

Substance Abuse – a true evil among innocent children, have you got it true?

Nancy Susan Philip and Subin George

Abstract

An invisible and sinister form of substance abuse is shrouding our most valuable resource, our children. Rising at an unnerving rate, volatile substance abuse (inhalants) is an often overlooked problem and unnoticed evil in today's society (Dasgupta, 2017). The term substance abuse reminds one of illicit drugs. But ignorance of this inconspicuous dimension of 'volatile substance abuse (inhalants)' will soon become the nation's malady. Inhalants are volatile substances that produce chemical vapors that can be inhaled to induce a psychoactive, or mind-altering effect (National Institute of Drug Abuse). Substances abused this way include glue, paint, whiteners, deodorants, nail polish remover, all of which are cheaply and easily available (Delhi Psychiatry Journal, 2014). The epidemic prevalence of volatile substance abuse in children in India has assumed alarming dimensions. NCPCR (National Commission for Protection of Child Rights, 2005) study indicates that the substances most abused by the children in India are Tobacco (75%), Alcohol (57%), Inhalants (31%) and Cannabis (29%). Inhalants rank third in the list of substances abused but with deleterious consequences. It has been found that whitener-inhaling addiction among the adolescent boys in Kerala is increasing (Times of India, 2014). Children using these are prone to delinquent behavior and anti-social activities. They also suffer from physical and mental health issues. Social repercussions include absenteeism, school dropouts, poor performance, truancy, feelings of helplessness or guilt, abandonment and anger (Bhawani Singh Rathore, Uma Joshi, Aditya Preek. Oct-Dec 201,).

Ms.Nancy Susan Philip. Affiliated to De-Paul Inst.of Social Sciences, Angamali, Kerala.

email:nancysusanphilip@depaul.edu.in

Subin George, Asst.Prof., De-Paul Inst.of Social Sciences, Angamali, Kerala.

subinmsw@depaul.edu.in

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The International Journal of Indian Psychology). So why is it that there is paucity of literature and research on inhalants in India and no laws to curb it? This analysis reveals that unlike illicit drugs, parents, teachers & policy makers are oblivious to the detrimental effects of inhalants on our children. The law stipulates only the regulation of the sale of harmful solvent substances reported by Radhika C Pillai Times of India, 2014). The aim of this article is to enlighten the readers about this seemingly innocent evil that creates a vicious cycle, among children, the effects of which come to light usually only after some serious and sometimes fatal consequences have occurred.

Keywords: Children & Inhalants, Volatile Substance Abuse, Child Abuse

Introduction

Volatile or Inhalant substance abuse is a veiled venom spreading among children globally today. Inhalants are considered as one of the most dangerous and overlooked forms of substance abuse, with grave consequences. Substance abuse in children has been a major problem in India from long years ago (UNDCP, 1997). Inhalants are being abused by large numbers of people throughout the world, particularly children and adolescents. Today children are experimenting drugs quite early in life (Qadri, Goel, Singh, Ahluwalia, Pathak, & Bashir, 2013). It has been found that the initiation age of substance abuse is usually 12 and inhalants are often the first substance of abuse a child will use, thus giving rise to the notion that inhalants are “gateway” drugs. Moreover, parents become the unwary perpetrators of this grievous vice. The World Health Organization estimates that, globally, 25-90 percent of street children, indulge in this deviance. According to an exploratory study by Verma R, Balhara YS & Dhawan A. (2011), in India, nearly 20% of the children in middle school and high school have experimented with inhaled substances. Acute effects include Sudden Sniffing Death Syndrome, asphyxia, and serious injuries (e.g., falls, burns, frostbite). Chronic inhalant abuse can damage the cardiac, renal, hepatic, and neurological systems. Inhalant abuse during pregnancy can cause fetal abnormalities. The representative national level epidemiologic data is missing in India and most of the developing countries. Suresh Kumar, Sandeep Grover, Parmanand Kulhara, Surendra Kumar Mattoo, Debasish Basu, Parthasarathy Biswas, Ruchita Shah, 2008). As these facts

are noted, it is of paramount importance to note that the peculiarity of inhalants is that even when used for the very first time, it could be a fatal episode. Many people don't realize there are substances virtually everywhere that can be abused, from paint thinner to keyboard air duster. Due to the ephemeral effects of inhalants, people erroneously assume that these substances aren't that dangerous.

