

Status of Drugs and Substance Use among Secondary School Students in Kenya

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Abstract

Early initiation of substance use increases the risk of future substance use disorders and other negative outcomes. This study conducted between March and June 2016 explored the secondary students' drugs and substance use behaviour and related risk factors. Using a sampling frame of schools registered with the Ministry of Education, Science and Technology, 77 secondary schools were randomly sampled. A total of 3,908 students (60% male and 40% female) in all the eight regions of Kenya were interviewed. According to the study findings, the age of initiating the different drugs and substances of abuse among secondary school students was 13 to 15 years. Data also showed that alcohol (23.4%) was the most commonly used substance of abuse by students followed by *khat* / *miraa* (17.0%), prescription drugs (16.1%), tobacco (14.5%), bhang / marijuana (7.5%), inhalants (2.3%), heroin (1.2%) and cocaine (1.1%). Among the risk factors associated with drugs and substances of abuse among secondary school students were: being male; being in upper classes; having a family member or friend using drugs or other substances of abuse; and knowledge of a schoolmate using drugs or other substances of abuse. The findings therefore concluded that the secondary schools in Kenya were not drug free environments and therefore there is need to entrench life skills in the school curriculum; enhancing parenting skills and positive role modeling; and capacity building of guidance and counseling teachers to effectively deal with the

challenges of students' drugs and substances of abuse.

Key words: *Drugs and Substance Abuse, Substance use, Secondary school level, Risk factors, School-based interventions*

Introduction

Use of tobacco, alcohol, and other substances is a worldwide problem and affects many children and adolescents (WHO study group on drug dependence. 1969). Early initiation of substance use increases the risk of future substance use disorders and other negative outcomes such as lower educational achievement and early onset of sexual behavior. Even among adolescents with no history of behavior problems, initiation of alcohol or poly-substance use before age 15 more than doubles the risk of substance use dependence and criminal convictions in adulthood, acquisition of sexually transmitted infections (STIs), and early pregnancy in females (Odgers et al., 2008).

Likewise, earlier onset of smoking is associated with a greater likelihood and severity of nicotine addiction and difficulties quitting (Breslau and Peterson, 1996), and earlier cannabis initiation increases the risk of later cannabis abuse and dependence (Behrendt et al., 2009).

In Kenya, a study by the National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA) in Nairobi reported that alcohol was the most commonly abused substance with 36.3% of students reporting a lifetime use followed by *khat* / *miraa* (31.5%), cigarettes (20.2%), bhang (9.8%), heroin (3.1%), inhalants / glue (2.7%) and lastly cocaine (2.2%) (NACADA, 2010). In another study conducted in a rural secondary school in Kenya, alcohol, tobacco, *khat* / *miraa* and bhang (cannabis) were the most commonly reported substances of abuse with user prevalence rates of 5.2%, 3.8%, 3.2%, and 1.7%, respectively (Ndetei et al., 2010).

Students' unrest and violence have been a common phenomenon in Kenya. Taskforces have been appointed to identify and document the root causes of student unrest and violence. One of the cross-cutting root causes reported by each of those taskforces is drugs and substance abuse (GoK, 2001; GoK, 2008; and GoK, 2017). However, the magnitude of drugs and substance abuse among secondary school students in Kenya has not been documented. This study therefore sought to assess the prevalence of drugs and substance abuse among secondary school students in Kenya, sources of drugs, drug use behaviour and related risk factors in order to inform policy and programs.

Methodology

Research Design

The study used a cross-sectional design employing a mixed methods approach combining both qualitative and quantitative techniques.

Study area

The study covered secondary schools from all the eight regions of Kenya: Nairobi, Coast, North Eastern, Eastern, Nyanza, Western, Rift Valley and Central.

Sampling procedure

A national sample of schools was selected from a sampling frame obtained from the Ministry of Education, Science and Technology (MoEST) and stratified based on the following categories: public and private schools; day and boarding schools; and boys only, girls only and mixed schools. In addition, schools were also stratified on the basis of their classification i.e. National, County and Sub-County schools to ensure maximum variation and representation. The sample was distributed proportionately to the student population in a given region and county. Random sampling method was then used to identify the individual schools where the interviews were to be conducted. In each of the selected schools, students were sampled using systematic random sampling technique. Using a school's register as the sampling frame, every n th student at each level was selected for the interview.

