Section: Miscellaneous

Original Research Article

PREVALENCE AND PATTERN OF SUBSTANCE ABUSE AMONG STREET CHILDREN (10-16 YEARS) OF NAGAON TOWN, ASSAM

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ABSTRACT

Background: Adolescence is a critical period marked by significant physical, physiological, psychological, and social changes, during which individuals often explore various behaviors and lifestyles, including the experimentation with smoking, drinking, and drug use as a perceived sign of maturity. Substance use among young people is a growing concern with serious health, social, and economic implications. There is a scarcity of studies on this issue in the region, with most research focusing solely on tobacco consumption, and limited data available on the use of other substances like alcohol, inhalants, or medications among adolescent slum dwellers. Identifying this problem is crucial for developing a comprehensive database to inform policy formulation and intervention planning. This study aims to address this gap by providing community-based data on substance abuse among street children. Street children are defined as individuals under adulthood for whom the street serves as their primary residence or source of income, lacking adequate adult protection or supervision. Substance abuse refers to the non-medical use of chemical substances to alter psychological functioning, often leading to dependence, tolerance, and withdrawal symptoms. The Objective is to describe the prevalence and pattern of substance abuse among street children 10 to16 years of Nagaon town and to detect various factors influencing substance abuse among them. **Materials and Methods:** This community-based cross-sectional study was conducted in Nagaon town, focusing on street children aged 10-16 years, both males and females. The study areas included locations near railway stations, bus stands, and temples. A sample size of 280 was calculated based on an anticipated prevalence of 58.95%. Potential hotspots with more than 15 children were identified, and a purposive sampling and snowball technique were used for data collection. Data was collected using a pre-designed and pre-tested semi-structured interview schedule. Statistical analysis was performed using appropriate tools **Results:** The study found a 100% prevalence of "ever users" (current users 97.1%, ex-users 2.9%) among the street children. Among current users, 96.3% were boys and 3.7% were girls. Gutkha was identified as the most common substance used (66.7%), comprising 95% boys and 5% girls. The majority (62.5%) initiated substance abuse between 10-13 years of age. **Conclusion:** The study highlights a high prevalence of substance abuse among street children in Nagaon town. The findings underscore the urgent need for comprehensive interventions. Key recommendations include strict enforcement of laws on the sale of abusive substances, peer led counseling by ex-users and active involvement of government bodies, NGOs' media, civil societies and the judiciary. A holistic approach is essential to tackle this issue.

INTRODUCTION

Street children have been defined as “any girl or boy who has not reached adulthood, for whom the street (in the broadest sense of the word, including unoccupied dwellings, wasteland, etc.) has become her or his habitual abode and/or source of livelihood and who is inadequately protected, supervised or directed by responsible adults.[1] These are children whose lives are closely tied to the streets due to survival needs, lack of protection, or inadequate adult supervision. They include those living entirely on the streets, those who live in temporary shelters or abandoned places, and those who remain in contact with their families but spend significant time on the streets due to issues such as poverty, overcrowding, or abuse. Some children live with their families on the streets, while others are in institutional care but remain at risk of returning to homelessness. Substance "refers to a drug of abuse, a medication or a toxin. To be more precise "any substance, whether natural or artificial in origin, which when taken into the body in sufficient quantities, exerts a non-negligible effect on a person's perception, cognition, emotion and or behavior",[2] Substance abuse refers to the non‐medical use of chemical substances in order to achieve alterations in psychological functioning.[3] Drug dependence is the psychological craving for, habitation to, abuse of, or physiologic reliance on a chemical substance.[4] It can also be stated as when a person has developed a tolerance for a particular substance (needing increasing amounts to experience the effects) and has withdrawal symptoms when not using the substance for a period of time. Adolescent is defined by World Health Organization (WHO) as an individual in the age group of 10-19 years, which roughly constitutes 1/5th of the world's population at present estimated 1.2 billion. During this transitional phase, they often experiment with adult behaviours such as smoking, drinking, and drug use, sometimes influenced by peer pressure.[5] Various risk factors, including family problems, low socioeconomic status, poor school performance, and exposure to physical or sexual abuse, increase their vulnerability to substance use. Other contributing factors include peer influence, parental substance use, broken families, and being out of school or dropping out. Studies,[5,6,7,8] have highlighted the role of these factors in making adolescents more susceptible to substance abuse and dependence. However, limited information is available on substance use among adolescents in street areas, particularly in Assam. This study aims to explore the prevalence of substance use and the factors influencing its use among slum dwellers aged 10-16 years in Nagaon town.

