

## Seven Year Old Boy with Volatile Dependence: Socio Cultural Milieu as a Prognostic Factor

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### Abstract

Volatile use among children and adolescents are on a rise and the reasons for the same have been discussed in plenty. Many psychosocial factors associated with this has been identified and reviewed by many researchers. The ease availability and accessibility of dendrite like volatile substances makes the scenario worse. In the present case, socio cultural milieu plays a paramount role and acts as a poor prognostic factor in the line of management. It strongly indicates the need of primary preventive methods.

**Keywords:** Volatile dependence; Child and adolescence; Psycho social factors

### Background

The non-medical use of chemical substance in order to achieve alterations in psychological functioning has been termed as substance use. Apart from predominant substances like alcohol, cannabis, opioids which are commonly used substance in India, solvents and propellants use is also on rise, especially among children and adolescents. Solvents and propellants used as inhalants are found in a range of inexpensive, legally available household, office, industrial, and automobile products. These products include correction fluids such as Liquid Paper, nail polish removers (acetone), and permanent markers (xylene) [1].

### Volatile Solvents Abuse

Volatile substance abuse (VSA) is the deliberate inhibition of fumes or vapours for their intoxicating and mind altering effects [2]. VSA is frequently referred to as inhalant abuse. This can be confusing because the term inhalant can refer to a number of other toxic substances that are not solvents [3]. Volatile substance use is also referred to as glue sniffing, inhalant abuse, or solvent abuse, has been defined as “the deliberate inhalation of gas or fumes given off from a substance at room temperature for its intoxication effect” [2]. VSU is generally confined to those between the ages of 10 and 16 years, with most use occurring around 12 to 14. Most common volatile substance inhaled for their intoxicating effect include petrol (gasoline), anesthetic gases, volatile nitrates, organic solvents in an array of household and commercial products, aerosols, fire extinguisher chemicals, and natural gases [4]. Volatiles belong to the category of psychoactive drugs, which are central nervous system depressants. They are chemical compounds with the capacity to change rapidly from a liquid or a semisolid state to a gas when exposed to air. According to Hartman [5], the common characteristics of solvents, which have implications for users, are: they pass through the body intact; they have affinity for fat, especially nerve tissues; they are soluble in blood; and they pass rapidly through tissue.

### Clinical History

A 7 year and five months old male, hailing from L.S.E.S of Urban Ranchi, with family history of multiple substance dependence in father, with nil personal history of any physical/psychiatric illness presented with complaints of daily intake of dendrites and behavior problems since the age of six.

According to the patient and mother, he started consuming

dendrites one and half years back. Reported that he used to mingle with group of adolescents and subsequently started dendrite inhaling due to the group pressure. Even though the patient couldn't give an account of the exact pattern of inhalation, he reveals that at times he has the urge to meet the group he belonged to for inhaling dendrite. He hardly involves with his own age group and doesn't engage in play or other likely activities. Since the group and the patient has no source of income, they involved in begging, also goes to an extent of minor stealing for procuring money. The same pattern continues for last one and half years and hardly anyone identified or resisted the problematic behavior. Whenever he gets intoxicated, informant noticed some behavioral changes in him like anger outburst, abusive and assaultive behavior towards mother, disturbed sleep and appetite.

There is no history suggestive of other substance use/dependence, mood/psychotic illness, neurological conditions or other significant physical illness.

### Socio Cultural Milieu of the Patient

Psychosocial analysis of this specified patient was carried out by interviewing mother and significant others. The major areas of dysfunction are family, school and neighborhood.

Patient is the only child of middle aged parents. His father is truck driver who had no formal education. Most often he was away from the home and hardly stays for a day or two. It was also revealed that he is a multiple substance dependent and whenever he returns home he is intoxicated and never showed emotional attachment towards his son. Even though he is the main bread winner of the family, he rarely gives money for the family's house hold and this behavior led his wife to become a commercial social worker after prolonged economical struggle for living. There is frequent absence of both parents during day and night time and this gives enough opportunity to the child

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for mingling with the adolescent group and to engage in problematic behaviors. The low income, fathers multiple substance dependence, emotional and physical violence, frequent absence of parents from the home, inadequate parenting style, lack of real authority figure, role confusion, low emotional bondage among family members are the major concern of the family.

He joined in a government school, Ranchi at the age of 5. He was irregular in school and hardly showed interest in academic activities. Later, he discontinued his schooling due to lack of parental support. He had little involvement with his peer group and subsequently attached with inappropriate age group. Drop out which resulted in maladaptive socialization has maximized the substance taking behavior.