Data collection

The study targeted a sample of 3,850 students which was rounded off to 4,000 factoring a non-response rate of 4%. In-depth interviews were conducted targeting principals / head teachers, deputy principals / head teachers, teachers responsible for ensuring discipline and those in charge of guidance and counseling. Self-administered questionnaires targeted secondary school students focusing on knowledge, drugs and substance use behaviour, risk and protective factors.

Data analysis

Quantitative data were coded, sorted, entered and analysed using SPSS software version 20. Descriptive statistics were used to describe, organize and summarize collected data. Responses from open-ended questions and in-depth interviews were analyzed qualitatively through content analysis. The raw data from the in-depth interviews and open ended questions were broken down into broad thematic areas within which emerging themes were generated through carefully designed criteria. This information was then used to supplement, explain and interpret quantitative data.

Multivariate logistic regression was used to allow for efficient estimation of measures of association while controlling for a number of confounding factors simultaneously. It assessed the independent predictors of drugs and substance abuse among secondary school students in Kenya.

Results

Knowledge of drugs and substances of abuse
A total of 3,908 students (60% male and 40% female) from 77 randomly sampled schools were interviewed. Overall, the study showed that students were fairly knowledgeable on the different drugs and substances of abuse. Bhang, alcohol, cigarettes, cocaine, heroin, inhalants, mandrax and khat were all fairly well known with at least 80% of the students identifying them as drugs. The three top drugs and substances of abuse reported as most readily available to students in schools were cigarettes, alcohol and khat.

Home environment and drugs

The study showed that the home environment was an important risk factor for initiation of drugs and substances of abuse among the students. The highest proportion of students reported the home environment as the place where a substance of abuse was used the last time. In the case of alcohol, the home environment was reported by 14.5% of the students. It was followed by other occasions such as weddings or parties (7.9%) and pubs (4.1%).

School environment and drugs

Not surprising, use of drugs and substances of abuse by schoolmates closely mirrors use of those substances by close friends. The students were asked if they were aware that their schoolmates and friends who were abusing drugs or substances of abuse. Among the top four reported substances that schoolmates and friends were using included alcohol (41.4%; 40.1%), khat (34.1%; 32.6%), cigarettes (31%; 27.5%) and prescription drugs (30%; 27.6%) respectively.

The students were also asked to mention the period when drugs and substances of abuse were most likely to be used in schools.

Data showed that they were more likely to be used during school holidays (48.5%) and on their way home (35.1%). Within the school environment, students were more likely to use drugs during weekends (30.4%). Other times mentioned included during inter-school meetings (27.8%), during school outings (27.3%), during entertainment sessions in school (24.4%), during games (23.7%) and during school trips (21.8%).

Sources of drugs and substances of abuse

When asked to mention the possible sources of drugs and substances of abuse, the students identified friends (32.2%), carried from home (29.3%), bought from other students (25.7%), bought from a bar near school (22%) or from a local brew den (19.1%). Other sources were kiosks or shops near school (16.9%), relatives (16.7%), supermarkets (11.3%), non-teaching school workers (7.4%), parents (5.3%), teachers (4.8%) and school canteen (3.9%).

Age of onset

The study showed that the age of onset to drugs and substances of abuse marked the period of transition from primary school to secondary schools. The age between 13 to 15 years presented the most critical period for the students in secondary schools to initiate drugs. The students were likely to initiate prescription drugs and inhalants at the age of 13 years. The students were likely to initiate alcohol, khat / miraa, tobacco and heroin at the age of 14 years. For cocaine, the age of onset was 14.5 years and 15 years for bhang/ marijuana.

Lifetime use of drugs and substances of abuse

The students were asked to mention the drugs and other substances of abuse that they had ever used in their lifetime (ever use). Data shows that alcohol (23.4%) was the most commonly ever used substance of abuse by students followed by khat / miraa (17.0%), prescription drugs (16.1%), tobacco (14.5%), bhang / marijuana (7.5%), inhalants (2.3%), heroin (1.2%) and cocaine (1.1%).

6-month use of drugs and substances of abuse

When asked to mention the drugs and other substances of abuse that they had used in the last six (6) months, alcohol (9.3%) was the most commonly mentioned, followed by prescription drugs (6.8%), khat / miraa (5.9%), tobacco (5.2%), bhang / marijuana (3.7%), inhalants (0.8%), heroin (0.4%), and cocaine (0.4%).