Inhalants Abuse and India: It is not an offence...WHY?

Though knowledge is power, real knowledge is to know the extent of one's ignorance. An NCPCR (National Commission for Protection of Children) study, 2013 indicates that the substances most abused by the children in India are Tobacco (75%), Alcohol (57%), Inhalants (31%) and Cannabis (29%). Inhalants rank third in the list of substances abused but with deleterious consequences. There are laws, policies and preventive programmes for children on drug abuse, while the reality in India is that there are no sensitization programmes about inhalant abuse for children in schools or out of schools. The Law stands powerless in India as it does not have an inhalant abuse policy. Children tend to use volatile substances easily found in stores, such as pain relief ointments, glue, paint, gasoline and cleaning fluids.

Inhalant abuse is becoming a public health problem in India due to the lack of awareness among the general population as well as among the health professionals (Patra S, Mishra A, Shukla R, 2011). This reality is evidenced by the fact that there is no law pertaining to inhalant abuse in India and one also needs to understand that since these substances are not covered under the Narcotics Drugs and Psychotropic Substances (NDPS) Act, users are rarely booked.

In the US, laws are made to curb the abuse of inhalants. For e.g. the California law (The Good Drugs Guide, 2016) prohibits "sale, distribution, dispensation, possession to minor(s) of toluene, or any substance containing toluene, and nitrous oxide. This law holds the owners of the products accountable. Violation of the law results in penalties and prisons. UK and parts of Australia too have laws that deal with the sale of inhalant substances.

Solvents are one of the most common illicit drugs abused in Kerala, especially among the adolescents. In a recent large study among students in high

schools and colleges of Ernakulum, 2.4% reported sniffing of solvents, predominantly whiteners. However, few solvent users have a chance to meet the health care system due to their disenfranchisement (deprivation of a right) and social isolation. Many other aspects of solvent dependence, including course and outcome, have not been studied, even though use of solvents is associated with significant mortality, morbidity and psychosocial dysfunction. There is an urgent need for a concerted effort to develop evidence based interventions to tackle this issue Priya G Menon, Anjana Rani, TS Jaisoorya, 2015.

Volatile Substance Abuse

Volatile substance abuse (VSA) is defined as the deliberate inhalation of volatile substances in order to achieve intoxication. This is better known as Inhalant Abuse. Solvents from contact adhesives, toluene, petrol or kerosene, halogenated solvents, volatile hydrocarbons in cigarette lighter refills, deodorants are abused this way. VSA, colloquially known as 'glue sniffing', occupies a curious place in the pantheon of substances misused. It is particularly difficult to establish the prevalence of solvent misuse as it is a practice predominantly associated with children and young people. As per the US National Institute of Drug Abuse (Bowen, S., & Batis, 2010) the types of substances that are abused can be classified into four categories:

1. Volatile Solvents: These are liquids which vaporize at room temperature and can be found in a range of house-hold and industrial products. These include: Paint thinners and removers, Dry cleaning fluids, Petrol, Glues, Correctional fluids, Felt-tip marker pens.

2. Aerosols: Substances enclosed under pressure and released as a fine spray by means of a propellant gas. These comprise of: Spray paints, Deodorants, Hair sprays, Vegetable oil sprays used in cooking.

3. Gases: These could be medical anesthetics (ether, chloroform, halothane) or gases used in household or commercial products. Nitrous oxide is the most abused of these gases and can be found in whipped cream dispensers and products that boost octane levels in racing cars. Other household or commercial products containing gases include butane lighters, propane tanks, and refrigerants.

