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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 document. 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 nth 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 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 Ndetei 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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Peer-Based Life Skills Approach to Substance Use Prevention: The Philippine Experience

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Abstract

This research examines the Philippine experience in utilizing a peer-based life skills approach to substance use prevention. Recognizing the need to achieve the sustainable development goal on ensuring healthy lives and promoting healthy well-being for all at all ages, this intervention addresses the need to develop the students' life skills and practical competencies. Given the strategic position of peers in shaping an adolescent's health behavior, the program capacitated 15 youth facilitators in three public schools in Metro Manila who met the following criteria: role model, 12-15 years old, with charismatic personality, has good communication skills, willing to devote time for the training and teaching peers, and committed to helping others. The peer facilitators underwent a 4-day training and 2-day booster session on building self-esteem, personal skills, decision-making, communication, assertion, refusal, group facilitation, social and presentation skills. The skills inventory revealed that the trained peer facilitators have improved their life skills after taking part in the program. Moreover, after passing the readiness assessment, they in turn capacitated 15 of their peers per school, and a booster session was conducted to sustain positive health outcomes.

Using participant observation, key informant interviews, and focus group discussions, the study revealed that the peer approach was effective in developing knowledge and life skills of junior students. It was also evident that prevention messages embedded in these life skills were more valued as young people apply them in their everyday life. It improved their relationships not only with their peers, but also with their parents and teachers.
This study recommends that parents be targeted substance use prevention and that schools engage student leaders and other stakeholders for program sustainability.

Key words: *peer-based program, life skills, youth development, substance use prevention*

Introduction

This paper provides an overview of a peer-based program on substance use prevention in the Philippines. The Personal and Social Skills Training for High School Students programme was supported by the United Nations Office on Drugs and Crime (UNODC) Drug Abuse Prevention Center Grant and was conducted through the Association of Southeast Asian Nations (ASEAN) Training Center for Preventive Drug Education based in the University of the Philippines. The program was implemented over an 8-month period and involved three public high schools in Metro Manila.

The program was a local response aimed at promoting achievement of the sustainable development goal on ensuring healthy lives and promoting healthy well-being for all at all ages. It addressed the need to develop students' life skills and practical competencies for wellness. It sought to answer the following questions: (1) How can a peer-based program be utilized to enhance students' life skills? (2) Why is a peer-based approach important in substance use prevention?

Due to the strategic position of the peers in shaping Filipino adolescents' health behavior, this program capacitated a core group of fifteen (15) peer facilitators on life skills who in turn, trained forty-five (45) of their peers to enhance their skills to live healthy and drug-free lives. It is important to point out that this paper is limited to the qualitative findings that emanated from the youth program. It is hoped that by sharing this Philippine experience on implementing a peer-based life skills program, this paper can provide a model for utilizing trained peers for substance use prevention.

The Science Behind Prevention

The past four decades have provided a fertile ground for the development of Prevention Science as a field that brings together theory, research, and practice. The Society for Prevention Research (2011) espoused that Prevention Science involves the study of human development and social ecology as well as the identification of factors and processes that lead to positive and negative health behaviors and outcomes. Thus, its ultimate aim is to improve public health through several strategies such as identifying malleable risk and protective factors which served as a basis for this intervention.

Several prevention principles that guided this study were:

1. Developmental Focus

Considering that adolescence is a particularly challenging stage in the course of life, this intervention specifically targeted adolescents to assist them in their transition. The use of trained peers also addressed the need of young people to be with peers who can connect with them in various ways.

2. Transactional Ecology

This intervention maximized the transactional process among adolescents and utilized the peer dynamics to prevent antisocial behaviors.

3. Human Motivation and Change Processes

This intervention enhanced protective factors by developing adolescents' life skills and strengthening their intrinsic motivation to learn and practice adaptive behaviors and social competencies.

4. Ethical Practices

Before implementing the program, informed consent was sought from the participants along with parental consent. In addition, the trained peers

were advised to live up to the values of beneficence, non-maleficence, and responsibility, and to establish trust and respect among their peer students.

The updated edition of the International Standards for Drug Use Prevention (UNODC, 2018) identifies prevention education based on social competence and influence as one of the interventions that yield positive outcomes for early adolescence. It also points out that peers are reported to be effective in delivering programs for all substances. Among the characteristics which were identified by experts to be related to positive outcomes which guided this program included the use of are interactive activities, trained peers as facilitators, and inclusion of a booster session as a program component.

Peer-Based Life Skills Program in Prevention

Many studies support the effectiveness of interventions that capitalize on the strong peer influence during adolescence. In 2003, UNODC in their Peer to Peer resource, identified Australian Youth for Youth project, Georgia Students Together Against Negative Decisions (STAND), Healthy Oakland Teens (HOT), HIV AIDS Prevention and Respect, Protect Connect, Violence Prevention as examples of programs that used peer education effectively. Moreover, UNAIDS (1999) noted that peer education is an approach, a communication channel, a methodology, a philosophy and a strategy. Thus, in various settings, it is used to effect change in knowledge, attitudes, beliefs, and behaviors among individuals. Owing to the fact that it can shape norms especially among young people, this approach has been a popular mechanism for health promotion and advocacy.

In this study, peers refer to those belonging to the same age and school sub-culture. They are junior high school students studying in urban areas and belonging to low-medium socio-economic class. This peer-based program aims to develop Filipino adolescents' life skills to counter the growing threat of substance use and it was designed to reach young people through young people. It involved high school students between the ages of 12 and 15 who receive a 25-hour life skills training to help them make informed decisions and counter negative environmental influences.

The Philippine Peer-Based Life Skills Program

As shown in Figure 1, the Philippine peer-based program has three components: utilization of trained peers in prevention; intensive training and booster sessions for peer facilitators and peer students; and opportunities to practice life skills in one's daily life. The first component highlights the immense power of trained and certified peers to influence their agemates in positive ways. The second component considers the importance of providing an intensive and systematic training with booster sessions to further enhance young people's life skills. The third component puts forward the importance of providing opportunities for practice, in both home and school environments. The dynamic interaction among these three components provided a supportive mechanism for life skills enhancement among Filipino junior high school students.