MATERIALS AND METHODS

Study design: Community based cross sectional study

Study area: Included areas near railway stations (Haiborgaon railway station, Nagaon railway station, Sensua railway station), Bus stands (Samuguri bus stand, Koliabaor bus stand, Hojai bus stand, Lanka Bus stand, Lumding bus stand, Karbi Anglong bus stand, Morigaon bus stand, Dhing-Moirabari-Lahorighat bus stand), temples (Jagannath Temple, M.G. Road; Haiborgaon Hanuman Mandir, Haiborgaon; Manasha Mandir, Krishna Hall Chariali; Shiv Mandir, Amlapatty)

Study period: 3 months from 1st July 2025 to 30th September 2025.

Study population: Comprised of street children 10-16 years, both boys and girls.

Inclusion Criteria

(i) All the street children 10-16 years, both males and females residing in the study area (for at least 3 months) and willing to participate in the study.

(ii) Children capable of giving answers themselves or through any close respondents.

Exclusion Criteria

(i) Children living in any institution or shelter home

(ii) Children who failed to comprehend the questions due to impaired cognitive status

(iii) Those from whom consent could not be obtained

Sample size: Using the prevalence of substance use among street children as 58.95%,[10] relative error of 10% and confidence interval of 95%, sample size was calculated as 279 ~ 280, applying the formula, $N = 4PQ/L^2$ Where, N = required sample size , P = anticipated prevalence , Q = 100-P and L is Relative error.

Data collection tools: Pre-designed and pre-tested semi-structured interview schedule.

Sampling design and data collection technique: Potential hotspots were identified prior to data collection. Multiple visits were conducted on different days and at various times to ensure maximum coverage and inclusion of children. Locations where more than 15 children were observed together were classified as hotspots. In total, 15 hotspots were identified which includes Haibargoan, Nagaon and Sensuwa railway stations ,9 Bus stands at Samuguri, Kalibor, Hojai, Lanka, Lumding, Karbi Anglong, Morigaon, Dhing Moirabari and Laharighat, 3 temples namely Haibargoan Hanuman mandir, Manasha mandir at Krishna Hall chariali and Shiv mandir at Amlapatty. Street children were selected using purposive sampling and snowball technique. At each hotspot, all children meeting the inclusion criteria were interviewed. Subsequently, their peers were identified with their assistance and interviewed as well.

Statistical Analysis: Statistical analysis will be done using appropriate statistical tools.

Operational definitions:

Current User: respondents, using substances of any type, currently.

Ever User: respondents, who have at least used substances of any type, once in their lifetime.

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Never User: respondents, who have never used substances of any type, in their lifetime.

Ex User: respondents, who have not used/quit substances of any type, in the last 6 months.

RESULTS

Table 1: Table 1 shows the distribution of street children (10-16 years) according to the types of substance users

Types of substance user	Boys		Girls		Total	P value
	Number	Percentage*	Number	Percentage*		
Never user	0	0%	0	0%	0	
Ever user	270(100%)	96.40%	10(100%)	3.60%	280(100%)	0.86 (not significant
Ex user	8(3%)	100%	0	0%	8(2.9%)	
Current user	262(97%)	96.30%	10(100%)	3.70%	272(97.1%)	
Total	270	96.40%	10	3.60%	280	

Row wise percentage

% in parentheses are column wise

Although there is difference in the proportion of ever users among the boys and among the girls, however this difference is not statistically significant.

There is no association between the users and gender.

Table 2: Shows the distribution of street children according to Types of substances, age at initiation, Duration and Frequency of substance used

Types of substance used	Boys (N=262)		Girls (N=10)		Total (N=272)	P value
	Number	Percentage*	Number	Percentage*		
Tobacco products Gutkha	171(65.3%)	95%	9(90%)	5%	180(66.7%)	
Khaini	44(16.8%)	100%	0(0%)	0%	44(16.2%)	
Zarda	32(12.2%)	94.1%	2(20%)	5.9%	34(12.5%)	
Beedi	60(22.9%)	96.8%	2(20%)	3.2%	62(22.8%)	
Cigarette	86(32.8%)	100%	0(0%)	0%	86(31.6%)	
Alcohol	35(13.3%)	100%	0(0%)	0%	35(12.9%)	
Glue (inhalant)	17(6.5%)	100%	0(0%)	0%	17(6.3%)	
Ganja (Cannabis)	26(9.9%)	100%	0(0%)	0%	26(9.5%)	
Age at Initiation						
<10 years	45(17.2%)	95.7%	2(20%)	4.3%	47(17.2%)	
10-13 years	162(61.8%)	95.3%	8(80%)	4.7%	170(62.5%)	0.27 (not significant)
14-16 years	55(21%)	100%	0(0%)	0%	55(20.22%)	
Duration of Substance (in years)						
<1 year	126(48.1%)	95.5%	6(60%)	4.5%	132(48.5%)	
1-5 year	120(45.8%)	96.8%	4(40%)	3.2%	124(45.6%)	0.617 (not significant)
>5 year	16(6.1%)	100%	0(0%)	0%	16(5.9%)	
Frequency of use						
Once a month	5(1.9%)	100%	0(0%)	0%	5(1.8%)	
Twice a month	2(0.8%)	100%	0(0%)	0%	2(0.7%)	
2-3 times a month	4(1.5%)	100%	0(0%)	0%	4(1.5%)	
Once in a week	3(1.1%)	100%	0(0%)	0%	3(1.1%)	0.81 (not significant)
2-5 times a week	34(13%)	100%	0(0%)	0%	34(12.5%)	
Daily	214(81.7%)	95.5%	10(100%)	4.5%	224(82.4%)	

