An assessment of knowledge, attitudes and practices of psychoactive substance use among secondary school students in Dodoma Municipality, Tanzania

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Abstract

Psychoactive Substance use continues to be major risk behaviour among youths, accompanied with physical and /or mental health complications/consequences. Despite of problems caused by psychoactive substances, knowledge, attitudes and practices of psychoactive substances among secondary school students in Tanzania is a relative new area at least in practice.

The objective of this study was to determine Knowledge, attitude, and practice of psychoactive substances use among secondary school students in Dodoma Municipality, Tanzania. The study used both qualitative and quantitative methods. The estimated sample size was 402. Quantitative data was analysed using SPSS where descriptive analysis was done to obtain frequencies, mean and standard deviation. Qualitative data was analysed by thematic framework analysis.

A total number 402 students participated in the study with majority of them being females 50.3 % (n=208). Majority of the participants defined correctly various terminologies on psychoactive substances 99.3 %,(n= 399) and 85.1%, (n=342) mentioned different types of psychoactive substances found in their areas. Only 6.5% of the surveyed students' had history of psychoactive substance use. Furthermore over 90% of the students believed that psychoactive substances can negatively affect students academically.

Additionally, 8.5% of the surveyed students have reported to have used psychoactive substances. This study found that secondary school students have adequate knowledge on the different types of psychoactive substances and their effects on their psychosocial lives. However, most of the participants did not agree on the use of psychoactive substances.

Call for attention is for those who abuse various psychoactive substances because they are at risk of developing substance related disorders in future if they continue using them.

Key words: Psychoactive substances, Secondary schools, Youths/Adolescents, Substances of Abuse, Dodoma, Tanzania

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Operational Definitions

Attitude: Ways of thinking or feeling, which will drive a person to do things.

Drug: It is a substance that due to its chemical nature affects physical, mental and emotional functioning.

Drug Abuse: Use of drugs for other purposes other than medical reasons.

Drug Addiction: This means that a person's body can no longer function without these substances.

Drug Related Problems: This term is used to describe all negative effects associated with drug abuse such as violence, conflicts with friends or school authorities, destruction of school property and academic under performance.

Drug Policy: A brief statement outlining a school's or government stand or position on procedures for dealing with drug-related issues.

Illegal Drugs: In this study illegal drugs refer to the substances that the government regards as harmful to the mental and physical well being of the individual, hence controlling or discouraging their consumption by law.

Knowledge: Information and skills acquired through experience or education.

Legal Drugs: This refers to those substances such as alcohol and tobacco that are potentially dangerous but whose consumption the government allows.

Psychoactive Substances: Refers to any substance(s) that when taken by a person can modify perception, mood, cognition, behaviour, or motor functions.

Practice: Actual application of skills, or ways of doing things in regular basis.

Background Information and Literature Review

The history of the human race has also been the history of drug abuse. Before 1980s the use of psychoactive substances was limited to the elders when they performed special community functions like rituals, and other ceremonies. However, after 1980s the use of psychoactive drugs has spread to the young populations in every part of the world (World Health Organization-WHO, 2004). According to a United Nations Office on Drugs and Crime (UNODC, 2005), some 200 million people, or 5 percent of the total world's population aged 15 - 64 have used drugs at least once in the last 12 months.

A survey in the Czech Republic conducted in the high schools showed that 37 % of new drug users were teenagers between 15 and 19 years old (UNODC, 2OO5). In addition, United Nations International Drug Control Programmes (UNDCP, (2004) reports that drug use; in particular heroin is becoming a serious problem in Africa, where around 6 % of a sample of secondary school students in Egypt admitted to having experimented with drugs.

Every country in the world incurs substantial costs as a result of damages caused by substance abuse (World Drug Report, 2005). The World Health Organization (WHO) estimates that 1.1 billion people, representing a third of the world population above the

age of 15 years, use tobacco, principally in the form of the cigarettes. Of these smokers, 700 million of them being males live in developing countries (WHO, 2004).

While smoking rates have been declining in the developed world, they have increased in the developing countries by as much as 50 %, especially in Asia and in the Pacific region. Over the last decade smoking cigarette have increased in the developing countries by as much as 50% and causes four million deaths annually (WHO, 2004). Abuse of drugs not only holds back the economy, but is also a blow to the country as its youths become less productive. According to the Ministerial Council on Drug Strategy (2005), drug abuse, including smoking and drinking alcohol, imposes substantial costs on users and their families, taxpayers, on the national economy and the community as a whole. International studies predict that half of the long-term smokers will die prematurely, half of these in middle age (Doll, 2004). The study also argues that, smokers are four times more likely than non-smokers to suffer from a heart attack before age 40 (Mahonen, 2004). In addition, the earlier the young people start smoking, and the more they smoke over their lifetime, the more likely they are to suffer from smoking-related diseases.

Police reports revealed that cannabis (bhang), pethidine; morphine, methaloqualone (mandrax), khat and recently heroin are available on the Tanzanian streets of urban areas (Police statistics, 1989). Although to a lesser extent cocaine, hyposedatives and psychostimulants are also known to be abused in the country. (Kilonzo and Massele, 1992). Cannabis grows wildly in a number of places in Tanzania especially in the southern highlands of Iringa, Njombe, to some extent the Pare areas, Singida, Shinyanga and Mbeya (Ndosi, 1999). There is some concern that use of cannabis popularly known as bhang is increasing in schools and communities. In some primary and secondary schools an estimated 5% of the pupils have been noted to abuse cannabis (Kilonzo and Massele, 1992).

It is also common knowledge that youths openly use substances along certain streets in many towns and in recreational places like dancing halls and drinking places. Thus, the

major concern of this study therefore was to find out, from secondary students, the extent of knowledge, attitudes and practices in relation to use of psychoactive substances in Dodoma Municipality.

Important Issues on Substances of Abuse - Globally

Substance abuse and dependence is one of the most frequently occurring disorders in adolescents, young adults, and the general population. In fact, substance use disorders are the most prevalent form of psychiatric disorder in the United States (Rivers & Shore, 1997). Although all age groups are affected by using psychoactive substance**s**, adolescents and young adults are particularly affected. A substantial proportion of the adolescent populations use drugs or alcohol to the extent that their health, interpersonal relationships, or school performance is adversely affected (Johnston et al, 2003).

The drugs mostly used by adolescents are cigarettes, alcohol, marijuana, glue, paint, paint thinners, aerosols and polish remover among others (Sweetney and Neff, 2001)

In the study on teen drug abuse, Dakota and Forks (2003), found that "25% of Americans die as a result of substance abuse"

Typology of psychoactive substances and their effects

1. **Cigarettes**

The use of cigarettes usually precedes the use of other drugs, such as cannabis, khat cocaine and heroin, (Ronald and Davis, 2001). It contains nicotine which has demonstrated dose-related euphoric effects similar to those of cocaine and morphine (Henning et al, 2004). Additionally, children become hooked on cigarettes at any age.

Cigarettes cause the worst of all drug habits found in the smoking of tobacco. The first step towards addiction may be as innocent as a boy's puff on a playground. On subsequent use the toxic chemical in cigarettes causes addiction, brain damage, impaired reasoning and will power (Wood, 2004). Use of cigarette is reported among adolescents whose parents face many challenges that limit their ability to provide for the physical and/or emotional needs. These challenges include drug addiction, scarce financial resources, unstable housing, familial history of substance abuse and lack of social support from family and friends.