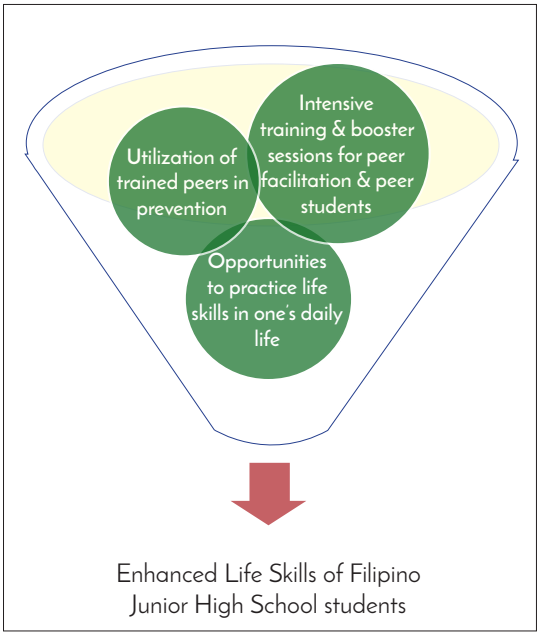

Figure1. Framework of the Philippine Peer-Based Life Skills Program

The program followed several steps. First, upon getting the UNODC Drug Abuse Prevention Center grant, the ASEAN Training Center for Preventive Drug Education (ATCPDE) coordinated with the Department of Education to identify the three schools which would take part in the program. Next, there was an orientation among school administrators. Thereafter, each of the three schools was requested to identify five students using the following criteria: 12-15 years old; role model; has charismatic personality; has good communication skills; willing to devote time to participate in the life skills training and train peers; and committed to helping others. After identifying the potential peer facilitators, there was a parents' orientation to explain to them the expected engagement of their children in the program. Parent's consent was also sought prior to student participation.

After being assured of the schools' support, the Center coordinated with the Dangerous Drugs Board (DDB) life skills training team to set the dates and program of activities. The 4-day intensive training of peer facilitators started with an overview of the country's drug situation, medical and legal implications of drug use, and risk and protective factors. Then, the DDB members who were trained on life skills by the Colombo Plan utilized a combination of activities and short lectures to teach the following life skills: building self-esteem, facilitation, communication, decision-making, assertion, and personal skills. Some of the activities were positive envelopes, touch my heart, self-esteem barometer, role playing, silent charade, mine field, and balloon stomping.

Meanwhile, the booster session focused on building relationships, refusal skills and presentation skills. The highlight was the teach-back session which assessed the readiness of the peer facilitators to deliver the program to their peers. They were evaluated based on their content knowledge, facilitation and presentation skills, time management and demeanor. All passed the evaluation and became certified peer facilitators.

The second phase was to involve 45 peer students, so each school was requested to identify 15 of their vulnerable students. To help them in the selection, a vulnerability questionnaire was developed by the ATCPDE Drug Education Committee (DEC) members and was pilot tested in another public school in Metro Manila.

After each school identified the peer students, another parents' orientation was conducted to explain the program and seek consent for their children's participation. The 2-day training of peer students started with a training course overview then the peer-facilitated sessions on building self-esteem, communication skills, decision-making skills, and refusal skills. For the first booster session, personal, social, and assertion skills were covered while the second booster session included facilitation and presentation skills. An action planning workshop capped the training and provided the next steps forward.

Methodology

To capture peers' experiences, a qualitative research paradigm was utilized. Qualitative methods have much to offer in exploring people's feelings or asking participants to reflect on their experiences (Biggerstaff, 2012). It embraces the concept of intersubjectivity usually understood to refer to how people may agree or construct meaning: perhaps to a shared understanding, emotion, feeling, or perception of a situation, in order to interpret the social world they inhabit (Nerlich, 2004).

The researcher observed and documented the process while peers reflected on their feelings, and insights about the peer-based program and how they were able to apply the life skills that they had learnt. The observer's notes were richly supplemented by the written experiences provided by the respondents since the researcher did not observe the daily interaction of the participants which involved the application of life skills. Thus, a major limitation of the study is the assumption that what the peers recorded on their reflection journals are true and based on personal experiences.

A focus group discussion among the peer facilitators provided both a pre-training and a debriefing session. This was valuable in ensuring their readiness and in providing an avenue for processing their experiences. The post-training session followed the format, "What Went Well" and "What We

Can Do Better" in order to celebrate success and acknowledge points for improvement.

Data segments from evaluation essays, reflection journals, observation notes, and narratives from focus group discussions and key informant interviews were coded in order to develop patterns and generate themes. Issues of validity were managed through triangulation of data from various sources and through respondent validation.

Results

In answering the question, "How can a peer-based program be utilized to enhance students' life skills?", two themes emerged from the data.

The first concerns the structure, content, and delivery of the peer-based program. In terms of structure, both the peer facilitators and students pointed out that on top of the intensive training, the booster sessions were crucial. As one peer facilitator remarked, "This booster session is very helpful in improving each of my life skill, mostly my self-esteem."

For the second question on the reasons why a peer-based approach was important in substance use prevention, peer students highlighted the fact that they were more at ease in discussing substance use-related matters among their peers than with adults or authority figures. Having peers who were good role models also encouraged them to follow their examples. The peer facilitators agreed, saying that they played an important role in positively influencing their peers: "*Malaki ang tulong nitong training na ito sa amin para maturuan kami na maging drug-free at makatulong na maging good influence sa kapwa namin kabataan*" (This training is a big help in teaching us to be drug-free and how to be a good influence to our fellow youth).

Discussion

In facilitating the training, it was observed that the peer facilitators practiced adaptation with fidelity. They covered the key concepts of each life skill but they used their own lingo and provided examples from the local context that their peers could relate with. For example, in discussing stress management techniques, peer facilitators used examples such as "dasal" (prayer), and "musika" (music). These two activities are very much ingrained in the Filipino culture considering that the Philippines is the only Christian nation in Southeast Asia and many Filipinos love to sing. The concept of fun learning and the interactive nature of the training was appreciated by both the peer facilitators and students.