Table 3: Various reasons for using substances

Reasons for using substances	Number (N= 272)	Percentage
Influence by peers	70	25.7%
Recreation	14	5.1%
Relaxation	124	45.6%
Curiosity	135	49.6%

Multiple responses

Table 4: Distribution of the type of introductory substances and the sources of procurement

Type of introductory substance	Source of procurement (N=272)				P value
	Family Members (%)*	Friends (%)*	Shops (%)*	Total (%)	
Gutkha	5(2.5%)	22(10.9%)	174(86.6%)	201(100%)	0.0009 (significant)
Beedi	3(3.9%)	13(16.9%)	61(79.2%)	77(100%)	
Glue	0(0%)	2(10%)	18(90%)	20(100%)	
Alcohol	1(2.3%)	17(38.6%)	26(59.1%)	44(100%)	

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*Row wise percentage
Multiple responses
There is an association between types of introductory substances and sources of procurement.

DISCUSSION

From Table I, although there is difference in the proportion of ever users among the boys and girls, however this difference is not statistically significant which means that there is no association between the users and gender. The study conducted by Krishnatreya M, Sharma K D, Borah R, in Guwahati City, Kamrup district, Assam,[10] revealed overall prevalence of substance abuse among the street children of Guwahati City (58.95%) which is lower than the finding of the present study (97.1%) in Nagaon town

From Table II, Gutkha was the most common substance (66 .7%) used by both boys (65.3%) and girls (90%). Similar study done by Krishnatreya M et al in Guwahati City,[10] found that gutkha (67.86%) was the most common substance use among the street children. But the study conducted by Islam F, Kar S, Debroy A, among street children in Guwahati City,[11] found that Glue sniffing (87.36%) was the highest substance abuse. The age at initiation of substance use was highest among 10 to 13 years (62.5%) which was (61.8%) among boys and (80%) among girls. In the study conducted by Sarangi L, et all,[12] cited that 34 adolescents gave the history of their initiation to abusive substances before the age of 10 years. Another study done by Pawar RD, Mehendale AM, found that age at initiation of substance abuse among the youth in rural India,[8] was highest among 10 to 14 years(31.4%). The association of age at initiation of the substances among the current users is not significant (P=0.27), which may be possible due to the fact that we have very small sample of female respondents, Considering duration of substances, majority (48.5%) of the respondents were using substances for the less than 1 year, of which 95.5% were boys and 4.5% were girls. The association of duration of substance use of the current users is not significant (P=0.96). In a similar study done by Manabendra Sau, Amal Kumar Sinha Roy,(13) found that the highest duration of drug abuse was for a period of 5 to 10 years (34.51%).

The frequency of use of substances during the last one month was daily users (82.4%) among the current users. Meena Khanna P, Vohra AK, Rajput R, revealed in their study,[14] 36.43% respondents took alcohol less than once a month which was the highest frequency.

Reasons for using substances are described in Table III. In the present study, curiosity (49.6%) was the most common reason for using substances followed by relaxation(45.6%). Similar study done by Pawar RD, et al,[8] found that peer pressure (42.2%) was the most common reason for using substances.

From Table IV, among the current users, gutkha was the highest substance abused which was procured mainly from shops (86.6%). Statistically there is association between there is association between types of introductory substances and sources of procurement (p=0.0009)

Contrastingly, Ghulam R, Rahman I, Naqui S, Gupta SR, reported that tobacco was the highest substance abused among the current users (36.8%) and their main source of procurement were friends (68.4%).[15]

CONCLUSION

The study found a 100% prevalence of ever users of substances among participants, with 97.1% being current users—predominantly males (96.3%). The most commonly used substance was Gutka (66.7%), with most users initiating use between 10–13 years of age, primarily out of curiosity (49.6%) or for relaxation (45.6%). Daily use was reported by 82.4%, and 86.6% procured substances from shops.