4. Nitrites: These are often considered a special class of inhalants since unlike other inhalants, which act directly on the central nervous system (CNS); nitrites act primarily to dilate blood vessels and relax the muscles. While other inhalants are used to alter mood, nitrites are used primarily as sexual enhancers and are commonly known as “poppers” or “snappers.” These are usually sold in small bottles and labeled as “video head cleaner, room fresheners, leather cleaner or liquid aroma.

Reasons for Rocketing Use of Inhalants

One of the reasons for the increase in inhalant abuse is its easy availability at all stationary/ general stores, with no legal control over the sale. People are exposed to volatile solvents since they are found in products like glue, paints, whiteners, nail polish, deodorants, and varnish which are used at home, school and workplace. Hundreds of products containing a single solvent or a mixture of solvents that can produce intoxication if inhaled are commercially available with ease, making inhalants the fourth most commonly abused drug in the world. The dearth of awareness among the public that these products are misused by children for intoxication is a petrifying fact. Furthermore, children do intentionally misuse these substances because they have limited access to other doping agents and these substances are also perceived as ‘kid’s drugs.’ Correction fluid (whiteners) has been reported to be the commonest inhalant abused in India, and the reasons cited for this include their low cost, easy availability, and legal use in homes, schools and offices Shahul Ameen, S. K., 2015. The point that the containers of these products are small and easy to hide is another determinant. In a study done in Chandigarh among 10 children with a mean age of 11.4 years, the children reported using correction fluid because of its easy accessibility, and the small size of the container.

Inhalant abuse may develop from genetics or by family influence. Children are more susceptible to VSA if they have witnessed it from a family member. If a parent is using drugs or alcohol to cope, a child too develops the same thought pattern. In the Indian scenario of street children, they grow up seeing their parents, siblings or neighbors indulging in abuse, and naturally, imbibe that behavior. Parents or older family members who indulge in substance abuse, or who engage in criminal behavior, can increase a child’s risk of de-

veloping substance abuse problems. Findings reported by Millar & Stermac, (2000) also expound the fact that family or parental substance abuse has severe effects on children (who resort to substance abuse). Additional studies on inhalant abuse assert that families of almost 50% of the inhalant users, had history of alcohol use and tobacco use problem, in at least one of its members. Western literature too supports a high level of substance use problems in parents, of adolescents with inhalant use.

VSA necessitates no specialist equipment such as needles or pipes to administer the drugs. People who use inhalants breathe them in through the mouth or nose. Some of the modes employed are: Sniffing fumes from a container or dispenser (such as a glue bottle or a marking pen); Spraying aerosols directly into the nose or mouth; huffing from a chemical-soaked rag in the mouth; bagging i.e., inhaling fumes from chemicals sprayed or put inside a plastic or paper bag and inhaling from balloons filled with nitrous oxide (laughing gas). Small doses rapidly lead to euphoria (state of intense excitement). Though the high that inhalants produce usually lasts just a few minutes, people often try to make it last by continuing to inhale again and again over several hours. (Patra and Shukla, 2011, Industrial Psychiatry Journal.) Children living with parents have a protective effect against substance abuse, while low parental education level was associated with substance abuse, thus emphasizing the importance of family and parental monitoring to reduce the risk of substance abuse (Park & Kim, 2015).

Patterns of Volatile Substance Abuse

There is no typical drug use pattern applicable to young people. Experimentation with substances does not automatically lead onto recreational drug use or dependent use. It may cease once the initial motivating factors have been satisfied. This is an essential point to consider – that drug use at any stage does not indicate an inevitable progression towards the next stage, i.e., it is not necessarily sequential; rather, it depends on the person, his circumstances, needs and motivations. Both physical and psychological dependency can occur quickly from inhalant abuse. Teenagers are especially susceptible to a psychological dependency. A high from inhalant abuse can provide the user with a sense of excitement and a loss of inhibition. This is one prime reason

that people, who used inhalants once, will try them again.