2. Alcohol

Alcohol is the most available drug on the market and is not illegal to use or to be in possession of it. Alcohol abuse is one of the most difficult problems to treat because its use is accepted at any social function and abusers deny that they are addicted. Alcohol is a depressant and one becomes addictive when ingested large amounts on regular intervals. It slows down the activities of the nervous system that controls body functions, causes drowsiness, lack of concentration, and slowness in thinking, impaired interpersonal relationships and leads to intoxication (Hodge et al, 2001). These authors pointed out that the dangers of too much alcohol consumption include, mental deterioration and lack of alertness, thus prone them to accidents, damage of organs like liver, kidney and others effects like; blackouts, convulsions and severe psychological dependence among others, it also damage the fetus if the abuser is pregnant mother.

3. Marijuana

Marijuana is a hallucinogenic drug, which is smoked. It causes "an unnatural thirst or hunger, uncontrolled mood swings, talkativeness, impaired perception, disturbed judgment, mind disorders, a feeling of wellbeing and euphoria (pleasant feeling of excitement and of escaping reality) and it alleviates anxiety" (Rehn et al, 2001). Further stated by the author that the dangers of the use of marijuana include, excessive aggression when combined with alcohol, accidents due to distorted perception, physical damage in the form of bronchial irritation, risk of lung cancer, chromosome damage, and ultimately brain damage. This is usually the first step of addiction before abusers move to hard drugs (Rehn et al, 2001).

It has also been reported that “Globally marijuana is locally grown in some parts of urban and rural areas and the stuff is being used most by the adolescents and young adults as it is cheap and easy to get it” (Nsimba, 2007). Use of these illicit substances globally among adolescents is accompanied by a lot of damages to their physical, mental health and social well-being. Physical evidence are quite obvious from street boys/girls and gangster mobs around most cities/streets (Nsimba, 2007).

4. **Cocaine**

Cocaine is an extremely addictive drug and is illegal to possess or deal with. The effects of cocaine appear almost immediately after only a single dose and disappear within minutes. It makes the user feel euphoric, energetic, talkative and mentally alert, especially to the sensations of sight, sound, and touch. It can also temporarily decrease the need for food and sleep. The short-term physiological effects of cocaine include constricted blood vessels, dilated pupils, increased body temperature, increased heart rate, and an increase in the blood pressure. Large amounts of cocaine may lead to bizarre unreliable and violent behaviors (UN-ODCCP, 2002)

5. **Aerosols**

These include glue, paint, paint thinners, aerosols and polish removers.

The homeless and poor often abuse these substances as they create a false sense of satiate. These substances have a depressant effect and they damage brain inhaled. They cause slurred speech, inability to focus, stupor and seizures. The individual tends to move slowly as if lethargic and has a "drugged appearance". The individual sometimes tends to become hostile and aggressive (Lopez, 2001). Polish remover slows down the activities of the nervous system that control the body functions (WHO, 2002).

Knowledge on psychoactive substances among the secondary school students

A Spanish nationwide survey on drug use among secondary-school pupils found that the large majority of pupils (85.6%) considered themselves to be sufficiently informed about drugs, their effects and the problems associated with their use (Morales et al, 2008). The main channels through which young people received drug use information were their parents and siblings (73.2%), the media (69.3%) and teachers (63.8%). Nowadays there is a considerable increase in number of student gaining drug information and knowledge via their families and teachers. In this regard, students will have received sufficient drug information by the time they leave secondary school, (Ministerio del Interior [Spanish Interior Ministry], 2000). In 2003, 60% of school pupils received information on drug use in the context of health educational classes; this figure had reached 100% by 2008. It is therefore prudent that school become the resource and center where drug information is accessed.

Secondary school students' attitude towards psychoactive substance use

The factors associated with drug abuse are many and varied, and include individual predispositions, family characteristics and complex social and environmental determinants.

A number of authors and researchers have shown that there are many contributing factors to drug abuse among students. Rice (1981), stated that in a school setting, drug abuse affects the children of the rich as well as those from poor families. Shoemaker (1984), argues that drug abuse is caused by a combination of environmental, biological, and psychological factors. Under environmental factors; the most influential elements include the family, peer association, school performance and social class membership.

According to the United Nations (1992), drug users, like approval for their behavior from their peers and using is a symbolic to the group. Whether peer pressure has a positive or negative impact depends on the quality of the peer group. Unfortunately, the same peer pressure that acts to keep a group within an accepted code of behavior can also push a susceptible individual down the wrong path.

A study carried out by Kariuki (1988), in Nairobi secondary schools indicated that the majority of drug users had friends who used drugs. Scholars such as Karugu and Olela (1993), Muthigani (1995), and Kamonjo (1997), who have conducted studies on the issue of drug use and abuse agree that there is a significant relationship between the subjects‟ drug using behaviour and the involvement of their friends in drugs. According to them, if an adolescent associates with other adolescents who use drugs, the risk of involvement with drugs is further increased. Another survey of youths in southern Nigeria, also found out that the source of drugs for drug using-students was friends in the same or neighboring schools, and students who reported using drugs had more drug using friends than abstinent friends (Nevadomsky, 1982). Confirming this finding, Kiiru (2004), argues that peer pressure influences youth to use substances under the false impression that some drugs stimulate appetite for food, increase strength and give wisdom as well as courage to face life.

Although it is presumed that there are similarities in the prevalence of psychoactive substance use, authors like Schaefer (1996), and Bezuidenhout (2004), asserted that there are various factors that cause young people to abuse drugs and even become addicted. These include family networks, interaction and home environments.

Bezuidenhout (2004), reported that adolescents with substance abusing parents experience a higher rate of parental and /or family problems than do adolescents whose parents do not abuse substances. This may cause poor parent-child attachment, which may in turn lead to a lack of commitment to conventional activities, thereby at times leading to adolescent drug taking. Schaefer (1996), added that youths with poor home support tend to seek support and understanding elsewhere. Many find affection, understanding and support in the lifestyle of a drug abusing subgroup.

According to Moore (http://www.moorefoundation.com), interactions within the family unit will play a major role in the adolescent's personality or self-concept formation. In addition, the exposure to cultural norms through the family, as well as individual adaptations, lays the foundation for influential modeling and acceptance of social orientations. The family is often viewed as the basic source of strength, nurturing and supporting its members, as well as ensuring stability and generational continuity for the community and its culture (Kendel, 1973).

Practice/use of psychoactive substances among the youths

One of the problems faced by industrialized nations today, specifically United States is the growing number of individuals who are using or abusing substances including, illegal drugs, alcohol, and tobacco. Although, it has been noted that the overall consumption of drugs in the US has declined by 50% in the past 20 years, the past 10 years have revealed some increase in drug abuse among adolescents (Johnston et al, 2003; US Department of Health and Human Services, 2002). In the case of alcohol use and drug abuse report indicated that nine out of 10 teenagers drink alcohol to some extent by the time they finish high school, and a majority have used illegal drugs,

(Stephen, 1998). According to the National Youth Violence Prevention Resource Centre (2002), teenage consumption of alcohol is a serious problem in the United States.

Recent survey revealed that 52% of eighth graders (and 80% of high-school seniors) have used alcohol at some time (Michigan University Institute for Social Research (MUISR, 2000). The research also found that 25% of eighth graders (and 62% of high-school seniors) have been drunk. Furthermore, while it is illegal for minors to be given access to alcoholic drinks, it seems that such restriction has no, if only little, effect. The MUISR (2000), also found that 71% of eighth graders and 95% of high-school seniors say that they have easy access to alcohol.

In terms of tobacco use, it has been noted that its use is more prevalent and that most children are trying to experiment with tobacco as 9 years of age. The use of tobacco and alcohol in children are critical since both are considered as a gateway drugs (McWhirter, 2004). In the study made by Grunbaum et al, (2002), it has been found out that close to 20% of secondary students have been offered, sold or provided illegal drugs like marijuana on school premises at some period during 12 months. The data given only shows that, different substances have been used by children or adolescents. This means that all children are at high-risk of abusing these substances because they have been aware of such and use it at the earlier age.