In relation to the application of life skills and transferring learning to other settings and contexts, both the peer facilitators and students reported positive experiences in applying these life skills in enhancing their relationships not only with their peer groups but also with their parents and teachers. One peer facilitator wrote, "I used almost all of the life skills which were taught to us: communication, decision-making, self-esteem, and coping skills. I used them in my everyday routine... My life became better than it was before." Another remarked, "Masasabi ko na maaapply ko lahat ng skills na ito sa kahit anong aspekto ng aking buhay" (I can say that I will be able to apply all these skills in any aspect of my life). Interestingly, considering the country's traditional values, it is common for Filipino adolescents to report that assertion and refusal skills are among the hardest life skills to apply.

This study validated most of the characteristics of effective programs outlined in the International Standards on Drug Use Prevention (UNODC, 2018). This included the use of structured and interactive sessions, intensive training with booster sessions, and using trained peer facilitators.

Conclusions

The study concluded that a peer-based life skills approach can be used in prevention by ensuring that it is properly structured with booster sessions and is delivered by well-trained peers. In general, the characteristics of the peer facilitators and the peer-based approach that are related to positive outcomes include ease in communication and sharing similar experiences with their peers. In addition, mentoring and guided practice are crucial in delivering a peer-based program. Thus, commitments from responsible adults must be a consideration in planning and implementing the program.

The study also concluded that it was important for peers to be given opportunities in daily life to practice these life skills. One way to enhance this is by capacity-building parents in order to help them provide a supportive home environment for their children. Additionally, there is need for schools to engage student leaders and other stakeholders in order to sustain peer-based initiatives in substance use prevention.

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Figure

Figure1. Framework of the Philippine Peer-Based Life Skills Program

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Relationship Between Recovering Alcoholics Characteristics And Development Of Competencies In Rehabilitation Facilities In Central And Nairobi Regions

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ABSTRACT

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The assessment of an alcoholic's commitment for his actions of abusing alcohol is a critical step in determining whether the person suffers from some kind of condition that weakens their capacity to regulate their own actions. Addiction to alcohol weakens the capacity to align actions with a person's own assessment of issues. An understanding of how the characteristics of recovering alcoholics influence the development of their competencies during rehabilitation is therefore key to their reintegration into society. This study adopted behavioural, Adlerian and person centred theories as a theoretical framework, and employed the ex-post-facto correlational research design with an accessible population of 202 recovering alcoholics and 81 addiction counsellors in 17 rehabilitation facilities in Central and Nairobi regions employing

the 12 step facilitation approach. Census sampling method was used for the addiction counsellors with the entire population participating in the study. A sample size of 134 respondents calculated using Yamane simplified formula was used for the recovering alcoholics. Data was collected using a structured questionnaire for the recovering alcoholics and addiction counsellors. The instruments were validated and adjustments done after the pilot study, while reliability was determined using the Cronbach's alpha coefficient at 0.747. The data was analyzed using the IBM statistical package for social sciences (SPSS) version 22.0. Pearson correlations were used to test the relationship between the dependent variable (recovering alcoholics' competencies) and the independent variable (alcoholics' characteristics). Recovering alcoholics competencies was established to be statistically significant at $p=0.000<0.05$ with a moderate positive association ($r=0.580$). The study established that salient indictors observed to facilitate development of competencies among the recovering alcoholics that would require focus during therapy include belief in God and other spirituality aspects, self-will to change and acceptance of alcoholic status as well as sharing of their story during group therapy. These factors may provide support and direction and aid in development of a resilient determination in life among recovering alcoholics.

Keywords: *Recovering Alcoholics, Characteristics, Competencies, Rehabilitation Facilities, Addiction Counsellors*

Introduction

Alcoholics are often characterized by diverse psychological and physical symptoms that affect their critical thinking, perceptions, attitudes and skills (Milton, 2014). As alcoholism progresses in the alcoholic's life, negative psychological and physical attributes manifest in the way that the alcoholic cannot sustain a normal social and economic life in the community he or she belongs to. These negative psychological and physical attributes manifest themselves in subjective personally and socially self-destructive behaviour, denial of existing and impending consequences, diminished levels of functioning and negatively impacting friends and families as the recurrent forms of addiction remain (Pabian, 2014).

Rassool (2008) indicated that there are certain social conditions responsible for the increase or decrease in a person's risk for addiction and substance abuse which include childhood and adolescent developmental factors that heighten a person's risk for addiction. These factors include weak family structures, ongoing childhood emotional trauma, poor school performance, peer group pressure, growing up in high crime neighborhoods, observing one or more family members engage in substance abuse, having too much free time and lack of age appropriate activities (White and Miller, 2007). There are diverse consequences of the alcohol abuse, including the ultimate price of alcoholism which is death. In this context, around 3 million or 5.1% of all the global deaths were attributed to alcohol consumption in the year 2016 (World Health Organization, 2018)

There are diverse alcoholism challenges and problems leading to the need for rehabilitation. Rehabilitation has been defined as the relearning or re-establishing of healthy functioning, skills, and values as well as regaining physical and emotional health (Musyoka, 2013). Kuria (2015), further notes that rehabilitation is meant to provide full or partial restoration of physical, psychological, or social function that has been damaged by a previous disease or condition through counselling. Alcoholism can be treated effectively if alcoholics can access treatment and rehabilitation services that are appropriate to their needs and of sufficient quality, intensity and duration (Hall, 2015). Substance Abuse and Mental Health Services Administration (SAMHSA) (2012), observes that recovery does not begin once an individual has completed treatment but forms an integral part of the treatment process which begins when an individual decides to address his or her substance use disorder. The core of the rehabilitation efforts lies with the alcoholic's realization that they are ruled by self-destructive habits and that people need to own up to the addictions in a confidential and non-judgmental atmosphere that is free from shame and embarrassment (Brower et al., 2013).

