International e-Journal of Community & Industry Engagement
Vol.1, No.2, December 2014, 40–47

Approaches and Methods to Assess the Problems of Inhalant Abuse in Teluk Kumbar, Penang, Malaysia

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Abstract

Determining the characteristics and magnitude of a problem are important elements in developing and planning for an effective intervention. The community of Teluk Kumbar highlighted social problems arising from inhalant use among local youths in the district. The National Poison Centre initiated a project to collaborate with the community to alleviate the problem. To design an effective prevention programme a comprehensive understanding of the inhalant abuse problem was acquired. Different methods and sources of information gathering were utilised to assess and analyse the problem. This included survey questions, field observation, focus group discussion and community informants. All these assessment methods complement each other to provide the required data on the extent and pattern of the problem and included pertinent information for the development of an intervention programme.

***Keywords**: inhalant abuse, assessment, field observation, focus-group discussion, community informant*

Introduction

Volatile substance abuse (VSA) involves the deliberate inhalation of a volatile substance to achieve an altered mental state. This phenomenon is also known as inhalant abuse or glue sniffing. Inhalant abuse is a prevalent and often overlooked form of substance abuse in adolescents (Mahmood, Sabitha, Nadiah, & Yahya, 2008). Inhalants are products that emit volatile chemical vapours which can then be inhaled through the nose or mouth to induce a psychoactive, or mind altering effect. When compared with other forms of substance abuse, inhalants are popular because they are legal products, readily available and cheaply priced, and have the ability to induce euphoria rapidly. Inhalant users are often unaware of the health threats of inhaling solvents. Small doses can rapidly lead to euphoria and other disturbances of behaviour similar to those caused by ethanol. It may also induce more profound effects such as delusions and hallucinations. Higher doses may produce life-threatening effects such as convulsions and coma. Death may ensue indirectly after, for example inhalation of vomit, or direct cardiac or CNS toxicity (Shepherd, 1989). Cardiac arrest, known as 'sudden sniffing

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e-ISSN 2289 3091

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death', is unique to inhalant users and highlights the significant risk associated with the abuse of inhalants.

In the past, inhalant abuse was considered an isolated problem with little public apathy. However, the problem appears to have spread around Malaysia since it was first observed in the early 1980s (Navaratnam, 1988). More recently, there are increasing reports in the mass media of inhalant abuse among youths with glue sniffing named as the most common form of inhalant abuse involving adolescents including children of ages between 10 and 18 (Haslina Hashim, 2002).

Currently, there is no legislation for the authorities to act on inhalant abusers. Local studies on this issue are not many despite the need to assess the characteristics and magnitude of the problem to aid policy decisions and intervention strategies.

This paper describes the various methods used to assess and measure substance use and behaviour and the extent of the problem in the community. It also discusses the relative advantages and disadvantages of each measurement method used. The assessments are in the form of exploratory and descriptive study.

Literature Review

Exploratory study was conducted to give a better understanding of a situation or a problem. It will answer the questions of what is happening and why it is happening. Exploratory research usually involves only a relatively small group of people, and these people are almost never randomly selected to participate. Some of the methods of exploratory research include literature searches, depth interviews, focus groups, and case analyses [10].

A focus group is an interview conducted among a small number of individuals simultaneously; the interview relies more on group discussion than on directed questions to generate data. The discussion is facilitated by a moderator present with the focus group participants. Group interaction is the primary advantage in a focus group discussion. A comment by one individual can snowball into a chain of responses from others. As a result, responses are often more spontaneous and less conventional [10].

For descriptive study, self-report is the most common method and widely used in assessing substance abuse problem. The significant advantages of self-report measures are that they are relatively easy to administer to large samples; they can be administered simultaneously in several different locations; the results are easily quantifiable and thus analysable; and they offer the researcher the ability to question respondents on many different areas of interest. Self-report instruments are also relatively inexpensive to produce and administer and can be administered in several different ways, including in person or over the telephone by an interviewer, via mail, or via the Internet (Patrick, Deci, Eghrari, & Leone, 1994).

Activities and programmes for adults are not necessarily effective for children and adolescents. Teens have their own requirements that need to be adapted in a way that they requested (Coleman & Cater, 2006). The saying, 'one size fits all' may not be appropriate. High-risk adolescents in turn, require a different approach (MacKenzie, Hunt, & Joe-Laidler, 2005; Slesnicka & Prestopnikb, 2005).

In order to design a programme that is relevant and compatible with the target group, the National Poison Centre at Universiti Sains Malaysia (USM) conducted a project to assess the magnitude and characteristics of inhalant abuse, in particular, glue sniffing among adolescents in the Teluk Kumbar community in Penang, using various research approaches.