Despite this understanding, the first stage is the exploratory or experimental stage of drug use, which is a short-term, learning phase, influenced by culture and availability. It is characterized by peer group activity and a random choice of drugs. Though ‘curiosity’ and ‘risk taking’ are deemed the primary motives, experimental use is still a colossal cause of concern. Peer pressure does promote VSA, especially among teenagers. To feel accepted is an innate need of any individual. Children may face enormous amounts of pressure to fit in at school, clubs or groups. This burden can force a child to do something that they would not normally considering. In a study done in North East India, ‘Curiosity’, ‘to forget the problems at home and schools’, ‘it’s a fashion’, and ‘to get a kick or high’ were the four common reasons cited by the inhalant users stated in this study (Brogen Singh Akoijam, 2013) was : Peer pressure may be the main driving factor behind the mentioned reasons for using inhalants, as “I saw friends doing it, so I tried” was a major response. In another exploratory study of adolescent inhalant abuse from North India, experimentation and peer pressure (65.21%) were the most common reasons reported by adolescents for initiation of VSA.

Following on from the experimental phase of drug use is the recreational or social phase. The key feature here is that, control is exerted over the use, with specific choices being made in relation to what substances are abused, in what amount, where they are used and when. Features of this phase include social acceptance as the primary motive; regular use, group activity and use over a longer period.

The Emotional or Instrumental use has two different slants, centered on the purposeful manipulation of feelings, with an aim to elicit or inhibit certain behaviors. At this level, the adolescent is now generally seeking the mood swing. Boredom (lack of recreational activities), emotional issues (depression, anxiety, fear) also play a role in VSA. Children are often looking for something to fill their free time. With too much time on their hands and little parental supervision, VSA can seem thrilling to a teenager. If it is generative use, then the primary motive is to have fun, i.e., the purpose is to elicit pleasurable feelings and if Suppressive use, then it is to cope with stress and uncomfortable feelings. It can also be used to suppress hunger. Drug use tends to be solitary

but can also take place in the context of peer group. However, addiction does not happen overnight. A lot of hidden elements play subtle roles leading to inhalant addiction. Trauma during childhood, including physical or sexual abuse or neglect is a major risk factor for VSA. Physical abuse victims may turn to drugs to block out the pain and the memories. Rape, molestation, and other types of sexual assault can leave lifelong scars. Many a time, victims of these events use drugs to block out the mental agony instead of working through them. Children whose parents were abusive or emotionally distant may exhibit an inclination towards inhalant abuse later in life.

Habitual Use/Dependent use occurs when the substance is used at the expense of other interests which can contribute to a range of problems. The marked tendencies seen in habitual use include frequency and preoccupation that starts to impact an adolescent's life, relationships and peers. Activities are substance-related and there is lack of control over its use. School performance is seriously affected, and there is ongoing use despite awareness about the damage caused in terms of health, relationships, social commitments and its legal implications. An addiction to these can also be the result of feelings such as depression, anxiety or loneliness. VSA can act as an escape from reality for the user. Researches show that some individuals have more effective coping skills than others, and those without these skills are much more likely to have substance abuse issues. School dropout children (vulnerable group for VSA) are at higher risk of displaying social, emotional problems and engaging in the delinquent and criminal behavior which in turn results in the school absenteeism, drop out and poor performance in school. (Prevatt & Kelly, 2003).

Impact of Inhalants

Albeit glue-sniffing not generally being regarded as physically addictive compared to drugs such as cocaine and heroin, it can be psychologically addictive and certainly carries severe physical perils namely brain damage, memory loss, decreased mental capacity, damage to the bone marrow and vital organs like kidneys, heart and liver; slurred speech, vomiting, hearing loss, headaches, and hypoxia (condition in which the body is deprived of sufficient oxygen). The short-lived effects of inhalants may lead people to incorrectly assume that these substances aren't that dangerous.