The regaining of the psychological competencies lost during the alcoholic's life is critical in the

rehabilitation process and may prevent lapsing back into alcoholism. The rehabilitation process therefore seeks to empower the alcoholic to possess normal functioning human skills for the social, spiritual and economic life (McLeod, 2013). In this context, one of the most important human skills is the ability to use judgment and make choices and decisions both at personal and interpersonal levels, which in turn affects quality of life (Pagano, Friend, Tonigan and Stout, 2010). A more critical aspect is the recovering alcoholic developing skills that prevent lapsing back to alcoholism. This means developing competencies that can support or help the alcoholic develop certain behaviours for both short-term adaptations and longer-term developmental progress (Scarbrough, 2012). These competencies range from specific skills and abilities to general constructs such as self-esteem. Development of appropriate social and personal competencies among recovering alcoholics reflect their improved adjustment to deal with issues in the family, school, work and in society at large (Aissen, 2013).

Literature Review

Concept of Alcohol Addiction

Alcohol addiction occurs when a person continues to use alcohol in the face of negative effects on his or her health or life despite repeated attempts to stop (Aissen, 2013). Addiction is not all physical but has a psychological dimension where individuals find themselves craving or hungering for alcohol and its effects even when they are not physically dependent (Brower, et al., 2013). This usually results from the powerfully rewarding effects that alcohol produces.

Addiction is characterized by an inability to consistently abstain, impairment in behavioural control and craving, diminished recognition of significant problems with one's behaviours and interpersonal relationships and a dysfunctional emotional response (Gabhainn, 2003).

Recovering Alcoholics Characteristics

Babor et al., (2014) indicated that a variety of factors have been identified at the individual and the societal levels which affect the magnitude and patterns of consumption and can increase the risk of alcohol use disorders and other alcohol-related problems in drinkers and others. These factors include age, gender, the family's emotional expressions, and social economic factors (Githae, 2015; Babor, et al., 2014). Early initiation of alcohol use before the age of 14 years is a predictor of impaired health status and has been associated with increased risk of alcohol dependence and abuse at later ages, alcohol-related motor vehicle crashes and other unintentional injuries (Grundstrom et al., 2012).

Harmful use of alcohol has been cited as the leading risk factor for death in males aged 15–59 years, with further evidence that women may be more vulnerable to alcohol-related harm from a given level of alcohol use or a particular drinking pattern (Kuria, 2015). The vulnerability of females to alcohol-related harm is a major public health concern because alcohol use among women has been increasing steadily in line with economic development and changing gender roles (Wilsnack, Wisnack, and Kantor, 2013). There were significant gender differences in 2017 pertaining to the prevalence of alcohol use disorders, with a global estimate of 237 million men and 46 million women with alcohol use disorders (WHO, 2018).

Development of Social and Personal Competencies in Addiction Clients

Competence is viewed as an integrative concept which refers broadly to an ability to develop adaptive responses to demands and capitalise on opportunities in the environment. The competent individual is one who is able to make use of environmental and personal resources to achieve a good developmental outcome. The possibilities range from specific skills and abilities to general constructs such as self-esteem. Social and personal competencies reflect adjustment of the alcoholic to deal with issues in the family, school, and work and in society at large. The focus on social competence is on particular aspects such as empathy, self-control, trust and respect for other people (Maside, 2011). In recent years, the study of social competencies has received increased attention from policy makers and social scientists across disciplines, partly due to increased concerns about the lack or erosion of social competencies in modern society (Odera, 2013).

Competencies are not considered innate but must be developed over time in order to develop and improve performance and continue throughout a person's life (Roozen et al., 2009). Competency is also achieved through training and supervision from knowledgeable instructors and supervisors who in this study are the addiction counsellors (Kivlahan, 2013). This is achieved by the recovering alcoholic engaging in a journey of knowing and improving oneself. This involves seeking personal therapy, pursuing other healthy life activities and being honest about ones needs, shortcomings, fears and failures (Brown, Emrick & Glaser, 2012).

Objective of the Study

The main objective of the study was to establish the relationship between recovering alcoholics' characteristics and development of competencies in rehabilitation facilities in Central and Nairobi regions.

Hypothesis of the Study

There is no statistically significant relationship between recovering alcoholics' characteristics and development of competencies in rehabilitation facilities in Central and Nairobi regions.

Methodology

Ex-post-facto correlational research design was adopted targeting an accessible population of 202 recovering alcoholics and 81 addiction counsellors in 17 rehabilitation facilities in Central and Nairobi regions, employing the 12 step facilitation approach. Census sampling was used for addiction counsellors while Yamane simplified formula for the recovering alcoholics, yielding 134 respondents. Data was collected using structured questionnaires and instruments which were validated and adjustments done after a pilot study. Reliability was determined using Cronbach's Alpha coefficient that yielded 0.747. Pearson correlation tested the relationship between the independent and dependent variables.

Findings and Discussions

The inventory seeking responses on the relationship of the recovering alcoholics' characteristics on development of competencies was developed from the reviewed literature. The inventory utilized a five point likert scale using the metrics of strongly agree, agree, uncertain, disagree and strongly disagree in order to capture the responses on the characteristics of recovering alcoholics.

Descriptive Statistics of Recovering Alcoholics' Characteristics

In order to establish the relationship between recovering alcoholics' characteristics and development of competencies in rehabilitation facilities, the study used the perceptions of respondents on various indicators of the recovering alcoholics' characteristics. These included level of education and exposure, relationship with counsellors, relationship with fellow alcoholics, group discussion contributions, the belief in God, their self-will to change and acceptance of their alcoholic status. Table 1 shows the results.