Tanzanian statistics on practice/ use of psychoactive substances among the youths

Cannabis grows wildly in a number of places in Tanzania especially in the southern highlands of Iringa, Njombe, to some extent the Pare areas, Singida, Shinyanga and Mbeya, (Ndosi, 1999). It has been observed that Watidinga use cannabis exclusively (Haule, 1981). There is some concern that use of cannabis popularly known as bhang is increasing in schools and communities. In some primary and secondary schools an estimated 5% of the pupils have been noted to abuse cannabis (Kilonzo and Massele, 1992). Fifty two percent of the cases of cannabis reported to the police were between the age of 16-25 years, (Mpinga, 1986). Twenty-five percent of them were arrested for being in possession of cannabis. Recent reports from psychiatry units in the country

indicate abuse of cannabis as a factor necessitating admission to hospital. (Kaaya et al, 2001).

Survey in four regions indicated that 32% of the respondents aged 21-30 years had used alcohol (Ndosi, 1999). Another survey on alcohol and drug abuse at work places in the economic capitals of Dar es Salaam found that 32.3% of 285 respondents were young people who used alcohol; while 8.7% of the respondents had abused them at work places (Ndosi, 1999).

Khat was introduced in East Africa by Somali immigrants. The young and tender leaves of the plant and barks are commonly chewed as a stimulant to enhance relaxation. A study on khat consumption in Dar es Salaam involving 300 regular abusers found the majority of them to be aged between 15 to30 years (Ndosi, 1999). Another survey of 905 respondents from four regions in Tanzania, indicated that khat was among major drug people used regularly with 3.7% of respondents admitted to having ever tried the drug, (Kilonzo and Kilima, 1992). The study at Muhimbili Medical Center showed that 0.05% had history of excessive khat use and most of them presents with history of delusion, anorexia, constipation, stomatitis and gastritis (Ndosi, 1999).

Other drugs misused by Tanzanian population are benzodiazepines, narcotics, barbiturates, volatiles, tobacco, analgesics and the likes. Clinical observation at Muhimbili National Hospital indicates that a high proportional of acute mental problems from patients are often inappropriately treated with benzodiazepines prior to hospital referral. Some of these young patients presents with vegetative symptoms of benzodiazepines dependence (Ndosi, 1999).

The narcotic includes heroin, morphine, pethidine and codeine. The abuse of narcotics by adolescents appears to be on the increase. In randomized secondary schools survey in Dar es Salaam covering 1064 respondents, the commonest ever used drugs reported were cocaine or heroin 22% (Kaaya et al, 1992). Cocaine and heroin use featured predominately in urban areas (Kilonzo and Kilima, 1990). In Dar es Salaam city

considerable proportion of heroin abusers mix the drug with rolls of tobacco and smoke, the method popularly known as joint method, there are estimated 250,000 heroin users in Dar es Salaam alone (McCurdy et al, 2005). Moreover, the increasing availability of 'white' heroin has meant that injection is rapidly replacing smoking as the preferred route of administration (Beckerleg et al, 2005).

Solvents are mainly sniffed by groups of boys between the ages of 8 to 19 years along the street of Dar es Salaam. A recent cross-sectional survey with involved 3,564 schools adolescent in Dar es Salaam who used and abused inhalants; found males inhalants to be 7.0% while females were 4.7% (Kaaya et al, 1997). Alcohol drinking habit among adolescents, their friends and families were risk factors associated with the adolescents' use of inhalants (Massele and Mwaluko, 1991).

Analgesics are frequently inappropriately prescribed in many Tanzanian health centres for various trivial complaints like fever and pains affecting children and young group. A survey on drug use in Dar es Salaam indicated that more than 20% of all prescriptions in all health care centres contained acetylsalicylic acid with sometimes causes dependence and physical ailments like stomach ulcer (Ndosi, 1999). Analgesics also found to be misused predominately by young females suicide-attempters in Dar es Salaam (Ndosi and Waziri, 1997).

Effects of drug abuse on the society

(a). Drug abuse and the family

Substance abuse alters the normal living patterns of individuals and society as a whole (Shives, 1999). Abusers become so obsessed with the habit and ignore the needs of other family members, leading to the breakdown of the family as an entity (Diamond et al, 2001) and Preboth, (2000). Besides possible criminal behavior brought into the home by the drug user, the family suffers varying degrees of personal anguish both physically and psychologically (Preboth, 2000). When younger children see the older person or parent using drugs, they may wrongly believe that it is normal and acceptable to take drugs (Sweetney and Neff, 2001). Children copy parental behavior as model during their

socialization, (Page et al, 1999). This is so because children need someone older to listen to and learn from (WHO, 2003).

(b). Drug abuse and the school

Drug use is a problem for the school-going adolescent because it undermines a student's academic ability, and performance. In the USA, students who use marijuana regularly are twice as likely to get below-average marks or failing grades, and to drop out from school (Tanzania Government Gazette, 1998).In addition, drug use brings into the school environment illegal practices connected to the drug use, namely prostitution, theft, and selling of drugs to others. None of these practices is conducive to the development of a healthy, productive life (Tanzanian Government Gazette, 1998).

Douglas (2004), states that drugs destroy the body, mind and soul, he adds that as drug dependency develops further, these adolescents can no longer trust themselves when using drugs. Chemically dependent adolescents gradually change their peer group to include drinking and drug-using friends (Walter, 2002). They, then gradually loses all self-esteem and depression begins to set in, (Walter, 2002).

(c). Dealing with drug abuse

As the worldwide infiltration of drug abuse is a concern for many societies, the Global Initiative on Primary Prevention of Drug Abuse came into existence in 1997 (WHO/UN-ODCCP, 2003). The Global Initiative was a joint project of the United Nations International Drug Control Programme and the World Health Organization aimed at preventing the use of psychoactive drugs by young people (WHO/UNODCCP, 2003).

Tanzania initiated strategies to reduce the availability of drugs, mobilize communities against drug use, provide peer education to prevent drug use; provide education to enhance adolescent behavior change; strengthen existing networks of organizations that support youth-related activities, and engage in drug-use prevention activities (WHO, 2003).

Drug dependence is difficult to control due to compulsive drug use and craving leading to drug seeking and repetitive use even in the face of negative health and social consequences. Once dependent, individuals often fail in their attempts to quit.

Dependence is a brain disorder and people with dependence have affected brain structure and function (Ronald and Davis, 2004).

Methodology

Study design and Area

A cross sectional descriptive study using both quantitative and qualitative approaches. The study was conducted in Dodoma Municipality. The municipality covers 41,310 km^2.The region is administratively divided into 6 districts: Dodoma urban, Bahi, Chamwino, Kondoa, Mpwapwa and Kongwa.

There was no current population statistics; however the total population of Dodoma Municipality was 1, 698, 996 (National census 2002). Dodoma Municipal Council has 51 Secondary Schools of which 36 are Public/community owned and 15 Private Schools. 3 Secondary Schools among 36 Public Secondary Schools are boarding and the rest are day schools (Dodoma Municipal Council-DMC Profile). The Municipal was picked as the area of study because there has never been a similar study conducted in the area.

Four Secondary schools within Dodoma municipality were the selected namely, Kisasa Secondary school, Nkukhungu Secondary School, Central High School, and Kikuyu Secondary School were the 4 study sites.

Study population

All secondary school students within Dodoma Municipality. All secondary school students within the selected four schools. Secondary school students who were attending secondary school during the study period and who had given consent to participate in the research. Secondary school students who had not attended secondary school during the study period and those who did not give consent to participate in the study research.