Current use of drugs and substances of abuse

The students were also asked to mention the drugs and other substances of abuse that they had used in the last 30 days. Findings show that alcohol (3.8%) was the most commonly used substance of abuse by students in the last 30 days (current use) followed by use of prescription drugs (3.6%), khat / miraa (2.6%), tobacco (2.5%), bhang / marijuana (1.8%), inhalants (0.6%), heroin (0.2%) and cocaine (0.2%).

Predisposing factors of drugs and substance abuse
In order to have an insight into the risk factors associated with drugs and substances of abuse

among secondary school students, the study employed alcohol consumption by students in the last six months as the dependent variable.

According to the logistic regression results, risk factors associated with drugs and substances of abuse among secondary school students were being male (AOR = 2.995, 95% CI 1.538 - 5.834, $p = 0.001$); being in Form 3 or Form 4 (the risk increased with increase in number of years in the school) (AOR = 0.683, 95% CI 0.529 - 0.883, $p = 0.004$); having a family member or friend using alcohol or other drugs (AOR = 2.071, 95% CI 1.226 - 3.494, $p = 0.007$); and knowledge of a schoolmate using drugs or other substances of abuse (AOR 4.839, 95% CI 2.235 - 10.478, $p = 0.0001$).

Strategies of dealing with drug abuse in schools

According to the study findings, some schools had put up strategies of dealing with students who were found with drugs and other substances of abuse in schools. These strategies included: guidance and counselling; suspension or expulsion from school; and summoning of parents to school. However, there was lack of a proactive strategy to deal with drugs and substances of abuse in schools. Indeed, the guidance and counselling teachers only got involved when cases of drugs and substance abuse were reported. In addition, these teachers were not well prepared to handle cases of drugs and substances of abuse by the students.

Discussion

According to the study findings, secondary schools in Kenya are not drug free environments with alcohol, prescription drugs, khat / miraa, tobacco and bhang / marijuana being the most abused substances. Similar findings have been reported by Ndeti et al., (2010) and NACADA (2010) among secondary school students where alcohol, tobacco, miraa / khat and bhang / marijuana were the most commonly reported drugs and substances of abuse.

The study also showed that students were initiating the use of drugs at young ages. Findings revealed that the age of onset of substances abuse marked the period of transition from primary school to

secondary schools. The age between 13 and 15 years presented the most critical period for the students in secondary schools to initiate drugs and substances abuse. Students spend the major part of their life in school and often during their formative years. In secondary schools, this time coincides with adolescence, a period of self-discovery and major psychological transformation. It has been reported elsewhere that levels of substance use among adolescents increased through the adolescence period (Johnstone et al., 2006) and that by the time the adolescents were at age 18 years, up to about a fifth of them meet the criteria of substance use disorder (Young et al., 2002).

Findings also showed that the home environment was a major risk for initiation of drugs by students. Poor parenting was linked to alcohol abuse as well as abuse of other substances. In a study of middle school students from the Birmingham Youth Violence Study in Alabama, USA, poor parenting practices was found to be strongly related to school-level alcohol and cigarette use (Mrug et al., 2010). They concluded in line with earlier studies that poor parenting could increase susceptibility to school-level substance use through greater deviant peer affiliations or impaired ability to withstand negative peer influence (Mrug and Windle, 2009; Simons-Morton, 2002).

Although parental guidance and approval remained the most important influences on adolescent behaviour, in situations where poor parenting is the norm (Wills, Sandy and Yaeger, 2001), peer guidance and approval become increasingly powerful and valued during the period of adolescence. Rather than seeking parental guidance, adolescents often seek role models outside the family who may be characters or personalities. Nonetheless, these shifts in influences shape numerous aspects of adolescent behaviour, including ADA (Wills, Sandy and Yaeger, 2001). Family variables still continue to exert a strong influence not only because most adolescents continue to value their family members as models of behaviour, but also because these factors encompass such a wide range of influences.

A number of risk factors for drugs and substances abuse in secondary schools were identified. The home environment was one of the major places

where students initiated drugs and substances of abuse. In addition, the family set-up was associated with drugs and substance abuse among secondary school students. For example, having a family member using drugs and substances of abuse was also associated with increased risk of abuse among the students. The relationship between the young person and his or her parents is critical in developmental terms (Youniss, 1983). Family structure is, in itself, an important variable, and several studies have shown that young people from "disrupted" families use substances more heavily and more frequently than others (Needle, Su, and Doherty, 1990; Doherty and Needle, 1991).

