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A study on profile of patients using inhalants attending in a tertiary care center of East India

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ABSTRACT

Background: There is a slow but steady increase in inhalant use in India among adolescent age group. There is a very few studies regarding inhalant use disorder in India. No study has been reported from West Bengal. **Aims and Objectives:** In our study, we aimed to study the sociodemographic and clinical profile of patients using inhalants. **Materials and Methods:** A cross-sectional clinic-based study conducted in a tertiary care center medical college hospital of West Bengal. All patients attending in the outpatient department with a history of inhalant use were taken in this study irrespective of diagnosis and purpose of visit. Duration of the study was 18 months. Sociodemographic and clinical profiles were obtained using a semi-structured pro forma. **Results:** We studied 26 patients. All were unmarried male from urban background, middle to lower socioeconomic status. Most of them were from nuclear family. Mean age was 15.2 years. Most of them were studying (69.2%). Inhalant was the preferred substance for all of them. Tobacco was the most common substance used along with inhalants. The most common inhalants substance was glue (Dendrite) 84.6%. Sniffing (80.8%) was the most common form of inhalation. For all of the patients, inhalation was out of curiosity. Only 23.1% had a positive family history of substance dependence. The most common comorbidity found was conduct disorder (30.8%). Motivation for quitting was poor for most of the patients. **Conclusion:** Inhalant use disorder is an important but still unexplored research area in West Bengal. Although not common, inhalant use disorder is not rare in clinical setting.

Key words: Abuse; Adolescents; Dependence; Inhalants

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INTRODUCTION

Inhalants are volatile substances, which when inhaled produce a mind altering effect. They produce an instant and short-lived euphoria and disinhibition.[1] After inhalation, these chemicals are rapidly absorbed into blood through lungs and roughly 3% of the inhaled dose gets access to brain.[2] The pattern of high is quiet similar to those produce by alcohol or marijuana.[3,4] Inhalants that are used for abuse are commonly found in glues, whitener fluids, cleaning fluids, type writer correction fluid, paint removers, deodorants, petrol, hair sprays, etc.[5] The causes for which inhalants use becoming increasing are easy availability, rapid onset of effect, low cost, easy to hide, purchase, and possession of these symptoms are not illegal, etc.[6] Inhalants are most commonly sniffed, in which the user inhale fumes directly from the container. It may also be soaked in a cloth and inhale the fumes by placing it over face, called huffing. In bagging the user inhale, the fume placing the solvent in a plastic or paper bag.[7] Inhalant abuse is widely reported all around world, mainly from the Western countries, particularly in child and adolescent age group. Nearly 20% of the children in high school have experimented inhalant use.[8] A study from South America revealed that the lifetime prevalence ranging from 2.67% in Paraguay to 16.55% in Brazil.[9] A study from Mexico reported approximately 1% in general population. It is more prevalent in school-going children and still higher among street children.[10] In our country, Indian National Household Survey in 2019 showed that inhalants are the only category of substance in which prevalence is higher in child and adolescent age group than adults. Prevalence is 1.17% among children

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and adolescents in comparison to 0.58% in adults. About 0.70% of Indians aged 10–75 years are the current users of inhalants. Mean age of initiation of inhalant use is about 11–18 years. Peak age is around 14–18 years, which gradually declines by 19–21 years; but may continue till adulthood. Males outnumber females to great extent.[11] The most common cause of the 1st time use is curiosity, next is peer pressure.[12] The consequence of inhalant use has many adverse outcomes such as increase risk of heroin, alcohol, or injectable drugs abuse in later life, many mental health problems such as conduct disorder, antisocial behavior, interpersonal violence, and mood disorders.[13,14] The most common cosubstance use is tobacco.[15]

In India, the inhalant use was reported mainly by case studies and case series.[12-21] However, in the past decade, there is a quiet number of studies from this country also.[3,7,12,15] From the literatures available so far indicates that there is a slow but definite rise of inhalant use in India in last 10–20 years. However, there is still now no documented study from eastern part of India, except only one study is there from Manipur which included schoolchildren.[22] In our study, we aimed to explore the sociodemographic and clinical profile of patients with inhalant use attending the psychiatry outpatient department (OPD) of a tertiary care center medical college of West Bengal.

Aims and objectives

To explore the sociodemographic and clinical profile of patients with inhalant use attending the psychiatry outpatient department (OPD) of a tertiary care center medical college of West Bengal

MATERIALS AND METHODS

This was a cross-sectional observational study. The study was conducted in the psychiatry OPD of a tertiary care medical college hospital in Kolkata. Ethical clearance was taken from the Institutional Ethical Committee. Informed consent was taken from the patients whose age is more than 18 years. Where the age of the subject was below 18 years, consent was taken from the guardian and informed ascent was taken from the patient. All patients attending in the OPD with a history of inhalant use (ever use) were taken in this study irrespective of diagnosis and purpose of visit. Only those who did not give consent were excluded from the study. Duration of the study was 18 months (August 2018–February 2020). Sociodemographic profiles were obtained using a semi-structured pro forma which covered age, sex, address (urban/rural), religion, marital status, education, occupation, family income, etc. In clinical profile details, we covered whether the patient fulfills the criteria of inhalant use disorder as per DSM 5, types of substance use, age of onset, duration of use, primary reason for taking the substance, other substance use (if any), primary and comorbid psychiatric diagnosis, motivation to quit, family history of any substance abuse, etc. Motivation to quit was measured in a 3-point scale grading 0, 1, and 2; where 2 is good motivation, 1 is superficial motivation, and 0 is poor motivation.