Sampling technique

Multi stage sampling technique was used to get 384 study participants which involved two stages. The first stage involved a selection of schools from a list of 51 schools

within Dodoma municipality was obtained from the Dodoma municipal council office then Simple random sampling with replacement using lottery method was used to select the 4 secondary schools which were; Kisasa Secondary school, Nkukhungu Secondary School, Central High School and Kikuyu Secondary School.

A second stage involved selection of classes from each selected school. Classes were grouped into clusters of form 1, 2, 3, and 4, and then Simple random sampling with replacement using lottery method was used to select the classes that were involved in the study. The estimated sample size for each school was 100 participants

The third stage involved selection of participants which was done in order to obtain study participants. All participants who met inclusion criteria were obtained from Registry. Participants' admission numbers was selected by simple random sampling with replacement using lottery method to obtain study participants. The required sample depended on the number of participants from each class. Proportionate sampling was employed in order to get representative in each class because there were different attendances in each class.

Sample size estimation for Qualitative

Purposive sampling procedure were used to obtain the sample size of four participants whereby in each school, within the participants, one participant was using the psychoactive substances was selected to participate in the in- depth interview.

Data collection methods and tools

Structured questionnaires (for qualitative data) with open and closed ended questions were used to determine attitude, knowledge and practice on psychoactive substance use. In the first part, participants were asked questions on General knowledge on psychoactive substance use, types and attitude toward psychoactive substance use. In the second part, participants were asked questions on Practice on Psychoactive substance use. Thus, in this part, interview guide for in depth interview and tape recorder was used to gather information. In Depth Interview was conducted to the selected participants in the four secondary schools. The principle investigator used interview guide to probe key issues that have not been well elaborated during quantitative phase of the study. In depth

interview was conducted in a place where there were no interference. Participants were also assured about confidentiality of the interview. The collected information was recorded in tape recorder and some notes were taken by principle investigator.

For quantitative methods, self administered questionnaire were distributed to participants, and study participants were asked to answer all questions. The whole process was closely supervised by trained research assistance to make sure that if any participant needs any clarification could get assisted and then at the end of the day all filled questionnaire were collected from the field. Two trained research assistants were assigned to supervise the process of data collection to make sure that all questions are filled accordingly.

Validation of Data collection tools

In order to test validity and reliability of the research instruments, pilot study was done before the actual study whereby fifty students from Doreta secondary school with characteristics similar to the study participants were interviewed. The participants included in the pilot study were not included in the actual study. Then, the researcher made necessary corrections and modification of the instruments which were used in the actual study. Also, training of research assistants was done prior data collection.

The data was reviewed by the principal investigator on daily basis to assure completeness and consistency (quality). Any mistake was corrected immediately before recording and was then entered in the data base.

Data Processing and Data analysis

Quantitative

Data collected by questionnaire was coded, entered in SPSS data base and cleaned. For the case of knowledge, attitude and practice, the questions which have been asked were scored so as to categorize those who had adequate or inadequate knowledge, positive or negative attitude

Statistical methods and analysis

All these data were summarized into frequency tables and cross tabulations was done to look for association between independent and dependent variable. Descriptive analysis

was performed for proportions, percentages, means and their corresponding standard deviations. Association was tested for significance by relative risk or chi square test.

In order to control for confounders Logistic regression analysis was also performed. Moreover, p-value and confidence interval were used to asses whether the independent variables were statistically significant predictors of the outcome variable after controlling the effect of the other variables. If any variable had p value<0.05 then we called that the variable a significant predictor. Relative risk was used to measure the strength of association between variable through exponentiation of the beta coefficient from the regression analysis.

Qualitative

Data collected by interview was transcribed by using thematic framework analysis, transcribed data was manually analyzed by using thematic framework procedures which involve five main stages these were; familiarization, identifying thematic framework, indexing/coding, charting, and mapping and interpretation.

Familiarization involved repeated listening to the audio tape at the same time as reading the transcript.

Identifying thematic framework was done according to the study aims and objectives, emerging issues and concepts, where the themes, categories and pattern were developed.

Indexing/coding was done by numbering the specific sections from the data that helped to refer and identify the data easily.

Charting was done by using subheadings for each theme and a priori issues. It involved participant code number (P).

Mapping and interpretation involved defining concepts, mapping range and nature of the phenomena, creating typologies, finding associations and developing strategies.

Ethical consideration

Ethical clearance to carry out the study was sought and granted by the University of Dodoma (UDOM), Human Ethics Committee and a permission to conduct the study was obtained from the Dodoma Municipal Council Authority. The participants were also be informed about the study and asked to fill informed consent form before the interview,

the questionnaire had no names and confidentiality was observed and ensured to each participant. The interview was done under privacy conditions.

Results

Quantitative Part

Demographic characteristics of study participants

A total of 402 students participated in the study and 50.7% were females (n=204) and 49.3% (n=198) males. All students were divided into three age groups, 37.3 % (n=150), were between 13-16 years, 52.7 % (n=212) were between 17-19 years and 10% (n=40) were between 20-23 years respectively. The minimum age was 13 and the maximum age was 23 years. The mean age was 17.18 (SD=1.7) years. Furthermore, 50.7% (n=204) of the students were living with both parents while 0.5% (n=2) were living at school *(Table 1).*

Level of knowledge on psychoactive substances

The majority of participants had knowledge on definition and types of psychoactive substances found in their areas. Most of the students knew the types of psychoactive substances found in their area 85.1%, (n=342) and majority 99.3%, (n=399) had showed to have adequate knowledge on psychoactive substances. Ninety eight percent of the participants were knowledgeable on the effects of psychoactive substances and 10.4% (n=42) were aware of the places where the psychoactive substances can be found *(Table 2).*

Commonly known psychoactive substances in the study area

The commonly known psychoactive substances reported/mentioned were codeine 59.6 % (n=204) and Bhangi (marijuana) 25.7% (n=88). Knowledge on alcohol as psychoactive substance were 2.6% (n=9). Additionally, valium 1.8% (n=6) and morphine 0.6% (n=2) were the least reported *(Table 3).*

Table 1: Demographic characteristics of study participants (N=402)

Variable	%(n)
Age (Years)	
13-16	37.3(150)
17-19	52.7 (212)
20-23	10 (40)
Sex	
Male	49.3 (198)
Female	50.7(204)
Education Level	
Form I	0.2 (1)
Form II	32.8 (132)
Form III	32.8 (132)
Form IV	34.1(137)
Living with	
Both Parents	38.3 (204)
Mother alone	14.9 (57)
Father alone	3 (12)
Guardian	30.1 (121)
Friends	1.5 (6)
At School	0.5 (2)
Religion	
Roman Catholic	38.3 (154)
Pentecostal	14.9 (60)
Muslim	19.7 (79)
Lutheran	10.9 (44)
Anglican	12.9 (52)
Others	3.2 (13)

Table 2: **Level of knowledge on Psychoactive substances (N=402)**

	Level of knowledge	
Characteristic	**Adequate %(n)**	**Inadequate %(n)**
Knowledge on psychoactive substances	99.3 (399)	0.7 (3)
Knowledge on types of a psychoactive substances	85.1 (342)	14.9 (60)
Knowledge of the effect of psychoactive substances	98.5(396)	1.5(6)
Knowledge of the places where the psychoactive substances can be found	10.4(42)	89.6(360)

Table 3: Commonly known psychoactive substances in the study area (N=342)

Variables	**%(n)yes**	**%(n)no**
Codeine	59.6(204)	40.4(138)
Bhangi/Marijuana/Cannabis	25.7(88)	74.3(254)
Solvents/glue or petrol	9.9(33)	90.4(309)
Khat/Miraa/Mirungi	5.6(19)	94.4(323)
Alcohol	2.6(9)	97.4(333)
Heroine	2.6(9)	97.4(333)
Tobacco/Cigarette	2.3(8)	97.7(334)
Valium	1.8(6)	98.2(336)
Morphine	0.6(2)	99.4(340)

Attitude of the secondary school students towards the use of psychoactive substances

Students who have ever used the psychoactive substance were 8.5% (n= 34) and those who accepted their use as normal were 6.5 % (n= 26). Furthermore 98.5 % (n= 395) of the students believed that psychoactive substances can hinder/affect student's progress at school.

