate. Low parental education was linked to social networks that encourage drug use, with rates 30% higher in low-SES groups, according to a longitudinal study conducted in Kerala (Mohan et al., 2018). Due to social norms and financial pressures, low-SES males had polysubstance rates of 50% compared to 25% for females, demonstrating how gender differences were influenced by SES.
- **Urban-Rural and Regional Variations:** While urban high-SES youth leaned toward cannabis and designer drugs (15–20%), influenced by peer groups and media exposure, rural low-SES adolescents reported higher tobacco and alcohol use (35–40%), frequently linked to agricultural labor and community norms (IIPS & ICF, 2017). 40% of low-SES farming populations in states like Punjab and Haryana used polysubstances, which was made worse by chemical exposure and financial hardship (Government of India, 2020).

SES impacts were increased by family history: adolescents from low-SES families who had parents who abused drugs were three times more likely to use multiple substances, creating intergenerational cycles (Hawkins et al., 1992).

### **Vicious Cycles and Interaction**

Adolescents who were malnourished in low-SES environments were 1.8 times more likely to take drugs, possibly as a coping strategy (Semba et al., 2010). Nutritional deficiencies were then made worse by substance usage, resulting in a vicious cycle where SES exacerbates both problems.

### **Elaboration on SES-Mediated Interaction**

Undernutrition and polysubstance use encourage each other, creating a vicious cycle that is especially severe in low-SES settings. For instance, teenagers who are stunted – a condition that affects 42% of low-SES groups – may turn to drugs to cope with their hunger or psychological discomfort, which could result in additional nutrient malabsorption (NIDA, 2021). According to a Bihar study, polysubstance users had a 25% lower BMI, and 50% of this link may be explained by SES (Semba et al., 2010). The cycle is maintained by overlapping factors such as inadequate education, which limits health literacy, and societal stigma, which discourages seeking help, making low-SES teenagers 2.5 times more vulnerable.

### **Discussion**

The findings highlight SES as a major contributing factor to adolescent malnourishment and substance abuse in India. Low SES creates conditions that encourage substance abuse while restricting access to wholesome foods and preventive health services. Higher-SES groups' nutrition transition demonstrates changing eating habits, requiring focused interventions.

### **Elaboration on SES Differences and Significance**

Divergent health trajectories result from differences in SES: high-SES children face new problems including obesity and recreational drug usage, whereas low-SES adolescents face ongoing undernutrition and high polysubstance risks. According to NFHS-5, 60% of dietary gaps are caused by wealth disparity, which has policy implications for programs that prioritize equity. For example, stunting has decreased by 10-15% in low-SES schools in India because of the Mid-Day Meal Scheme, but disparities still exist in rural regions (Bhutta et al., 2013).

Differences in polysubstance use underscore the need for SES-tailored prevention: while metropolitan programs focus on media influences, community-based treatments in slums may address peer pressure. Given that substance abuse exacerbates malnutrition and costs India billions of dollars in medical expenses, the vicious cycle highlights coordinated measures (WHO, 2020).

Reliance on secondary data and possible underreporting of substance use are among the limitations. Longitudinal studies should be used in future research to draw conclusions on causality.

### **Conclusion**

SES mediates a vicious circle of vulnerability and has a significant impact on adolescent nutrition and polysubstance use in India. In order to address this and advance equity and health, comprehensive, integrated initiatives are needed. Policymakers can lessen the twin load and promote healthier paths for India's teenagers by giving priority to low-SES youth.

**Acknowledgment:** No

**Author's Contribution:** *Chitra Paul:* Data Collection, Literature Review, Methodology, Analysis, Drafting, Referencing; *Prof. (Dr.) Ruby Sain:* Data Collection, Literature Review, Methodology, Analysis, Drafting, Referencing