Further, single parents often exert a weaker influence over their children, which reduces their ability to contrast the risk factors that contribute to early school-leaving and substance use (Dornbush et al., 1985). By contrast, two-parent families tend to have higher levels of monitoring, which contribute positively to behaviour and school performance (Fisher et al., 2003; Borawski et al., 2003). Young people whose parents are divorced are reported to have more friends who use substances and weaker coping skills than those whose parents have not divorced (Neher and Short, 1998). Studies have found that children from dysfunctional families, those who are dissatisfied with their parents, and those who were not supervised were more likely to use drugs (Ledoux et al., 2002).

The school environment is critical where the school personnel often play a very influential role as models by which pre-adolescents and adolescents gauge themselves. Perra et al. (2012) have shown the influence of student-teacher relations on smoking, drinking and drug use. In this study, the researchers documented that positive teacher-student relationships reduced the risk of daily use of cigarettes, alcohol and cannabis. Thus, relationships with teachers and counsellors are important and formative for many students. Students who are poorly bonded to school are also less likely to recognize that substance use may reduce the likelihood of them achieving their future goals (American Academy of Paediatrics, 2007). Therefore, programmes addressing substance use should focus in a special way to the school environment within which the students operate.

Given the role schools play in shaping lives of young people, they can positively influence students by providing appropriate knowledge and skills for the students to make the right choices. Thus schools could act as powerful behaviour modifiers.

Conclusion

The study therefore concluded that the secondary schools in Kenya were not drug free environments and therefore there was need to entrench life skills in the school curriculum; enhancing parenting skills and positive role modeling; and capacity building of guidance and counseling teachers to effectively deal with the challenges of students' drugs and substances of abuse.

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References

- Adams, J. B., Heath, A. J., Young, S. E., Hewitt, J. K., Corley, R. P. and Stallings, M. C. (2003). Relationships between personality and preferred substance and motivations for use among adolescent substance abusers. *The American Journal of Drug and Alcohol Abuse*, 29(3):691-712.
- American Academy of Pediatrics (2007). The role of schools in combating illicit substance abuse. *Pediatrics*, 120:6
- Armstrong TD & Costello EJ (2002). Community studies on adolescent substance use, abuse, or dependence and psychiatric comorbidity. *Journal of Consulting and Clinical Psychology*, 70, 1224-1239.
- Balsa, A. I., Giuliano, L. M. and French, M. T. (2011). The effects of alcohol use on academic achievement in high school. *Economics of Education Review*, 30(1): 1-15.
- Borawski, E., Landis, C., Lovegreen, L., Trapl, E. (2003). 'Parental Monitoring, Negotiated Unsupervised Time, and Parental Trust: The Role of Perceived Parenting Practices in Adolescent Health