The result also revealed that 2 % (n= 8) of the surveyed students have a plan to abuse the psychoactive substances in the future and also 26.1 % (n= 105) of the surveyed students claim that it is easier for them to obtain these substances *(Table 4)*.

Table 4: Attitude of students toward the use of psychoactive substances (N=402)

Variable	%(n) Yes	%(n) No
Do you accept the use of psychoactive substances?	6.5(26)	93.5(376)
Do you think the use of psychoactive substances can hinder/affect student's progress at school	98.3(395)	1.7(7)
Does psychoactive substance abuse have any harm?	98.5(396)	1.5(6)
Will you advice your friend to abuse psychoactive substances?	3.7(15)	96.3(387)
Is there any possibility of drug addiction from continued use?	52.2(210)	47.8(192)
Is it possible for a person to protect himself or herself from psychoactive substances abuse?	93.3(375)	6.7(27)
Are there any potential benefits associated with psychoactive substances abuse?	10(40)	90(362)
Have you ever abused psychoactive substances?	8.5(34)	91.5(368)
Do you have any plan to abuse psychoactive substances?	2.0(8)	98(394)
Is it easier to get the drugs for abuse?	26.1(105)	73.9(297)

Psychoactive substances use among the peer friends of the surveyed students

Results showed that 24.4% (n=98) of the students had friends who were using a psychoactive substance and 12.5% (n=5) of the students preferred friends who were using the psychoactive substance. Alcohol 46.9% (n=46), solvents usage 27.6 %(n=27) and bhangi (marijuana) 23.5 %(n=23) were the most used psychoactive substances by the student's friends *(Table 5)*.

Table 5: Psychoactive substances use among the friends of the surveyed students

Variable	Variable category	% (n)Yes	%(n) No
Do you have a friend who is abusing the psychoactive substances?		24.4(98)	75.6(304)
Would you prefer a friend who is abusing psychoactive substances?		1.2(5)	98.8(397)
Type of a psychoactive substance abused by their friends	Alcohol	46.9(46)	53.1(52)
	Solvents/glue or petrol	27.6(27)	72.4(71)
	Bhangi/Marijuana/Cannabis	23.5(23)	76.5(75)
	Codeine	13.2(13)	86.8(85)
	Tobacco/Cigarette	13.2(13)	86.8(85)
	Valium	8.1(8)	91.9(80)
	Khat/Miraa/Mirungi	5.1(5)	94.9(93)
	Heroine	5.1(5)	94.9(93)

Frequency of psychoactive substances use

Results on the frequency of the psychoactive substances use showed that for the last month prior to the study, 97.8% (n=393) had never used the psychoactive substances, 0.7 % (n=3) of the students had used the psychoactive substances once, 0.3 % (n=1) had used the substances three times and 1.2 % (n=5) had used the substances more than four times. Additionally, psychoactive substance use in a lifetime indicate that 91.5%

(n=368) had never used the psychoactive substances, 3% (n=12) had used the psychoactive substances once, 1.5 % (n=6) had used the substances three times and 4 % (n=16) had used the substances more than four times *(Table 6)*.

Table 6: Frequency of psychoactive substances use

Variable	Last month		last twelve months		In a lifetime	
	n	%	N	%	n	%
Never	393	97.8	384	95.5	368	91.5
Once	3	0.7	6	1.5	12	3.0
Thrice	1	0.3	5	1.2	6	1.5
≥Four times	5	1.2	7	1.8	16	4.0
Total	402	100.0	402	100.0	402	100.0

Association between Psychoactive Substance use and other variables [gender, friends and Relatives]

Results showed that the proportion of male students who used the psychoactive substances were 10.6% (n=21) and females were 6.4% (n=13). It further revealed that 17.9% (n= 12) students using the psychoactive substances had relatives who were using the substances as compared to 6.6% (n=22) who reported use of psychoactive substances yet have no relatives who were using any of psychoactive substances. The majority of students 19.4% (n=19) using the substances had friends who were using the psychoactive substances too compared to 4.9% (n= 15) of the students who were using yet have no psychoactive substance using friends.

The association of psychoactive substance use among the students with male gender ($\chi 2 = 2.33$, p=0.127), relatives using the substance ($\chi 2 = 9.23$, p= 0.002) and friends using the substances ($\chi 2 = 19.99$, p= 0.001) were statistically significant *(Table 7)*.

Table 7: Association between substance use and various variables (N=34)

	PSYCHOACTIVE SUBSTANCE USE			
	YES	NO		
Variables	**%(n)**	**%(n)**	**χ2**	**P value**
SEX			2.326	0.127
MALE	10.6 (21)	89.4 (177)		
FEMALE	6.4 (13)	93.6(191)		
Relative using the psychoactive substances			9.279	0.002
YES	17.9(12)	82.1(55)		
NO	6.6(22)	93.4(313)		
Friend using the psychoactive substances			19.996	0.001
YES	19.4(19)	80.6(79)		
NO	4.9(15)	95.1(289)		

Types of psychoactive substances used by the secondary school students within Dodoma municipality

Of the 8.5% (n=34) of the students who were using psychoactive substances, results showed that alcohol use 47.1 % (n= 16) was the most common psychoactive substance used followed by tobacco 14.7% (n=5). Codeine 5.9 % (n=2) and heroine 5.9 % (n=2) were the least reported substances that are used by the students within Dodoma Municipality *(Table 8)*.

Age at which student started using psychoactive substances

Results showed that most of the students 32.4 %, (n=11) started using psychoactive substances at the age less than 12years as compared with those who started using the psychoactive substances at the age greater than nineteen years 23.5%, (n=8) *(Table 9).*

Table 8: psychoactive substances used by students in Dodoma municipality

Variable	N	%
Alcohol	16	47.1
Tobaco/Cigarette	5	14.7
Khat/Miraa/Mirungi	3	8.8
Solvents/glue or petrol	3	8.8
Bhangi/Marijuana/Cannabis	3	8.8
Codeine	2	5.9
Heroine	2	5.9
Total	34	100.0

Table 9: Age at which student started using psychoactive substances

Variable	Variable category	N	%
At which age did you start to use drugs?	0-12 Years	9	26.5
	13-14	5	14.7
	15-16	8	23.5
	17-18	4	11.8
	≥19 years	8	23.5
	Total	34	100.0

Reasons for using the psychoactive substances and the suppliers

Majority of the students stated social norms (starehe) 35.3% (n= 12) to be the reason that motivated them to start using drugs. Thirty two point four percent were not aware of the reason that made them to embark into the use of these substances. A greater number of students 35.3% (n=12) stated that they were supplied with the psychoactive substances by a friend and 20.6% (n= 7) were not sure of who gave them the psychoactive substances. In addition, most of the students reported that the streets 29.4 % (n=10) were

the potential areas for psychoactive substances use *(Table 10)*.