The results displayed in Table 1 indicate that level of education and exposure among recovering alcoholics achieved a mean of 3.78 and a standard deviation of 0.899. The 3.78 implies that the respondents on average tended to agree that the level of education and exposure played a significant role in road to recovery and development of competencies among recovering alcoholics. This is further evidenced by a cumulative percentage of 69.8 % of the respondents who chose the strongly agree and agree metrics respectively. A standard deviation of 0.899 indicated a moderate score spread from the mean, implying moderate consensus amongst the respondents in respect to the achieved average mean. This can be attributed to significant scores of respondents who were undecided, disagreed and strongly disagreed with the metric at 17.1%, 7.4% and 5.7% respectively. The results achieved in respect to this indicator was consistent with the findings of the report by SAMHSA (2012), which indicates that recovery from addiction can be sustained though evidence-based practices that target the social determinants of health such as education, supported employment and housing. The study agrees with findings by Kurtz and, Fisher (2003), who contend that involvement of recovering alcoholics in worthwhile activities such as educational programmes has also been linked

with a higher prospect of early alcohol reduction and recovery in the long-term. Behavioural theory lays emphasis on the educational component during therapy, especially on specific elements that impact on existing functioning and the factors that can be used to change behaviour. Behaviour therapy is action oriented and embraces an educational methodology that views learning as being at the centre of therapy (Mcveigh, 2012).

The indicator on the relationship of recovering alcoholics and addiction counsellors posted a mean of 3.93 and a standard deviation of 0.812. The mean of 3.93 implied that the respondents on average tended to agree on the importance of fostering healthy relationships with counsellors during the rehabilitation period. This is further evidenced by a relatively high score of 77.7% in respect to the respondents who were in agreement as opposed 13.7%, 3.4% and 5.1% of the respondents who were uncertain, disagreed ad strongly disagreed respectively. These findings are consistent with Githae (2015), who stresses on the critical role played by caregivers in the provision of an enabling environment for recovery to take place. In this context, the competency and training of the counsellors is key in the formation of associations and carrying out the approaches that help recovering alcoholics change from addictions that threaten their survival to activities embracing their recovery (ibid). The study findings agree with the US Department of Health and Human Services (2011), which observes that the prospect of a favorable outcome for the recovering alcoholic is highly dependent on the nature of the relationship association established with the counsellor. In cases where the recovering alcoholic fails to gradually open up in a group and is unable to express himself more openly, successful recovery may be problematic in the long run, ultimately affecting the development of various competencies during the rehabilitation process. The findings are further supported by Cloete (2014), who notes that person-centered theory views the addiction counsellor and recovering alcoholic relationship as an empowering one where the addiction counsellor helps the recovering alcoholic discover his strengths and optimize them towards self-actualization in his own life during the rehabilitation process.

The ability to forge relationships with fellow alcoholics during their stay in the rehabilitation programme was noted as a significant characteristic by respondents in the rehabilitation centres. In this context, the indicator scored a mean of 3.68 and a standard deviation of 0.823. The mean score of 3.68 in a five point likert scale indicated that the respondents on average agreed with the importance the of programme's ability of enhancing their ability to establish fruitful bonds with fellow alcoholics. This can further be evidenced by respondents who indicated strongly agree and agree at 18.9% and 46.9% respectively to this metric. A notable number of respondents however reported sentiments of being uncertain, disagree and strongly disagree that stood at 23.4%, 5.1% and 5.7% respectively. These findings are consistent with Brower et al. (2013), which recognizes the ability of the 12 steps approach in removing shortcomings in the recovering alcoholics' personality traits, helping them make amends to wronged persons, and in taking responsibilities to help other alcoholics. Gwinnell and Adamec (2006) observe that a key component in promoting healing from addiction is the attitude of significant stakeholders in the alcoholic's life who include family, friends and society in general. Individuals with a social system comprising of members against alcohol abuse and who report more support for maintaining abstinence are more likely to realize and sustain reduction (Wasserman, Stewart and Delucchi, 2001). The study findings further agree with those by Zemore and Kaskutas (2008), who indicate that recovering alcoholics offering help during treatment through volunteer service, provision of moral support and encouragement as well as sharing their understanding about how one may remain sober and resolve other problems are more likely to become involved in 12-step groups and achieve improvements in the short term during recovery. These helping activities can significantly develop the recovering alcoholic's self-esteem and social standing, strengthen their social network and provide a model of positive commitment to leading a sober way of life after discharge from the rehabilitation facility (Crape et al., 2002).

The results displayed in Table 1 indicate that the ability of respondents sharing their story on alcohol abuse and making contributions to group discussions achieved a mean of 3.88 and a standard deviation of 1.014. The mean of 3.88 implies that

the respondents on average tended to agree that the ability to open up about their journey on the road to recovery made significant contributions to development of their social and personal competencies during rehabilitation. This is further evidenced by a cumulative percentage of 76% of the respondents who chose the strongly agree and agree metrics respectively. A standard deviation of 1.03 indicated a huge spread of data from the mean of 3.88. This can be attributed to significant scores of respondents who were uncertain, disagreed and strongly disagreed with the metric at 9.7%, 5.1% and 9.1% respectively. The results achieved in respect to this indicator are consistent with Denzin (1987), who identifies the presence of a connection between how alcoholics learn to voice their narrative in AA and recovery. This assists persons recovering from alcohol addiction to organize their previous identification with the alcoholic self and realign it in terms of a recovering self. Individuals participating more in activities that are group related and meetings are more likely to socialize with close friends, attend cultural events, be involved in sports and engage in social activities and be more likely to attain and sustain abstinence (Moos, 2010).

The indicator on belief in God and other spirituality aspects posted a mean of 4.10 and a standard deviation of 1.03. The mean of 4.10 implied that the respondents on average tended to agree on the essence of spirituality on the road to recovery from alcohol addiction. A standard deviation of 1.03 indicated a huge spread of data from the mean of 4.10. This is further evidenced by a relatively high score of 76.5% in respect to the respondents who were in agreement as opposed 10.9%, 5.1% and 7.4% of the respondents who were uncertain, disagreed and strongly disagreed respectively. These findings are consistent with Pardini et al. (2000), who observe that involvement by recovering alcoholics in religious and spiritual aspects has been shown to provide support and supervision as well as giving goal direction to the development of a stronger purpose in life. Such involvement has also been linked to remission from substance use, development of more resilience and less anxiety. Hollen (2009) observed millions of alcoholics give acknowledgement to AA for saving their lives and believe that its traditions are the only true pathway to recovery. This assertion however faces strong opposition from those that reject the spiritual aspects of AA that call for submission to a greater power. Findings from the study receive support from Galanter (2007), who observes that the spiritual recovery movement that reinforces adherence with its rules by engaging recovering alcoholics in a caring and organized social system that supports new purpose in their lives and contributing to the recovery process.