Sudden Sniffing Death is singular to VSA. The leading cause of mortality

in inhalant use is the “sudden sniffing death syndrome”. This phenomenon is unrelated to frequency or pattern of use, and can occur even after the first inhalation. It happens due to the sensitization of myocardium to epinephrine by inhalants, which results in a fatal cardiac arrhythmia in the event of sudden stress or fright. Such deaths are unpredictable and unpreventable leave no post-mortem features. When inhalant abusers inhale the toxic chemicals of common products, the concentration of the fumes can be tremendously greater than the maximum permitted in industrial settings. Though different in composition, most of the abused inhalants are considered central nervous system depressants except for nitrites which are vasodilators, resulting in increased blood flow and lower blood pressure. Nitrites are usually abused by older adolescents and adults. Typically, individuals who abuse nitrites are seeking to enhance sexual function and pleasure. Research shows that abuse of these drugs in this context is associated with unsafe sexual practices that greatly increase the risk of contracting and spreading infectious diseases such as HIV/AIDS and hepatitis, as the increased blood flow and expansion of blood vessels make the tissues involved more susceptible to blood-borne infections. Those using CNS depressants, at low doses may feel slightly stimulated and light-headed. At higher amounts, they may feel less inhibited, and less in control. Intoxication can last for only a few minutes or for several hours if the chemicals are inhaled repeatedly. Lack of muscle coordination and cognitive impairment can result in accidental injury or death from fires, falling down the stairs, vehicle crashes, etc.

Psychological aftermath comprises of suppressed anger to aggressive behavior, low self-esteem, guilt, feelings of helplessness, and fears of abandonment. Erratic behavior and emotional instability may evolve into aggression, hostility and even violence. People may have hallucinations (images/sensations that seem real but aren't) or delusions (false beliefs) when using these inhalants.

Social repercussions include isolation, irritability, delinquency, risky sexual behavior-unwanted pregnancy, and runaways from home. Relationships are often ruined because users often abuse their loved ones. Friends and family may isolate themselves from a user to avoid conflict. Absenteeism from work and unemployment can create financial problems. Treating the health

consequences of inhalant abuse can be extremely costly and result in unpaid bills and surmounting debt. These outcomes often sow the seed for crime and delinquency.

On the academic front, poor scholastic performance, school dropout, and truancy are common. Lochner & Moretti, (2004), affirmed the observations that children who are involved in substance abuse are more likely to drop out of school. Conversely, children who continued their academic career had a lower risk of becoming current substance abuser than their peers who had dropped out from school (Esch et al., 2014). The possible mechanisms linking these behaviors may range from cognitive and neural, biological deficits (paralyzing effects on mind and body) leading to learning difficulties and low academic performance (Townsend, Flisher & King, 2007).

Cause – Consequence Cycle

The effects on the academic performance can be shown as a vicious cycle (Fig. 1) where the cause becomes the consequence and then the consequence becomes the cause again. Thus VSA is a system as well as a functional problem in our society. This is a self-prepared cycle developed after reading many books on the impacts and effects of volatile substance abuse.

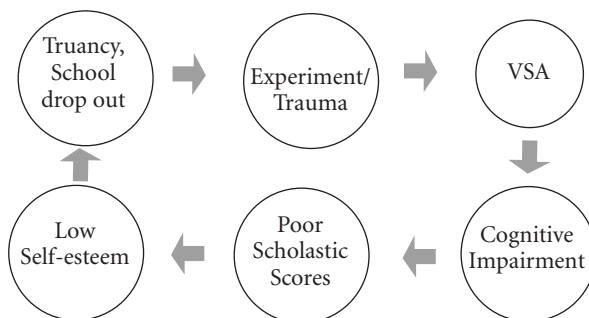


Fig.1. Depicting the vicious cycle of VSA and its impacts on the individual

Prevention and Precaution Precipitate Protection

Inhalant abuse can be hard to detect because its effects are so short-lived. It is a laborious form of substance abuse to treat and so it is best to recognize