Methodology

The study utilised several qualitative research methods to collect relevant data to assess the problem. They include conducting a small self-administered questionnaire survey among identified inhalant users, field observations, focus group discussions and interviews with community informants (villagers, teachers, and others). Students (n=40) with a history of substance abuse were recruited from two schools within the community. They responded to a questionnaire designed to capture information on their knowledge, attitude and practices related to substance abuse, in particular, inhalants (glue sniffing). This was followed by focused group discussions to gather more in-depth information on inhalant use among adolescents. Students were randomly assigned to groups of five with one moderator each who facilitated the discussion. The moderators used an outline of various topics for discussion. Among the topics discussed were student's background, their family and friends, exposure and abuse of various substances. Observational surveys of various areas within the community where adolescents reportedly used inhalants presented further evidence on the methods of abuse. Group discussions, in-depth interviews, talks and meetings were also carried out with members of the community to elicit their views and feedback on issues related to inhalant use as well as to discuss their role in the project. These research activities provided the study team with the required data, knowledge and understanding of the extent and characteristics of inhalant use necessary to develop the appropriate educational materials and strategies for prevention of inhalant abuse in the community.

Results

Assessment of the problem using Community Informants

Community's perception on glue sniffing activities

Initial discussions and in depth interview with community members and local NGOs provided primary feedback and insights on the abused inhalant problems in the community. Majority of them were aware of the glue sniffing activities among a group of youths. The women folks reported that inhalant abusers could easily obtain their supplies that are relatively cheap from shops in the neighbourhood. They claimed to have frequently noticed that the youths involved in this activity often skipped classes and roamed the streets. Their favourite 'hot spots' are abandoned buildings, small forest, bushes, factory backyards, on the trees and areas around the beach. The community are concerned that if the glue sniffing activity is not prevented in its early stage it could result in severe negative effects on other children.

Members of the community also shared their experience of dealing with the problem of teenage inhalant abuse. One mother said her child had been involved in glue sniffing since he was thirteen until 28 years old. In this particular case, the glue sniffing habit had occurred at home and left the smell on the clothes. She alleged that the product had been so extensively inhaled that the glue colour had turned white.

School teachers, especially school counsellors, when interviewed, expressed great concern on the matter. They viewed inhalant abuse as a serious problem in the community as it has apparently spread to primary schools involving younger students. To overcome this problem, teachers have appealed to the local community and parents to be more vigilant and give their full support to address the issue.

Assessment of the problem using Self-Reported Questionnaire

Students' knowledge, attitude and practice concerning inhalants

Overall, results from the self-reported questionnaire revealed that the students' knowledge and awareness on the dangers of inhalant is relatively low, especially the harm inhalant could cause to the body. Almost half of the students interviewed were "not sure" about the harmful chemicals present in inhalant such as toluene and benzene. The majority (54%) indicated inhalant does not cause burn, explosion or accident.

However, their level of understanding, especially on the effects of inhalant to specific target organs such as the brain, was quite satisfactory. They were aware that inhalant can cause dementia and memory loss (56%), kills brain cells (53%), resulting in brain damage and impairment of breathing as well as oxygen transportation process (66%) and, euphoria and loss of body control (64%).

Regrettably, a majority of the students (87%) did not know that inhalant can cause "Sudden Sniffing Death Syndrome" (SSDS) even on the first attempt (Figure 1).

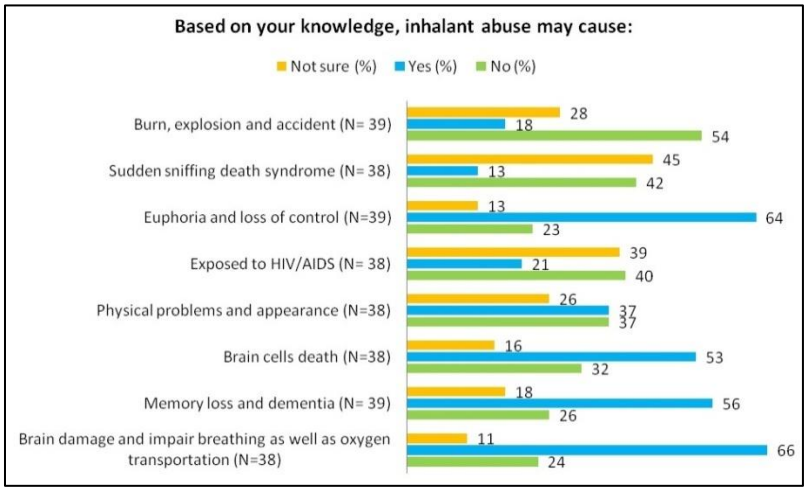

Figure 1: Students' knowledge on effects of inhalants

The survey showed that 22.9% of the students reported they had experienced with inhalant abuse. Of these, 5% used an inhalant once a week. On the factors that led to inhalant abuse among youths, 54% felt that youth are keen to try new things while 48% said it was due to peer pressure. Another 46% said they had tried it for fun (Figure 2).