The assessment of the recovering alcoholics' self-will to change during the course of their stay in the rehabilitation programme was noted as a significant characteristic in gaining of competences. In this context, the indicator scored a mean of 4.34 and a standard deviation of 0.864. The mean score of 4.34 in a five point likert scale indicated that the respondents on average agreed with the programme enhancing their self-will to change and make efforts to live an alcohol free life. This can further be evidenced by respondents who indicated strongly agree and agree at 61.1% and 24.0% respectively to this metric. A notable number of respondents however reported sentiments of being uncertain, disagree and strongly disagree that stood at 7.4%, 2.3% and 5.1% respectively. Pagano, Post and Johnson (2010), note the assessment of the alcoholic's obligation for his or her actions of abusing alcohol, or the sequences of actions required for acquiring it, is often undertaken so as to ascertain whether the alcoholic suffers from some kind of condition that weakens their capacity to regulate their own actions (Hyman, 2007). The findings agree with Cloete (2014) who observes that addiction weakens the alcoholic's ability to align his actions with their own evaluative judgments. The prevention and recovery methods that emphasize on the alcoholic mastering the will power to refuse alcohol, or by rebuking the addict for lack of willpower, are are unlikely to be sufficient in the absence of interventions intended at helping the alcoholic avoid the signals that initially activate cravings (ibid). Mercer & Woody (1999) view the recovering alcoholic as the effective agent of change making it imperative for the person to take responsibility for working on and succeeding with the programme of recovery.

The results displayed in Table 1 indicate that the aspect of acceptance of respondents' alcoholic status achieved a mean of 4.14 and a standard deviation of 0.827. The mean of 4.14 implies that

the respondents on average tended to agree that the acceptance of one's alcoholic status on the gaining of competencies on the path to sobriety. This is further evidenced by a cumulative percentage of 78.9% of the respondents who chose the strongly agree and agree metrics respectively. A standard deviation of 0.827 indicated a moderate spread of data from the mean of 4.14. This can be attributed to relatively fewer scores of respondents who disagreed and strongly disagreed with the metric at 4.0% and 3.4% respectively. The study findings agree with Gwinnell and Adamec (2006), who indicate that the acceptance by an individual of their addiction problem becomes the cornerstone of their path to recovery. These findings are consistent with Pagano et al. (2010) who credit the success of the 12 steps model rehabilitation process to its encouragement of the alcoholic's surrender to the rehabilitation process. This is because the ability of an alcoholic to accept their identity as an alcoholic and their loss of control over their life marks the start of the recovery process (ibid).

Relationship between Recovering Alcoholics' characteristics and development of competencies in rehabilitation facilities

Both the depedent and independent variables were measured using indicators that employed the use of a 5 point likert scale. The relationship between recovering alcoholics characteristics and recovering alcoholics competencies was determined using Pearsons Correlation Coefficient. All tests were done at coefficient alpha (a) equal to 0.05.

As indicated in Table 2, the Pearsons Correlation Coefficient yielded an r value of .580 and a P value of .000. On the basis of $p < .05$, the null hypothesis that stated that there was no statistically significant relationship between recovering alcoholics characteristics and development of recovering alcoholics' competencies in rehabilitation facilities was rejected. This implied that a statistically significant relationship exists between recovering alcoholics characteristics and recovering alcoholics' competencies. Table 2 above confirms that development of competencies among recovering alcoholics is positively and moderately associated with recovering alcoholics characteristics at a confidence level of 95% ($p=0.000<.05$). The moderate positive association between development of competencies and recovering alcoholics' characteristics indicated that when favourable recovering individuals with alcoholism characteristics increase, development of competencies among recovering alcoholics is likely to increase.

These findngs are consistent with Kuria (2015), who observes that one of the most essential skills is the individual's capacity to make choices and use judgment at personal and interpersonal levels that strongly affects the quality of life. This awareness alone, however, is not sufficient but forms a necessary element of overcoming an addiction (Gwinnell and Adamec, 2006). This skill should therefore be enhanced during rehabilitation to prevent relapse. Coombs and Howatt (2005) observe that recovering alcoholics with the help of addiction counsellors can become motivated to better their lives by adhering to a well-laid plan of action with set goals driving towards their chosen outcomes. A recovering alcoholic who implements a noble plan of action begins to experience achievements, making modifications as they progress during their stay in rehabilitation and even after their release on completion of the programme (ibid).

Conclusion

This study concluded that recovering alcoholics' characteristics moderately affect recovering alcoholics' competencies in rehabilitation facilities. The moderate positive association between development of competencies and recovering alcoholics characteristics indicated that when favourable recovering alcoholics characteristics increases, development of competencies among recovering alcoholics is likely to increase. Salient indictors observed that facilitated the development of competencies among the recovering alcoholics that would require focus during therapy include belief in God and other spirituality aspects, self-will to change and acceptance of alcoholic status as well as sharing of their story during group therapy. These factors may provide support and direction and aid in development of a resilient determination in life among recovering alcoholics. The study

recommends the need for rehabilitation centres to consider mechanisms of promoting development of favourable characteristics among the recovering alcoholics that may promote development of social and personal competencies. These include aspects such as the self-will to change, acceptance of their alcoholic status and ability to share their story.