RESULTS

A total of 26 patients were found to use inhalants. Mean age was 15.2 years (15.2±2.8) with lowest being 8 years and highest age being 22 years. All patients were male; all from urban area. Eighteen (69.2%) were studying at the time of study while 8 (30.8%) were in semi-skilled or unskilled works. Among the eight who were not studying at the time of study, four left schools during their primary school and rest four left from high school. Twenty-three (88.5%) were from nuclear family. About 38.5% belonged to lower socioeconomic status while 61.5% belonged to middle socioeconomic status.

All patients were brought by their family members. Twelve patients sought medical advice for inhalant abuse and rest for any other problems. Most common comorbid psychiatric diagnosis was conduct disorder which was found in 30.8% of subjects (n=8), followed by intellectual disability (n=4) and ADHD (n=3). Family history of substance abuse was found in 6 (23.1%) patients. All of them started using inhalants out of curiosity and all of them learned it from their friends who used it. Glue (Dendrite) was the most common inhalant used. Twenty-two (84.6%) patients reported using it. Petrol and whitener (erasing fluid) were used by 2 (7.7%) each. The most common route of inhalation was sniffing, which was reported by 80.8% of patients (n=21). Rest five used both sniffing and huffing. Any other route of inhalation was not reported by our patients. Of the 26 patients, 17 met the criteria of inhalant use disorder as per DSM-5. Rest nine did not meet it.

Twelve (46.2%) reported inhalants to be the only substance abused, rest used other substances along with. The most common substances reported used along with inhalant was tobacco, which was reported by 14 (53.8%) subjects. Six of them reported occasional consumption of alcohol. None of them met the criteria for dependence for any other substance except for inhalants. For all patients, inhalants were the preferred psychoactive substance (Table 1).

Table 1: Comorbid substance use

Comorbid substance	Frequency (%)
Tobacco	14 (53.8)
Alcohol	6 (23.1)

The most common feature of intoxication was euphoria (76.9%), followed by light headedness (69.2%) and giddiness (38.5%). Withdrawal features which were reported were craving (65.4%), irritability (46.2%), disturbed sleep (57.7%), restlessness (53.8%), myalgia (38.5%), and anhedonia (26.9%). Motivation for quit was poor in 69.2% (n=18) and superficial in 30.8% (n=8) patients. For none of the patients, motivation was good.

DISCUSSION

This study represents findings from a tertiary care center from West Bengal. There is limited literature on adolescents using inhalants. This is the first study from West Bengal exploring this issue. Inhalant abuse has been on focus for last decade. There is a slow but gradual rise as per available literature.[23] Many studies on drug abuse did not report inhalants as a separate group. Easy availability, low cost, quality of high, and easy procurement are leading to its slow but steady surge. We found all male patients all from urban background, adolescents from middle to lower socioeconomic status as found in earlier studies.[24,25] However, from our finding, it would be erroneous to draw an inference that females are not using inhalants. It might be due to stigma also. All patients from urban might be a reflection of the location and population catered by the institution. Urbanization or a real true increase prevalence in urban population is still cannot be commented. Family history of any other substance use was found in most of the studies, but in our study, we found it very less.[26] Hence, it might indicate a pattern of change in inhalant abuse among adolescents. We found that most patients are studying and going to school regularly. This is in contrary to most of the studies in our country where majority were school dropouts or irregular in school.[8,27] So again, a change in pattern might be there or due to small sample size in all of the studies including this, it is difficult to comment on the trend. The most common cause of first use is curiosity as reported by all other studies. We found that glue was the most common used inhalants. Studies from North India reported that typewriter correction fluid was the most common.[3,15,28] However, in Bengal, glue being the most common is due to its easy availability. Conduct disorder was found in some of the patients indicates their high externalizing behavior. Craving was reported by most of our patients.

The limitations of this study are many. The study is hospital based which included treatment seekers. Though we included all patients having history of inhalant use even we included the patients who visited hospital for other problems. However, any idea for the magnitude of this problem could not be drawn from this study.

Limitations of the study

Only the patients who visited our hospital has been included in our study. But its only a tip of the iceberg. Many patients do not visit hospital for inhalant use. So we have probably missed a significant number of people with inhalant use.

CONCLUSION

This study explored one relatively less explored phenomena in India, particularly from West Bengal. Inhalant abuse is still incompletely understood. Adolescents using inhalants are not rare in clinical setting. More detailed study needed to understand etiopathogenesis, clinical presentation, and management.

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