and start treatment before the problem becomes a habit. Parents play a pivotal part in helping their children resist inhalant abuse in the first place. One of the most effective prevention of inhalant abuse could be through the education of parents, caregivers and teachers. A study of a sample of 1023 children, reported that parental monitoring could strengthen resistance to peer pressure and therefore it can be expected to reduce substance abuse (Guillen, Roth, Alfaro & Fernandez, 2015). Peers have a high degree of influence only when the parents have abdicated their traditional supervisory roles. Hence, parents exercising traditional family roles may be able to limit the influence of peer groups on children's attitudes towards substance abuse and therefore have a crucial influence on children's behavior (Rossow, 2000). Education strategies need to focus on young children since they know about inhalants, and these are easily available and legitimate at home; they should be informed about its noxious effects too. Furthermore, as former United States President Ronald Reagan pointed out: "We will know we have won the war on drugs, not when we take drugs away from our children, but when we take our children away from the drugs." (Group), 1994).

Parents and Educators can use the following tactics to help prevent VSA:

1. Parents and caretakers should be aware of the child's interests, their peer groups, stay connected and know where their children are at their free time, keep a check on the child's performance and behavior and must attend the parents- teachers meeting.

2. Activities such as sports, brain games, reading good books, learning or listening to music can help children develop good habits and will keep them busy in some productive works.

3. Spend quality time with one's child through family activities like gardening, having meals together, and weekly night-outs. Casual conversations can include discussions on topics like inhalant abuse and its detrimental outcomes.

4. Parents and educators need to be alert if they notice any of the following signs, which could be possibly due to VSA. They must be vigilant enough to recognize the signs of inhalant abuse especially because most abusers do not

seek treatment on their own.

- Painting fingernails with magic markers or correction fluid
- Sitting with a pen or marker by the nose
- Constantly smelling clothing sleeves
- Showing paint or stain marks on face, fingers, or clothing
- Having numerous butane lighters and refills in room, backpack, or locker
- Hiding rags, clothes, or empty containers of the potentially abused products in closets, under the bed, in garage, etc.
- Drunken behavior, unexplained listlessness, anorexia and moodiness
- The hair, breath and clothing -smell of solvent
- Empty adhesive tubes or other containers, potato crisp bags, cigarette lighter refills, and aerosol spray cans are often found.
- Paint or oil stains on body or clothing
- Spots or sores in or around mouth
- Poor scholastic performance,
- Wanting to be alone, Remain in closed room
- Decrease in personal hygiene

5. Schools and institutions should keep a regular check on every student's performance, behavior, attendance, and if any student is found suspicious, they should immediately inform parents and take appropriate actions.

6. Bathroom cleaners, kerosene, nail polish removers, whiteners, etc need to be kept under lock and key, and one should also keep a track of the volatile substances at home.

7. Seek help if one suspects inhalant abuse.

Conclusion

Though inhalant abuse is a lesser recognized form of drug abuse, it is no less precarious. These are addictive and considered to be 'gateway' drugs because children progress from inhalants to illegal drug abuse. Parents need to be involved in their children's lives before it is too late. Especially in India, if this issue is not timely addressed it will take the shape of an epidemic with severe socioeconomic consequences besides human resource depletion for the nation. Inhalant abuse is becoming a public health problem in India due to lack of awareness of general population as well as health professionals. There

are drug abusers from every walk of life. The development and evaluation of strategies for the treatment of chronic abusers and for prevention are major challenges for the future. Education about inhalants for parents and professional people likely to encounter VSA such as teachers and welfare workers should be done. Research and consultation to determine specific features pertaining to Inhalant Abuse within the local area is needed to determine strategies to prevent VSA. Community education is vital to increase parental and teachers' sensitivity to the issue.

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