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Figures and Tables

Table 1: Frequency Distributions of Recovering Alcoholics' Characteristics

	Percentages and Frequencies						
	SA	A	U	D	SD	Mean	Std Dev.
Education level and exposure	26.9% 47	42.9% 75	17.1% 30	7.4% 13	5.7% 10	3.78	0.89 9
Relationship with counsellors	28.6% 50	49.1% 86	13.7% 24	3.4% 6	5.1% 9	3.93	0.81 2
Relationship with fellow alcoholics	18.9% 33	46.9% 82	23.4% 41	5.1% 9	5.7% 10	3.68	0.82 3
Ability to share alcoholics' story and make contributions to group discussions	35.4% 62	40.6% 71	9.7% 17	5.1% 9	9.1% 16	3.88	1.01 4
Belief in God and other spirituality aspects	53.1% 93	23.4% 41	10.9% 19	5.1% 9	7.4% 13	4.10	1.03
Self-will to change	61.1% 107	24.0% 42	7.4% 13	2.3% 4	5.1% 9	4.34	0.86 4
Acceptance of alcoholic status	46.3% 81	32.6% 57	13.7% 24	4.0% 7	3.4% 6	4.14	0.82 7

Table 2: Relationship Between Recovering Alcoholics Characteristics and Development of Recovering Alcoholics Competencies in Rehabilitation Facilities

		Recovering Competences
Recovering Alcoholic	Pearson Correlation	0.580
Characteristics	Sig. (1 tailed)	0.000
r = .580, Significance at .05		

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Challenges Facing The Implementation Of Kenya's Alcoholic Drinks Control Act 2010

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Abstract

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The negative effects of alcohol consumption in Kenya are known and acknowledged in different perspectives: socially, it has disintegrated families; economically, it has derailed the lives of individuals; societal and national capital and health wise, it has caused untimely deaths. Alcohol is blamed for different diseases. It is the source of suffering in families through domestic violence, neglect of responsibilities and high poverty levels. The Alcoholic Drinks Control Act 2010 was introduced by the government as a legal framework to counter all the problems related to alcohol through regulation of alcohol promotions, licensing and provisions of treatment and rehabilitation of addicts. Despite the presence of the legislation in Kenya, the problems associated with alcohol are still rampant. This is evidenced by illicit brew trade and deaths associated with it, proliferations of counterfeit alcoholic brands, liquor outlets operating without proper licensing, and underage drinking and adulteration of liquor. This study sought to examine the challenges facing the implementation of the Alcoholic Drinks Control Act 2010. The study is qualitative, and utilized secondary sources of data by analyzing research reports from studies carried out in different parts of Kenya on challenges facing the implementation of the law. It found that the main challenges facing the implementation of the law are: corruption, inadequate human resources to implement the law, trade in counterfeit alcohol brands that is not properly regulated, devolution of alcohol control function, litigations against the Act, and inadequate knowledge concerning the law.

1.1 Background

Alcohol control policies in Kenya are traced back to the pre-colonial era where the different societies had their means of regulating alcohol production and consumption to curb social harm (WHO, 2014). There were unwritten rules and regulations, the most common being alcohol consumption as a strict reserve of only adult males, verbal warnings to abusers and limits to how much alcohol was to be consumed (Odenije, 2006; Willis, 2006; Birech, Kabiro, Misaro and Kariuki, 2013). As a regulatory measure, consumption of alcoholic brews was limited to socio-cultural events like birth and initiation ceremonies, celebration of good harvests, successful hunting, dowry negotiations and payment (Rok, 2011).

The coming of Europeans led erosion of traditional structures to regulate alcohol abuse. Colonization along with globalization changed local structures and attitudes thus the problem of alcoholism arose (Kipchumba, 2017). To secure labor supply in their plantations, the colonial government in the British East African Protectorate formulated and enacted legal frameworks to control alcohol production, distribution and consumption for both local traditional alcoholic beverages and industrial alcohol imported from colonial masters' home countries (Korieh, 2003; Odenije, 2006).

The Act of Brussels, 1889-90, was the first formal alcohol control policy in East Africa in the colonial time and was aimed at, among other things, protecting African native populations from harm

caused by Western alcoholic beverages (Korieh, 2003). With support from both Islamic and Christian religions, the policy led to introduction of liquor licenses and prohibition of alcohol among natives (Kalema, Vindevogel, Baguma and Plasschen, 2015).

In the Kenyan colony, Traditional Liquor Act was passed to control local community alcoholic brews by curbing its production, consumption and sale (Rok, 2011). In 1902, the Village Headmen Regulation Act became a law to control native alcohol (Muregi, 2017).

After Kenya's independence, the colonial laws were adopted and remained in practice till 1971 when the Traditional Liquor Licensing Act was introduced but, as is reported by, Taeka (2017), did not meet its intended purpose in alcohol control.

Rampant methanol poisoning in the country called for a new legal provisions and in 1980, Chang'aa Prohibition Act was passed to combat negative effects emanating from traditional illicit alcohol (Jenkins, et al., 2015). The act was operational until 2010 when the current alcohol control policy, The Alcoholic Drinks Control Act, 2010, was passed to repeal the Chang'aa Prohibition Act of 1980 (Taeka, 2015; Takahashi et al, 2017).

The Alcoholic Drinks Control Act 2010

This is Kenya's current legal framework meant to regulate the alcohol industry. Its major aim was to consolidate several laws regulating alcohol into one (Muregi, 2017; Gikonyo, Owino and Ombati, 2017). The law is attributed to John Mututho, the Member of Parliament of Naivasha Constituency who sponsored the bill in Parliament (Mututho, 2014).

The Act was initiated because previous policies failed to control the injuries and harms emanating from consumption of chang'aa (Jenkins et al., 2015). In April 2010, 12 people lost their lives in Nairobi's Shauri Moyo Estate; July 2010 saw the loss 5 people in Thindigwa, Kiambu county; 23 passed on in August 2010 in Nairobi's Kibera slum; 5 died in Ngobit, Laikipia County; and 140 died and tens were blinded in Mukuru kwa Njenga, Nairobi (Kwambai and Kimutai, 2017; NACADA, 2011). A report by Musungu and Kosgei (2015) noted that the deaths occurring due to alcohol related problems was 6,557 in the year 2010, 5,395 in 2011 and 7,146 in 2012, a clear indication that there are still some faults in the implementation of the policy.

