

To the Editors:

## Volatile substance misuse is often missed

In most adolescent populations substance use is a serious social and public health concern. Of the substances abused, volatile substance (solvent) abuse is a worldwide problem prevalent mainly among adolescents [1]. As far as we are aware there are no published data on the prevalence of solvent abuse in Sri Lanka. The volatile substances abused include petrol, solvents and adhesives [1, 2]. The volatile constituents found in these agents include hydrocarbons, acetone and toluene. Volatile substance misuse may be associated with poor academic performance and dropping out from school [4, 5]. We present two case histories of inhalant abuse leading to decline in academic performance.

### Case 1

A previously stable 13-year old schoolboy, with loss of appetite and declining school performance over the last few years was brought to the psychiatric clinic by his parents. He had become socially withdrawn and was drowsy at times. Parents had noticed that he had a bottle of petrol with him, and after returning from school he climbed a tree and inhaled the petrol. Eventually the whole day had been spent inhaling petrol, he had not attended school at all, and had stopped playing with his friends. When his bottle of petrol was over he had removed petrol from vehicles stealthily. He said he had a compulsion to inhale petrol and he had symptoms of dependence.

### Case 2

A 10-year old schoolboy was brought by his parents as they had noticed that his social relationships and school performances were declining. Parents had also observed that he was drowsy at times and he had stains on his face and around his nose. They had eventually found out that he has been sniffing shoe polish for the last 6 to 8 months. Sniffing shoe polish had taken precedence over all other activities.

We explained the advantages of not misusing substances including solvents and agreed with the boys on a behavioural management plan that included attending to schoolwork and improving peer relationships once again. Alternative coping strategies, such as playing with other children and going for outings with parents were introduced in the management. We advised parents regarding preventing them from procuring substances and

to appreciate drug free days. We have followed them up regularly and neither had used inhalant during this period.

### Discussion

The clinical effects of solvents are similar to those of alcohol. The symptoms of intoxication develop and wane rapidly [2]. There is a rapid onset of euphoria with staggering gait, slurring of speech, incoordination, blurring of vision, dizziness and disorientation. Disinhibition and feelings of omnipotence may lead to risk taking, accidents and antisocial behaviour.

When the intoxication is severe, there may be marked ataxia, confusion and drowsiness progressing to coma. Deaths can occur due to aspiration, accidental trauma, asphyxia, cardiac arrhythmias or respiratory depression [1, 2, 3].

Regular users may develop dependence and sustained use may lead to tolerance [2]. Solitary solvent abusers seem to carry a poorer prognosis compared to those who use these substances in groups.

Early detection of those who abuse solvents is important as they have a risk of abusing other substances and of developing neurological disturbances.

Substance misuse (including volatile substances) should be suspected when there is deterioration of school performance, social isolation and behavioural changes in school-children, and teachers and medical professionals should be made aware of this important issue.

### References

1. Flanagan RJ, Ives RJ. Volatile substance abuse. United Nations Office on Drugs and Crime. *Vienna* 1994; 49-78.
2. Gelder M, Mayou R, Cowen P: eds. The misuse of alcohol and drugs. In: *Shorter Oxford Textbook of Psychiatry*. 4th ed. Oxford: Oxford University Press; 2001; 578-9.
3. Anderson CE, Loomis GA. Recognition and prevention of inhalant abuse. *American Family Physician* 2003; **68**: 869-74.
4. Flescher MA, Tortolero SR, Baumler ER, Vernon SW, Weller NF. Lifetime inhalant use among alternative high school students in Texas: Prevalence and characteristics of users. *American Journal of Drug and Alcohol Abuse* 2002; **28**: 477-95.
5. Tenenbein M. Inhalant abuse: The silent epidemic. *Psychiatric Times* 1995; **12**: Issue 3.

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