Table 10: Reasons for using the psychoactive substances and the suppliers

Variable	Variable category	N	%
What motivated you to abuse drugs at the first time?	Social norms	12	35.3
	Inquisitive nature	6	17.6
	Healing of diseases	2	5.9
	Stress release	3	8.8
	I do not know	11	32.4
	Total	34	100.0
Who gave you the drugs to abuse?	Friend	12	35.3
	Relative	7	20.6
	Drug dealer	5	14.7
	Health officer	3	8.8
	I am not sure	7	20.6
	Total	34	100.0
Where was the place where you first used the psychoactive substances?	Friends home	8	8.8
	At home	5	14.7
	At school	2	5.9
	Public gathering	9	26.5
	Outside/Kichochoroni/Mtaani	10	29.4
	Total	34	100.0

Place of supply

Results showed that of all the students who have ever used the psychoactive substances, 100 % (n=34) were aware of the areas where psychoactive substances are supplied within Dodoma municipality. The most reported areas were Chang'ombe, Majengo, Hazina X, Mailimbili, Kitaa cheusi, Ipagala kwa Tom, Uwanja wa Maluwe Nkuhungu, Korogwe kwa Chibwenji and Kikuyu magengeni. Other reported areas were places of entertainments, Shopping centers and in farms (*Table 11*).

Consequences encountered after using psychoactive substances

Table 12 presents the results on the consequences the students encountered after using the psychoactive substances. The most reported consequences were people expressing concerns over behavior change 64.7 % (n=22) and poor work/school performance 50% (n=17). Other consequences included, someone being injured 47.1 % (n=16) and being involved in conflicts 38.2 % (n=13) (*Table 12*).

Table 11: Places of supply (N=34)

Knowledge on where the psychoactive substances are found among users	N	%
YES	34	100
NO	-	-
TOTAL	34	100

Table12: Consequences encountered when used the psychoactive substances (N=34)

Variables	%(Yes)	%(No)
Poor work/school performance	50(17)	50(17)
Someone expressed concern about my behavior	64.7(22)	35.3(12)
Someone was injured	47.1(16)	52.9(18)
Conflicts	38.2(13)	61.8(21)

Qualitative Part

Exploring attitude towards the use of psychoactive substances

In order to understand the feeling of the students towards use of psychoactive substances, additionally, this study used qualitative approach to explore student's attitudes towards use of psychoactive substances (objective 3). Using this approach, in-depth interviews (IDI) were conducted to four participants 1 - 4 (P 1 – P4) out of 402, one from each school. A semi structured questionnaire that had probing questions on attitude toward the use of psychoactive substances was used during interviews. All interviews were tape recorded, transcribed and coded. Emerging issues and concepts

regarding attitude towards the use of psychoactive substances were analyzed as described in method section, summary results of the interview responses and quotes are presented below for each of the question:

Attitude towards use of psychoactive substances

Almost all interviewees agreed that peer pressure influences the youths to indulge in substance abuse.

"*I started using alcohol because all my friends were drinking and I felt left out so I had to drink to feel as part of the group"* **IDIP4**

"……all my friends were smoking so I had to smoke too" **IDIP1**

"*Imagine hanging out with your friends and all of them are drinking and having a good time while you are taking just sodas,……..it started like that…..*" **IDIP3**

Moreover, regarding who is at risk of using or abusing the psychoactive substances, two participants reported that any person who is idle is at risk of using psychoactive substance since the psychoactive substances can act as stimulators and since the idlers need something to make their day worthwhile some indulge in the use of these psychoactive substances. Among the participant who reported, one had this to say:

"*I think someone who does not have a job or an idler is at risk of using the psychoactive substances since they do not have a specific activity to do so as to consume their time therefore they can be tempted to indulge into using drugs*" **IDIP2**

Another participant who thought that a person who is idle is at risk of using psychoactive substance stated that:

"I also continued to drink even though I was away from my friends because of idleness when I go at home since there is nothing to keep me busy and therefore I continued drinking……so I believe that when someone is idle he/she can be tempted to use the drugs or even start using" **IDIP3**

Attitude toward psychoactive substance prevention

All participants who were interviewed reported that prevention of psychoactive substance use among the youths is possible if one purposes to do so for instance;

One of the respondents had this to say:

".....there are times when I can stay for 6 months without smoking and sometimes even more and only smoke when I am depressed or something is disturbing me." **IDIP2**

Also another respondent said:

"…..Myself I think if I detach myself from my friends, I think I can gradually stop drinking but it will take time since drinking has become like a routine……" **IDIP1**

One of the respondents stated prevention is possible if the family members' attitude towards the youths who use the substances change and they become loving. He/she further said that:

"…..I know I can stop drinking alcohol but my parents have already labeled me as a drunkard and whatever I do they do not care whether am around or not and so the only people who make me feel a sense of belonging are my friends and we meet during drinking time. ……" **IDIP4**

Discussion

Psychoactive Substance use continues to be major risk behaviour among youths, accompanied with physical and /or mental health complications/consequences.The objectives of this study were to determine level of knowledge on psychoactive substances, attitude**s** towards the use of psychoactive substances, and to determine the different type**s** of psychoactive substances found within Dodoma municipality. Other objectives were to determine various types of psychoactive substances used by the secondary school students within Dodoma municipality.

Psychoactive substance use amongst the youth worldwide is a major public health problem that has elicited concern from different individuals and groups (Yeung, 1996; Courtois et al, 2004; Nsimba, 2007). The average age 17-18 years in the current study

falls within the adolescent period which is the high risk age group for substances use, these findings concurs with the study done by Adidoun (Abidoun et al**,** 1994; Courtois et al, 2004; Nsimba, 2007).

In this study, all the participants were secondary school students/pupils and were found to have adequate knowledge on psychoactive substances. The students considered themselves to be sufficiently informed about drugs, their effects and the problems associated with their use. This finding is in consistent with findings reported by Morales et al, (2008). The reason for reported adequate knowledge on psychoactive substances and their effects in our study participants could be because they received information on dangers of using psychoactive substances from their parents, siblings, the media and teachers. Available information from the public through different media is considered to contribute, however repeated information provided by teachers is also likely to contribute to these results of improved knowledge and this finding is in agreement with others who reported the same.

Surprisingly, alcohol was not considered to be a psychoactive substance by a majority of the participants since only 2.6% of the participants viewed it as a psychoactive substance. This finding contradicts the findings by Perez et al**,** (2010), who stated that alcohol was the major initiator of using psychoactive substances and was the most known substance by the youths. The reason behind this could be that the students do not view alcohol as a psychoactive substance rather a socially acceptable drink. However, another comparative study between French and Congolese high school students reported an overall higher prevalence (82% males and 75% females) of alcohol consumption among French compared to 42% males and 40% females Congolese respectively (Courtois et al, 2004). The reasons for the differences might be the same as one stated above in this para or it could be an under-reporting, difficulties in understanding some words or sentences by study participants or differences in sample sizes obtained in Courtois et al, (2004) study (1637 French vs 155 Congolese students) and also differences in culture could be an explanation to these differences.

The study reveals that 2% of the students still have a plan of abusing or rather using the psychoactive substances. The information given indicates that knowledge on dangers related to use of psychoactive substances does not necessarily prevent students from abusing or wanting to abuse the psychoactive substances. This scenario could suggest that change of attitudes towards psychoactive substances, rather than knowledge about them will decrease psychoactive substances abuse. Furthermore, it may also indicate that students are not aware of the long-term effects of psychoactive substance use and therefore continue to abuse them.