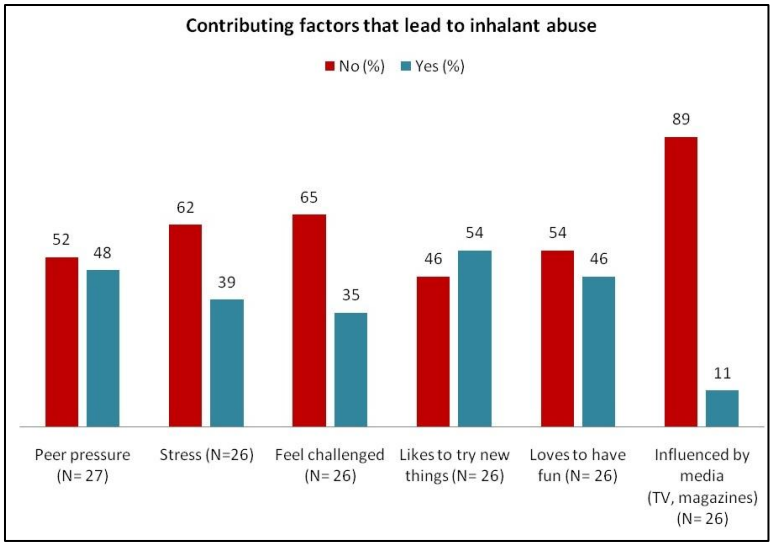

Figure 2: Contributing factors that lead to inhalant abuse

Assessment of the problem using Focus Group Discussion

Apart from factors such as personal issues, stress with school activities and too much homework, peer pressure and problems within the family were associated with inhalant use. Focus Group Discussions reaffirmed the findings.

Most students reported that inhalants (specifically rubber cement glue) were easy obtainable (68%) in their surroundings. More than half (61.5%) of them reported that anyone, including young children, can buy inhalant (glue) in certain retail stores, while 59% stated that they can obtain it from their friends. These data show that convenient accessibility to inhalant products is also a contributing factor for inhalant abuse.

Assessment of the problem using Observational Survey

Observational studies presented further evidence on the methods of inhalant abuse and common locations where the problem exists in the community to aid appropriate intervention plans. The observational survey took note of the effects of the exposure in various areas in the community where adolescents reportedly used inhalants. Eleven locations visited matched with the information provided by the community informants. Most of these locations are isolated areas and were difficult to access such as near the seaside, hillside, bushes, small forests, factory backyards and roads' ends. There are also other 'hot spots' in public places such as an abandoned market and stairways of residential areas. Spotted in these places were empty rubber cement containers and used glue-stained plastic containers. Two short video documentaries on the findings of the survey were developed.

Discussion

The project used diverse and complementary approaches to achieve its objectives to address the inhalant abuse problem in this rural community. The advantages and disadvantages of each of these assessment methods are mentioned in this paper.

Community Informants

A civic-minded and caring community committed to eradicate the menace of inhalant abuse was crucial to trigger this initiative. Through networking and participation of various stakeholders, an informal working group was formed to work on the project, aspiring to make it a success.

Active participation of all partners was vital especially in determining the severity of the inhalant problem in the community. This followed with the planning and implementation of the health-education intervention programme and, finally the evaluation of its outcome.

There were some challenges initially. The network had difficulty fixing a suitable meeting time due to different working hours of the members. This was eventually resolved by arranging meetings after normal working hours, having informal discussions during leisure time and the use of the electronic media such as the e-mail instead of a formal face-to-face meeting.

A number of these sessions were conducted using the Visualisation in Participatory Programme (VIPP) technique to enhance participation. The VIPP emphasises on visualisation technique wherein participants can express their ideas in large written letters or diagram for the benefit of the whole group. This enabled everyone present to participate in the process. These flexible and creative approaches are effective in facilitating and strengthening communication between all the partners [11].

Self-reported Questionnaire

Self-reported instruments are the most convenient and widely used form for assessment on substance use. In this programme, the paper–pencil questionnaire was utilised for self-reporting.