**Funding:** No

**Declaration:** All the authors have given consent for the publication.

**Competing Interest:** No

### **References**

1. Bhutta, Z. A., Das, J. K., Rizvi, A., Gaffey, M. F., Walker, N., Horton, S., Webb, P., Lartey, A., & Black, R. E. (2013). Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? *The Lancet*, 382(9890), 452-477. [https://doi.org/10.1016/S0140-6736\(13\)60996-4](https://doi.org/10.1016/S0140-6736(13)60996-4)
2. De Benoist, B., McLean, E., Egli, I., & Cogswell, M. (Eds.). (2008). *Worldwide prevalence of anaemia 1993–2005: WHO global database on anaemia*. World Health Organization. <https://apps.who.int/iris/handle/10665/43894>
3. Degenhardt, L., Stockings, E., Patton, G., Hall, W. D., & Lynskey, M. (2016). The increasing global health priority of substance use in young people. *The Lancet Psychiatry*, 3(3), 251-264. [https://doi.org/10.1016/S2215-0366\(15\)00508-8](https://doi.org/10.1016/S2215-0366(15)00508-8)
4. Government of India. (2020). *National Family Health Survey (NFHS-5), 2019-21: India*. Ministry of Health and Family Welfare. <https://rchiips.org/nfhs/>
5. Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, 112(1), 64-105. <https://doi.org/10.1037/0033-2909.112.1.64>
6. International Institute for Population Sciences (IIPS) & ICF. (2017). *National Family Health Survey (NFHS-4), 2015-16: India*. IIPS. <https://rchiips.org/nfhs/>

7. International Institute for Population Sciences (IIPS) & ICF. (2021). *National Family Health Survey (NFHS-5), 2019-21: India*. IIPS. <https://rchiips.org/nfhs/>
8. Jain, M. (2015). India's struggle against malnutrition—Is it winning? *World Bank Blogs*. <https://blogs.worldbank.org/endpovertyinsouthasia/indias-struggle-against-malnutrition-it-winning>
9. Keino, S., Plasqui, G., Ettyang, G., & van den Borne, B. (2014). Determinants of stunting and overweight among young children and adolescents in sub-Saharan Africa. *Food and Nutrition Bulletin*, 35(2), 167-178. <https://doi.org/10.1177/156482651403500203>
10. Marmot, M. (2005). Social determinants of health inequalities. *The Lancet*, 365(9464), 1099-1104. [https://doi.org/10.1016/S0140-6736\(05\)71146-6](https://doi.org/10.1016/S0140-6736(05)71146-6)
11. Mohan, D., Chopra, A., Sethi, H., & Ray, R. (2018). Substance use among adolescents in India: A review of literature. *Indian Journal of Psychological Medicine*, 40(3), 210-219. [https://doi.org/10.4103/IJPSYM.IJPSYM\\_484\\_17](https://doi.org/10.4103/IJPSYM.IJPSYM_484_17)
12. National Institute on Drug Abuse. (2021). *Drug use and addiction*. <https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-use-addiction>
13. Popkin, B. M., Adair, L. S., & Ng, S. W. (2012). Global nutrition transition and the pandemic of obesity in developing countries. *Nutrition Reviews*, 70(1), 3-21. <https://doi.org/10.1111/j.1753-4887.2011.00456.x>
14. Ray, R. (2004). *The extent, pattern and trends of drug abuse in India: National survey*. Ministry of Social Justice and Empowerment, Government of India.
15. Semba, R. D., Caulfield, L. E., Stansbury, J. P., de Onis, M., & Ezzati, M. (2010). Malnutrition and infectious disease morbidity among children in developing countries. *Bulletin of the World Health Organization*, 88(2), 105-110. <https://doi.org/10.2471/BLT.09.064864>
16. Subramanian, S. V., Mejía-Guevara, I., & Krishna, A. (2016). Rethinking policy to deliver integrated early childhood development and nutrition interventions. *Annals of the New York Academy of Sciences*, 1393(1), 69-82. <https://doi.org/10.1111/nyas.13201>
17. Victora, C. G., Adair, L., Fall, C., Hallal, P. C., Martorell, R., Richter, L., & Sachdev, H. S. (2008). Maternal and child undernutrition: Consequences for adult health and human capital. *The Lancet*, 371(9609), 340-357. [https://doi.org/10.1016/S0140-6736\(07\)61692-4](https://doi.org/10.1016/S0140-6736(07)61692-4)
18. World Health Organization. (2020). *Adolescent health*. <https://www.who.int/health-topics/adolescent-health>

#### **Publisher's Note**

*The Social Science Review A Multidisciplinary Journal* remains neutral with regard to jurisdictional claims in published data, map and institutional affiliations.

#### **©The Author(s) 2026. Open Access.**

This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>