The factors associated with psychoactive substance abuse are many and varies, depending on individual predispositions, family characteristics, complex social and environmental determinants. In general, our results revealed that; majority of participants have never used the psychoactive substances and a few of them reported to have plans of using the psychoactive substances. An insignificant proportion of our participants reported to be using the psychoactive substances. The reasons behind this small number of the substance users among the student population could be because most of them had received sufficient health education previously. It has similarly been reported by others that provision of objective information and adequate education about the consequences of psychoactive substance use and abuse decreased abusers among schools (Ariza et al, 2008; Morales et al, 2008). In agreement to our study findings, Courtois et al, (2004) study, generally observed and reported that Congolese students used less alcohol, tobacco, and cannabis.

Important observations in this special group is that despite the small percentage of the participants 6.5% currently using the psychoactive substances, 24.4% of their peer friends were using either one of the psychoactive substances which can be a factor that can also influence the students to indulge in using these substances. This observation has previously been reported as well by Bezuidenhout, (2004), and Nsimba, (2007). Additionally, it was further observed that 16.7% of the participants who were using the psychoactive substances had relatives that used either one of the psychoactive substance

which also acts as a motivator towards the use of substances including peer influence are strong motivators/predictors.

Generally, attitude has been found to be a strong predictor of not using the psychoactive substances and has been influenced by adequate knowledge on effects and consequences of their use. This observation has previously been reported as well by (Pérez et al, 2010). As part of the qualitative approach to the research design, interviews were conducted with four students' who were using either one or more of the psychoactive substances on their attitude towards the use of psychoactive substances of which all of them agreed that the reason they had to use the psychoactive substances was so that they could fit in their peer group. This can be attributed to the fact that psychoactive substances users, like other people seek approval for their behavior from their peers whom they attempt to convince to join them in their habit as a way of seeking acceptance.

Whether peer pressure has a positive or negative impact depends on the quality of the peer group. Unfortunately, the same peer pressure that acts to keep a group within an accepted code of behavior can also push a susceptible individual down the wrong path. This finding is supported by a survey of youth in southern Nigeria, who found out that student who reported using psychoactive substances had more psychoactive substances using than abstinent friends (Nevadomsky, 1982). Confirming this finding, Kiiru (2004) argues that peer pressure influences youth to use substances under the false impression that some drugs stimulate appetite for food, increase strength and give wisdom as well as courage to face life.

Psychoactive substance use is a growing concern in the youths today. The study reveals that the students started using the psychoactive substances considerably at a very young age of less than 12years. Other findings have also reported the same age groups who reported to be using the psychoactive substances (Vega et al., 2002).

The deduction illustrated in Table 9; indicate that the greatest ratio of psychoactive substance users to non-users is associated with the 15 to 16 years category and 19 to 23

years category namely 16 of 34 respondents which represents a 47 % of the age category. Based on these facts, it can be speculated that the findings might be linked to the developmental phase of adolescence which is characterized by drug experimentation and peer influence as mentioned by Paglia and Room (2008). The table further shows that there were few cases of psychoactive substances use in the 17 to 18 age category (11.8% of the particular age-category). The table furthermore reveals that the proportion increased to the 19 - 23 years category. The tendency suggests that, if students could be made aware of the effects of psychoactive substances at an early age, the practice could be reduced among the youths in secondary schools. The same observation and suggestions has previously been reported by Eisenstein, (2005).

From the data of this study it shows that, different psychoactive substances have been used by the students. This means that all students are at high-risk of abusing these substances**.** Our results also shows that alcohol abuse was the most common practice while it is illegal for minors to be given access to alcoholic drinks. However, it has been reported that such restriction usually has no, or has only little effect (McWhirter, 2004).

A significant relationship between psychoactive substances use by students and having a family member using the psychoactive substances was found in this study. It can therefore be concluded that use of psychoactive substances by a family member significantly influences the students tendency to abuse psychoactive substances ($p<0.002$; $Df = 1$). This finding concurs with Shoemakers, 1984 who strongly concluded that having a parent or family member with a drug problem increases the chances of developing the same problem in the offspring. This implies that the presence of a family member who takes psychoactive substances contributes to psychoactive substances abuse among students.

Furthermore, there was a significant ($p<0.000$; $Df = 1$) association between psychoactive substances abuse by students and having a friend abusing the psychoactive substances in the present study. This implies that psychoactive substances abuse is significantly

dependent on having friends who are using the psychoactive substances, and therefore a significant relationship exists between the two variables.

Conclusion, Study limitations and Recommendations

In conclusion; this study found that secondary school students have adequate knowledge on types and effects of psychoactive substances. The findings showed that, the majority of student's do not accept the use of psychoactive substances which is a positive sign towards prevention of substance related problems. On the other hand a small percentage of the total participants have a history of using the psychoactive substances. The major reason behind the usage was because of peer pressure or influence. Call for attention is for both those who abuse the substances because they will be at risk for substance related disorders and those who at present do not use substances but have a chance of getting influenced by their peers.

Clearly, more surveys based on a representative samples are required to establish a better idea of the psychoactive use (problems) of substances in Tanzanian secondary schools (Sussman et al, 2007). Thus, as Nsimba, (2007), recommended that preventive measures need to be tailored to the particular needs of these age groups (i.e. youths and adolescents). Furthermore, planned interventions should address the key determinants that predict subsequent use in a manner that are culturally appropriate and responsive to the environment in which these young people live (Nsimba, 2007).

Study Limitations

The findings of this report were subjected to some limitations:

- Since the participants were students, and were asked questions pertaining substance abuse, there could be missing of some truthful information which may hinder the results of this report/underreported because of fear.
- Few free and old literature reviews especially on Tanzanian context. This means this area has not been well explored/researched.

- A small sample size studied from secondary school students may not allow generalization of our study findings but shades some light and calls for studying a bigger sample size in these schools/age groups.
- Financial limitations as finances were difficult to obtain in time and was not adequate.

Recommendations

The result of this research had given an impression that most of the study participants do not use the psychoactive substances because they had good knowledge on the effects of psychoactive substances.

- More comprehensive studies are needed to replicate this study, but emphasize triangulation of methods (i.e. use a combination of qualitative and quantitative data gathering techniques such as interviews and observations, given that the current study mainly used questionnaires. Using such an approach would help come up with a more comprehensive program for prevention of and intervention in drug abuse.
- More studies are needed with respect to background, socio-economic and environmental factors with regard to drug abuse among students. This is because the current study did not determine the association of most of these factors and drug abuse.

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REFERENCES

Abdool, R. (ed.2004). *United Nations Office of Drugs and Crime*, 2nd African Union Ministerial Conference on Drug Control in Africa: 14-17 December 2004. Mauritius

Abidoun OA, Adelekan ML, Ogenremi OO, Oni GA, Obayan AO. *(*1994) *Psychosocial correlates of alcohol, tobacco and cannabis use amongst secondary school students in Ilorin, Nigeria. West African Journal of Medicine; 3: 213-217.*

Adelekan, M. (1999). *Rapid Situation Assessment of the Drug Situation at Ehin* – Etiri, Ijebu North Local Government, Ogun State Nigeria. Lagosi: UNDCP

Ariza, C, Nebot, M., Tomás, Z., Giménez, E., Valmayor, S., Tarilonte, V., & de Vries, H. (2008). Longitudinal effects of the European smoking prevention framework approach (ESFA) project in Spanish adolescents. *European Journal of Public Health, 18*, 491-497. doi:10.1093/eurpub/ckn050

Asumi, J. (1996). *Socio-Psychiatric Problems of Cannabis in Nigeria*. Bulletin on Narcotics, 16(2): 17

Bawkin H. & R.Bawkin, (1972). *Behaviour Disorders in Children*. London: W.B. Saunders.

Beckerleg, S.,Telfer, M. and Hundt, G. L.(2005) *The rise of injecting drug use in East Africa: a case study from Kenya*. Harm Reduction Journal.