Despite the convenience, self-reporting can be problematic when a respondent's literacy level poses an issue. Some students in the study had difficulty understanding the question. Thus, a researcher was required to assist and ensure the respondent understood the question adequately. However, this situation may also result in biasness on the part of the researcher. Hence respondents may alter or modify what could be an honest response to a question because of the "demand characteristics" (Ritcher & Johnson, 2001). As normally the case, respondents would like to present themselves in a socially acceptable manner and might therefore hide the truth to appear more "normal" or acceptable to the researcher.

Focus Group Discussion

Results from the questionnaire survey were reviewed and discussed in the group discussion. The moderators followed a rough outline of issues and recorded the comments made by each person involved in the group discussion. For this process, students with a history of substance abuse were the main target group. Dealing with students with low self-esteem and disciplinary problems is challenging. During the discussions, the students initially had problem expressing their feelings and experiences. They were also worried about the confidentiality of the information shared. To overcome this, discussions were organised and conducted in an informal manner and in small groups to gain the students' trust. Facilitators were reminded to be caring and to show empathy to the students. As a result, the students were more at ease and participated better in each session. The facilitators also had better co-operation from the students.

Observational Survey

The primary strength of an observational survey was that it provided a speedy way to assess certain characteristics of the inhalant abuse problem. Through observational survey in areas in

the affected community, evidence such as empty containers and plastic bags clearly revealed that rubber cement is the most common inhalant abused and the abusers had likely inhaled the substance using the “bagging” technique. They may also have consumed alcoholic beverages while abusing inhalant.

Summary

Universiti Sains Malaysia – Community Engagement project *‘Inhalant Prevention Education Program in Teluk Kumbar’* is a pioneer model. Quantitative and qualitative assessment approaches and method were applied comprehensively to understand and intervene the problem of inhalant abuse. The characteristic evidence of the problem of inhalant abuse contributed to the design of relevant educational materials and identification of the targeted groups. The project has successfully developed and implemented a community-based drug prevention intervention through engagement and participation of local community including schools, youths, local NGOS, law enforcement agencies and religious groups.

Acknowledgements

The project is a joint effort of the National Poison Centre, USM, Education and Prevention Unit, Penang Department of Education, the National Anti-Drug Agency, Penang Division and the Bayan Lepas Community Sports Club.

The project is implemented under the Knowledge Transfer Programme (KTP) of Malaysia and supported by the Ministry of Education (MoE) Malaysia and Malaysia’s Economic Planning Unit (EPU). The grant for this project bears the number: 203/CRACUN/6750025

The project members would like to thank the following parties for their assistance and cooperation:

- The Information Department
- The Welfare Department
- The Royal Malaysian Police Force
- Volunteers of Malaysian People
- The Teluk Kumbar District NGO
- The Parent –Teachers Association (Teluk Kumbar Primary and Secondary Schools)

The project members would also like to acknowledge and thank all other groups and individuals who have contributed to the successful implementation of this project.

References

Coleman, L. M., & Cater, S. (2006). Pathways for practice and policy to reduce adolescent alcohol abuse: Interpretations from a qualitative study. *International Journal of Adolescent Medicine and Health, 18*(1), 37–41.

Haslina Hashim (2002). *Penyalahgunaan Inhalan di Kalangan Remaja*, Dewan Kosmik.

MacKenzie, K., Hunt, G., & Joe-Laidler, K. (2005). Youth gangs and drugs: The case of marijuana*. Journal of Ethnicity in Substance Abuse, 4(3/4),* 99–134.

Mahmood, N. M, Sabitha, M., Nadiah, E., & Yahya, D. (2008). Pattern of Substance and Drug Misuse Among Youth in Malaysia. *Jurnal Antidadah Malaysia*. Jld *3*(1), 1-56.

Navaratnam, V. (1988). Abuse of volatile solvents and Inhalants. Papers presented at WHO Advisory Meeting. *International Monograph Series No. 1,* Centre for Drug Research.

Patrick, B. C, Deci, E. L, Eghrari, H., & Leone, D. R. (1994). Facilitating Internalization: The Self-Determination Theory Perspective. *Journal of Personality,* March, *62*(1), 119–142.

Richter, L., & Johnson, P. B. (2001). Current methods of assessing substance use: A review of strengths, problems and developments. *Journal of Drug Issues, 31*(4), 809–832.

Shepherd R. T. (1989). Mechanism of sudden death associated with volatile substance abuse. *Human Toxicology, 8*(4), 287–291.

Slesnicka, N., & Prestopnikb, J. L. (2005). Ecologically based family therapy with substance abusing runaway adolescents*. Journal of Adolescence, 28*(2), 277–298.

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