These findings highlight a deeply ingrained problem requiring urgent intervention. A multi-sectoral approach is essential, including strict enforcement of existing laws, restricting tobacco product sales, and establishing to grassroots counselling systems. Engagement of ex-users, peer groups, NGOs, community leaders, and coordinated efforts from government, media, civil society, and judiciary are crucial to curb substance abuse effectively.

REFERENCES

1. Inter-NGO Programme on Street Children and Street Youth, Subregional seminar for the Mediterranean, Marseilles, 24th-27th October 1983: Summary of proceedings.
2. Merrill J, Peters L. Substance misuse. In: Gowers S, editor. Adolescent Psychiatry in Clinical Practice. London: Arnold Publishers;2001. p. 150‑76.
3. WHO. Lexicon of alcohol and drug terms. Geneva: World HealthOrganization: 1994.
4. Mosby's Medical Dictionary 8th ed Mosby, 2008
5. Nath A, Choudhari SG, Dakhode SU, Rannaware A, Gaidhane AM, Dakhode S, Gaidhane A. Substance abuse amongst adolescents: an issue of public health significance. Cureus. 2022 Nov 7;14(11).
6. Jasani PK, Jadeja YM, Patel NM, Jadeja DY, Shrimali JB, Purani SK. Prevalence of substance abuse among adolescents of urban and rural community in Surendranagar district, Gujarat. Int J Community Med Public Health. 2019 Apr 27;6(5):1970-4.
7. Faizi N, Alvi Y, Saraswat A, Yasir M. Knowledge, attitude, practice, and pattern of substance use among adolescents and young adults from Aligarh, India. Indian Journal of Community Health. 2021 Dec 31;33(4):615-20.
8. Pawar RD, Mehendale AM. A cross-sectional study on magnitude and pattern of substance abuse among youth in rural India. Indian Journal of Forensic and Community Medicine. 2017 Jul;4(3):209-15.
9. Saikia N, Debbarma B. The socioeconomic correlates of substance use among male adults in Northeast India. Clinical epidemiology and global health. 2020 Mar 1;8(1):149-57.

ISSN (O): 2687-5365; ISSN (P): 2753-6556

10. Krishnatreya M, Sarma KD, Borah R. Prevalence of Substance Abuse and Its Correlates amongst Street Children of Guwahati City, Assam. International Journal of Pharmaceutical and Clinical Research 2022; 14(6); 568-575
11. Islam F, Kar S, Debroy A, Sarma R. Substance abuse amongst the street-children in Guwahati City, Assam. Ann Med Health Sci Res. 2014;4:233-8.
12. Sarengi L. Acharya IP, Panigrahi OP. substance abuse among adolescents in urban slums of Sambalpur. Indian. Community Med 2013: 33 (4): 265-67.
13. Sau M, Sinha Roy AK, Das P, Singh JK. Pattern of substance abuse: a community based study in West Bengal. Int J Community Med Public Health. 2018 Aug;5(8):3394-8. doi:10.18203/2394-6040.ijcmph20183068.
14. Meena. Khanna P. Vohra AK. Rajput R. Prevalence and pattern of alcohol and substance abuse in urban areas ofRohtak city. Indian J Psychiatry 2012: 44 (4): 348-52
15. Ghulam R. Rahman 1, Naqui S, Gupta SR. An epidemiological study of drug abuse in urban population of Madhya Pradesh. Indian J Psychiatry 1996; 38 (3): 160-5.
16. Bardhan T, Saikia AM, Baruah R. Factors influencing substance use among adolescent slum dwellers of Guwahati City, Assam. Journal of Mahatma Gandhi Institute of Medical Sciences. 2018 Jan 1;23(1):25-9
17. Kovilveettil AN. A study on substance abuse among young people (10-24 years) in urban slums of Jorhat, Assam. Medical Science and Discovery. 2021 Dec 5;8(12):682-9.
18. Ayub T. Substance abuse among street children of Jammu region. International Journal of science and clinical Invention. 2017.
19. Benegal V, Bhushan K, Sesadri S, Karott M. Drug abuse among street children in Bangalore. Nimhans.ac.in 1998[cited 12 July 2020]. Available Krishnatreya et al. from: http://nimhans.ac.in/cam/sites/default/f iles/publications/27.pdf
20. Saunders J. Substance use and addictive disorders in DSM-5 and ICD-10 and the draft ICD11. Current opinion in Psychiatry. 2017;30(4):227-237.

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