Bezuidenhout, F. (2004). *A Reader on Selected Social Issues*. Third Edition, Van Schaik. Pretoria.

Blum, R. (1972). Horatio Algers Children: *The Role of the Family in the Origin and Prevention of Drug Risk*. San Francisco, Jossey.

Carlini, E. (1991). *The Illegal Use of Legal Drugs by Our Youth: Is It a Problem that can be Solved?* Sao Paulo: CEBRID/EPM

Chocran, W.G. (1997). *Sampling technique (3rd ed.*) New York: John Wiley &sons.

Cookson, H. (1992). *Alcohol Use and Offence Type in Young Offenders*. British Journal of Criminology, 32(3): 352-360.

Courtois R, El-Hage, W, Moussiessi, T and Mullet F. (2004). Prevalence of alcohol, drug use and psychoactive substance consumption in samples of French and Congolese High School Students. Tropical Doctor, 34: 15-17.

Ebie, J. & A. Pela (1981). *Some Socio-cultural Aspects of the Problem of Drug Abuse in Nigeria.* Drug and Alcohol Dependence, 8:302 - 306. 128

Eisenstein, E. (2005). *Substance Use among Young People in Urban Environment*. W.H.O. Geneva

Gikonyo, M. (2005). *Drug Abusers and Parental Knowledge on Factors Predisposing the Youth to Drugs and Substance Abuse in Nairobi Province, Kenya*. Unpublished M.ED Thesis, Kenyatta University.

International Narcotics Control Board (INCB) Report: United Nations Organization Report February, 2003. Johnston, T. (2000). *Adolescent Drug Abuse in Kenya: Impact on Reproductive Health*. Pathfinder International, New World Printers: Nairobi. . Kenya.

Kaaya, S.F., Kilonzo G, P., Semboja, A. and Matowo, A. (1997). *Prevalence of substance abuse among secondary school students in Dar es Salaam*. Tanzania medical Journal, 7: 21-22-24

Kaguthi, J. (2006). *Drug Abuse in Nairobi Province and Nationally, with Specific Reference to Educational Institutions.* Nairobi, Kenya. UNDCP

Kiiru, D. (2004). *Youth in Peril: Alcohol and Drug Abuse in Kenya.* NACADA 2004.

Krivanek, J. (1982). *Drug Problems, People Problems*. George Allan and Unwin, Sydney.

Mackay, J. & M. Ericksen (2000). The Tobacco Atlas. Geneva: W.H.O.

Massele, A.Y. and Mwaluko G.M.P. (1991) *Drug prescription and use in some health facilities in Dar es Salaam, a prospective study*. Tanzania Journal of Paediatrics 2:2:42-44

Morales, E., Ariza, C., Nebot, M., Pérez, A., & Sánchez, F. (2008). Consumo de cannabis en los estudiantes de secundaria de Barcelona: inicio en el consumo, efectos experimentados y expectativas [Cannabis use in secondary-school pupils in Barcelona: initiation, effects experienced and expectations]. *Gaceta Sanitaria, 22*, 321-329.

Muthigani, A. (1995). *Drug Abuse: A Rising Concern Among Youth in Secondary Schools in Nairobi.* Unpublished M.A. Thesis, Catholic University of East Africa: Nairobi.

NACADA (2004). *Alcohol and Drug Abuse in Kenya.* Final National Baseline Survey, on Substance Abuse in Kenya. Government Printer Nairobi: Kenya.

Ndom, R. and Adelekan, M. (1996). *Psychosocial Correlates of Substance Use among Undergraduates in Iiorin University,* Nigeria. East African Medical Journal 73 (8): 541 – 547

Ndosi, N.K. and Yongolo, J. (1991) *Substance abuse in Dar es Salaam Tanzania:* Paper presented at 1st annual seminar of the R&D. advisory committee on Public Health and Medical Research Dar es Salaam.

Ndosi, N.K. and Waziri C. M. (1997). *The nature of Parasuicide in Dar es Salaam Tanzania*. Social Science Medicine Volume 44:1:55-61

Ndosi N.K., (1999*). Causes and problems of substance abuse amongst the youth in Tanzania.* African Journal of Medical Practice Volume 6: 2: pg 55

Nevadomsky JJ.(1981). *Patterns of self reported drug abuse among secondary school students in Bendel state, Nigeria. Bulletin on Narcotics 33: 9-19.*

Nsimba, SED. (2007*).* Potential Marijuana Prevention Programs for Hispanic Communities. *A review article on the impact of various health related preventive programs targeting adolescents in the United States. Addictive Disorders & Their Treatment. 6: 181-186.*

Obot, I. (2005). *Substance Use among Students and Out of School Youth in an Urban Area of Nigeria*. W.H.O. Geneva.

Obot, I. and Shekhar, S. (2005). *Substance Use among Young People in Urban Environment.* W.H.O. Geneva. 132

Ominde, J. (1976). *Abuse of Stimulant Drugs in Nigeria.* A Review of 491 Cases. British Journal of Addictions, 71: 51-63.

Pérez, A., Ariza, C., Sánchez-Martínez, F., & Nebot, M. (2010). Cannabis consumption initiation among adolescents: A longitudinal study. *Addictive Behaviors, 35*, 129-134. doi:10.1016/j.addbeh.2009.09.018

Police Drug Seizure Statistics, (1989). Ministry of home affairs, Tanzania.

Rodes, J and Jason, L. (1988). *Preventing Substance Abuse among Children and Adolescents*. New York. Pergamon Press.

Schaefer, P. (1996). *Choices and Consequences: What to do When a Teenager Uses Alcohol/Drugs*. Johnson Institute. USA.

Shoemaker, D. (1984). *Theories of Deliquency: An Examination of Explanations of Deliquent Behaviour.* Oxford University Press: New York.

Sussman S, Pokhrel P, Black D, Kohrman M, Hamann S, Vateesatokit and Nsimba, SED. (2007). Tobacco control in developing countries: Tanzania, Nepal, China and Thailand as examples. Nicotine & Tobacco Research J, 9: S447-S457.

Tanzania 1993. "*Report of Tanzania to the Sixth Meeting of National Drug Law Enforcement Agencies (HONLEA*)", Africa, Abidjan 24 to 28 May 1993.

United Nations: Office of Drugs and Crime (UNODC),*(2005) W.H.O. Expert Committee on Dependence Producing Drugs: Fourteenth Report.* August 2005.

United Nations Office of Drugs and Crime (UNODC).(2003) *Global Illicit Drug Trends United Nations.* New York 2003.

Vega, W. A., Aguilar-Gaxiola, S., Andrade, L., Bijl, R., Borges, G., Caraveo-Anduaga, J. J., Wittchen, H. U. (2002). Prevalence and age of onset for drug use in seven international sites: results from the international consortium of psychiatric epidemiology. *Drug and Alcohol Dependence, 68*, 285-297. doi:10.1016/S0376-8716(02)00224-7

WHO (2000). *Programme on Substance Abuse, 'Preventing Substance Abuse in Families: A WHO Position Paper'.* Geneva

WHO (2004). *Street Children, Substance Use and Health: Monitoring and Evaluation of Street Children Projects.* Document No. WHO/PSA/95:13. Geneva 18.

World Drug Report (2005). *United Nations Office on Drugs and Crime (UNODC).* Executive Summary, United Nations Publication.

Yamaguchi, K. & Kandel, D. (1984). *Patterns of Drug Use from Adolescence to Young Adulthood.* Predictors of Progression, American Journal of Public Health, 74, 673-681.

Yeung W. *(1997) Substance misuse in secondary school students in Hong Kong.* Psychiatric Bulletin; 21:561-562.