Patient lived in a slum like area behind a shopping mall where basic facilities of accommodation are inadequate. People at the neighbourhood all belongs to the lower stream of the society. Majority of the children and adolescents were illiterate or else school drop outs. Most of them were jobless and this group involve in socially deviant behavior including drug abuse and criminal activities. Unfortunately this group existed in the patient's home environment and the patient was in touch with them. Unhealthy social milieu, inadequate peer group relationship and pressure, more over ease availability and accessibility of the volatile substance might have precipitated and subsequently perpetuating the child's condition.

## Assessment

IQ assessment was done using Seguin Form Board, Mallin's Intelligence Scale for Indian Child. The test score of 95 indicates average intelligence in the child. Child Behavioral Checklist was administered for the management purpose and identified severe problematic behaviors.

Family Environment Scale, McMaster Family Device, Social Support Questionnaire, Social Support Network Inventory, WHOQOL, Multi dimensional parenting scale were administered on the family members. In FES, the score was low in all the sub groups like relationship, personal and system maintenance. The least score was 4/36 in the system maintenance. The areas – problem solving, communication, role, affective response, behavior control and general functioning of the McMaster Family device scored low. SSQ score of 48 indicates less social support and SSNI score of 18 indicates poor social network. WHOQOL score revealed poor quality mainly in the areas of environmental, social and psychological areas. The score was seemed high in the deviant parenting style and a low score in the normal parenting style while administering MDPS.

## Intervention Details

Management of the patient included short term and long term goals. Short term plan consisted of psycho education to the family, abstinence from the substance and environment manipulation of the patient. Long term management included rejoining of the school, change of faulty parenting style and family intervention that includes stable income generating through legal activities. The team tried to assess the patient and family in initial two sessions and subsequently tried to motivate the family members for structured frequent sessions. But they didn't turn up for further therapy sessions due to unknown reason. The discontinuation of therapy might be the result of the psycho social factors which has been explored during the assessment session. In addition, the treating team considered these factors as a bad prognostic indication.

## Discussion

Number of psychosocial factors is related to substance use in children and adolescence. In this case, the factors identified are low socio economic status, family dysfunction, faulty parenting style, family history of substance use, peer group pressure, easy accessibility of drugs and maladaptive socialization. Further the consequences of substance use explored are school dropout, physiological and behavioral problems and poor quality of life. The above mentioned variables are identified by many researchers. But, very few cases are reported with maximum number of psychosocial factors intertwined.

Epidemiological studies on substance users explored that the mean age of first use is 19 years with a standard deviation 5 in the urban slum area [6]. But in this case, the patient, who hails from the similar background, had his first use of drug at the early age of six. Studies done on street children also have identified dendrite as a common drug among the group. Ease availability and accessibility of drugs in slum area acts as a susceptible factor. People living in slum area are at the edge of living through their high risk living style and most of them works in unorganized sector and their unstable nature of work makes parents abstinent from home. This situation makes children more vulnerable to drugs and they often get chance to be in touch with the deviant groups of the same area.

Strategic interactions between a parent and a child within a family seemed important in predicting the behaviour of the child. In the current case, particularly the family variables are related to substance use. Parental use of substance is a precursor of the onset of substance among their offspring [7]. In the present family, there was a significant history suggestive of substance dependence (father) which affected family as a whole particularly the well being of the child. Low parental support or monitoring is associated with high rates of adolescent substance use [8-11]. The pattern of paternal monitoring and attachment is likely to be influenced by family structure [12]. In non-standard families, the relationship with the absent parent (more often the father) might be poor or non-existent and single parent families may be less supportive than two parent families. Thus the effects of family structure could be mediated by factors such as parental support or bonding. Previous studies by de Goede and Spruijt [13] suggests that adolescents from divorce families experience poorer mental health than those from intact families and reported more alcohol and other drug use and anti social behavior [14]. These results correlated with the situation of present case and even school dropout pointed towards this particular factor. It can be assumed in the present context that, an effective parental monitoring and good family environment could have resisted or alleviated the menace.

Closeness or a positive relationship with parents reduces the risk of adolescent substance use [15]. Both Hoffman [12] and Sokol-Katz et al. [16] pointed out the overriding importance of family dynamics such as parent-child relationship and the degree of parents' control. Dynamic of this particular family has severe dysfunction as the earlier studies suggested. The areas like boundaries, leadership, decision making, communication, cohesion, role, problem solving capacity and adaptability are severely affected and these factors might have led to the child's problem behavior.

The case of 7 year old boy with volatile dependence presented above had similar psychosocial factors associated and most of the factors seemed to be a poor prognostic predictor.

## Conclusion

In most of the child and adolescent psychiatric cases, determinant of bad prognostic factor is socio cultural milieu. It strongly indicates the need of primary preventive methods.

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