- Risk Behaviours.' *Journal of Adolescent Health*, 33, pp. 60-70.
- Behrendt, S., Wittchen, H.-U., Höfl er, M., Lieb, R. and Beesdo, K. (2009). Transitions from first substance use disorders in adolescence. Is early onset associated with a rapid escalation? *Drug and Alcohol Dependence*, 99, 68-78.
- Doherty, W. and Needle, R. (1991) 'Psychological adjustment and substance use among adolescents before and after a parental divorce.' *Child Development*, 62(2), pp. 328-337.
- Dornbusch, S., Carlsmith, J., Bushwall, S., Ritter, P., Leiderman, H., Hastorf, A. & Gross, R. (1985). 'Single Parents, Extended Households and the Control of Adolescents.' *Child Development*, 56(2), pp. 326-341.
- El Ansari, W., Stock, C. and Mills, C. (2013). Is Alcohol Consumption Associated with Poor Academic Achievement in University Students? *International Journal of Preventive Medicine*, 4(10): 1175-1188.
- Fagan, A. A., Hawkins, J. D. and Catalano, R. F. (2011). Engaging communities to prevent underage drinking. *Alcohol Research and Health*, 34(2):167-174.
- Fisher, P., Leve, L., O'Leary, C. and Leve, C. (2003). 'Parental Monitoring of Children's Behaviour: Variation Across Stepmother, Stepfather and Two-Parent Biological Families.' *Family Relations*, 52(1), pp. 45-52.
- GoK. (2001). Report of the tasforce on student indiscipline and unrest (Wangai report). Government Printers, Nairobi.
- GoK. (2008). The David Koech Special Commission to Investigate the Cause of School Unrest and Violence. GoK, Nairobi.
- GoK. (2017). Report of the Special Investigation Team on School Unrest (Clare Omolo Taskforce. GoK, Nairobi.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G. and Schulenberg, J. E. (2006). Monitoring the Future national results on adolescent drug use: Overview of key findings, 2005. Bethesda, MD: National Institute on Drug Abuse.
- Kilpatrick, D. G, Acierno, R. and Saunders, B. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology*, 68:19-30.
- Krejcie, R. V. and Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, Vol. 30: 607 - 610.
- Kuria, M W (1996). Drug abuse among urban as compared to rural secondary schools students in Kenya: a short communication. *East African Medical Journal*, 73(5):339.
- Ledoux, S., Miller, P. and Choquet, M. (2002). 'Family structure, parent-child relationships, and alcohol and other drug use among teenagers in France and the United Kingdom.' *Alcohol and Alcoholism*, 37(1), pp. 52-60.
- Miller, J. W., Naimi, T. S., Brewer, R. D. and Jones, S. E. (2007). Binge Drinking and Associated Health Risk Behaviors Among High School Students. *Pediatrics*, 119(1): 76 -85.
- Mrug, S. Gaines, J. Su, W. and Windle, M. (2010). School-Level Substance Use: Effects on Early Adolescents' Alcohol, Tobacco, and Marijuana Use. *Journal of Studies on Alcohol and Drugs*, 71(4): 488-495.
- Mrug, S. and Windle, M. (2009). Moderators of negative peer influence on early adolescent externalizing behaviours: The roles of individual behaviour, parenting, and school connectedness. *Journal of Early Adolescence*, 29:518-540.
- NACADA (2010). The role of school environment in alcohol and drug abuse among students - evidence from public secondary school students in Nairobi.
- NACADA (2012). Rapid situation assessment of the status of drug and substance abuse in Kenya. NACADA, Nairobi.

Needle, R., Su, S. and Doherty, W. (1990). 'Divorce, remarriage, and adolescent drug involvement: A longitudinal study.' *Journal of Marriage and the Family*, 52(1), pp. 157-169.

Neher, L. and Short, J. (1998). 'Risk and protective factors for children's substance use and antisocial behaviour following parental divorce', *American Journal of Orthopsychiatry*, 68(1), pp. 154-161.

Odenwalda, M., Warfa, N., Bhui, K. and Elberta, T. (2010). The stimulant khat - Another door in the wall? A call for overcoming the barriers. *Journal of Ethnopharmacology*, 132(3): 615-619. 47.

Odgers, C. L., Caspi, A., Nagin, D. S., Piquero, A. R., Slutske, W. S., Milne, B. J. and Moffitt, T. E. (2008). Is it important to prevent early exposure to drugs and alcohol among adolescents? *Psychological Science*, 19, 1037-1044.

Perra, O., Fletcher, A., Bonell, C., Higgins, K. and McCrystal, P. (2012). School-related predictors of smoking, drinking and drug use: evidence from the Belfast Youth Development Study. *Journal of Adolescence*, 35(2):315-24.

Rhodes, J. and Jason, L. (1988). Preventing substance abuse among children and adolescents. New York: Pergamon Press. Simons-Morton BG (2002) Prospective analysis of peer and parent influences on smoking initiation among early adolescents. *Prevention Science*, 3:275-283.

World Health Organization (WHO) study group on drug dependence (1969). WHO Tech Rep Ser No 407: 6-8

Wills, T. A., Sandy, J. M. and Yaeger, A. M. (2001). Coping dimensions, life stress, and adolescent substance use: A latent growth analysis. *Journal of Abnormal Psychology*, 110:309-23.

Young, S. E., Corley, R. P., Stallings, M. C., Rhee, S. H., Crowley, T. J. and Hewitt, J. K. (2002). Substance use, abuse and dependence in adolescence: Prevalence, symptom profiles and correlates. *Drug and Alcohol Dependence*, 68: 309-322.

Youniss, J. (1983). 'Social construction of adolescence by adolescents and parents', in H. Grotevant and C. Cooper (Eds.), *New directions for child development: Vol. 22. Adolescent development in the family*. London: Jossey Bass, pp. 93-109.