The Alcoholic Drinks Control Act was assented to and signed into law on 10th August 2010 by President Mwai Kibaki, gazetted on 22nd November 2010 and was effected on 27th November 2010 (Akoth, 2012). It aimed at regulating all alcoholic drinks from manufacture to promotion, sale and consumption (Lutta, 2016; Akoth, 2012). Its provisions protect underage persons from alcohol consumption, ensure the public know the alcohol related effects and offer rehabilitation services to affected individuals (Lutta, 2016; Mututho, 2014). It regulates award of licenses to alcoholic beverage traders, regulates promotion and advertisement of alcohol and offers regulations of alcohol quality (Mututho, 2014). Enforcement of Alcoholic Drinks Control Act 2010 aims at ensuring that the livelihoods of the people is improved, societal cultures preserved and alcohol health related problems are prevented from occurring (Lutta, 2016).

The Act, among other provisions, has some guidelines concerning adulteration of alcohol (Taeka, 2015), drinking environment (Musungu and Kosgei, 2015), production and packaging standards and restriction of sale of alcohol to certain hours (Ndetei, Mbwayo, Mutiso and Khasakhala, 2012). Of note is that bars are to operate between 5pm - 11 pm during weekdays, and on 2pm – 11pm on weekends (Rok, 2010).

Statement of the problem

The Alcoholic Drinks Control Act 2010 was enacted to control problems arising from alcohol. The policy has been partly successful in some of its provisions, but unsuccessful in others. Despite having a consolidated and addition of multiple alcohol restrictions and introduction of licensing of traditional brews, studies such as Jenkins et al., (2015) on alcohol consumptions in Western Kenya, indicate that illicit brew consumers, regardless, has risen from 3.8 - 4.2% (Takahashi et al., 2017). Correlation of alcohol

consumption shows that illicit brews are commonly consumed in many Kenyan rural areas, especially in Western Kenya. In addition to this, Rostrup et al. (2016) in a study on methanol poisoning reported that on 4th May 2014, Central Kenya suffered a massive setback when consumption of illicit brews led to the death of 60 persons and hospitalization of 70. Other cases of methanol poisoning were reported in Kapsabet, Nandi County and in Eldoret, Uasin Gishu County, on 10th and 11th July 2014. This was further confirmed by NACADA (2014) while reporting on alcohol consumption mortality and morbidity that in the month of May 2014 alone, 105 people were killed in different counties and 98 hospitalized due to adulteration of illicit brews. Luta (2016) on factors influencing the implementation of alcohol policies posited that Kenyans have even gone further, despite the Alcoholic Drinks Control Act, to expose alcohol to children and engage more of them in drinking. This led to a further 8 deaths and blinding of 7 in Nyahururu on 14th September 2014 and 4 deaths in Narok County. Further to these, alcohol has caused family breakdown, increase of criminal activities, loss of productive youth to alcohol, and wastage of family finances on alcohol (Lutta, 2016).

With all these problems, the public has at some instances resorted to staging demonstrations against inadequate enforcement of Alcoholic Drinks Control Act 2010 that left some members of their families financially incapacitated, their husbands impotent and the youth unproductive.

In light of the foregoing, this study examined the challenges that the Act is facing in its implementation process, hence not achieving its intended goals.

Objective of the study

The objective of the study was to examine the factors that challenge implementation of Alcoholic Drinks Control Act 2010 in Kenya.

Methodology

This study is qualitative. Secondary sources of data were utilized by looking at journals, reports, thesis and dissertations that investigated the implementation of the Alcoholic Drinks Control Act 2010 in different parts of Kenya. The result of the study is thematically presented.

Results and discussion

Based on analysis of the study findings, the challenges facing the implementation of Alcoholic Drinks Control Act 2010 are presented below:

Poor enforcement

The Alcoholic Drinks Control Act is reported to be poorly enforced, hence challenging its intended result. Mututho (2014), on campaign against drug abuse in Kenya, blamed the poor enforcement on corrupt practices by the Kenya National Police Services which facilitate operation of alcohol outlets way beyond the stipulated legal hours. Lutta (2016) on drug abuse policy implementation in Nairobi's Kawangware Estate reported that poor enforcement of the policy is a barrier to its objectives, but noted that it is due to existence of weak implementation links among those charged with the responsibility.

This has been affirmed by other studies including Gitau, Mutai and Kinyukia (2016) who investigated non adherence to alcohol regulations and reported that in Thika municipality, alcohol outlets operated beyond the stipulated hours, with 50% of the respondents opening their business before 5 pm and 42.7% operating overnight. Willis (2014) on alcohol licensing hours noted that illicit brews outlets are operational at all times of the day and totally disregard licensing procedures and alcohol operating hours provided for in the law.

This therefore indicates that despite having a policy provision to regulate hours for alcohol sale, it has not been implemented because of poor enforcement.

Counterfeit alcohol

The presence of counterfeit alcohol, packaged in brand names of popular alcoholic drinks, is on the rise in Kenya (Mututho, 2014). People resort to consumptions of these products due to its low prices (Nduati, 2014). The content of these counterfeit packages are sometimes laced with methanol to boost their strength, leading to deaths in some instances. Institutions meant to curb counterfeit alcohol are not effective enough, and through

corrupt deals, standardize illicit alcohol (Kwambai and Kimutai, 2017). The implementing officers do not have the knowledge required to differentiate between counterfeit and true alcoholic brands because they are not pre-trained. This leads to sale of counterfeit alcohol masquerading as famous brands in formalized alcohol outlets. Lack of knowledge on how to differentiate between formal and informal alcohol becomes a barrier in implemting alcohol control policies.

Corruption

Corruption is a major barrier to enforcement of the Alcoholic Drinks Control Act 2010. The institutions tasked with enforcing the law are compromised, including the police, the Chiefs and Assistant chiefs who quite often seek rent to protect culprits (Akala, Rono, Chamwada and Owigar, 2016; Mututho, 2014 ;). Illicit brewers, according to Muregi (2017), pay the police to be allowed to continue with their illicit trade. Lutta (2016), on corruption, reported that 54% of respondents in Nairobi's Kawangware slum admitted that corruption hindered effective policy implementation through bribery and extortions by the police, Chiefs and Assistant Chiefs, and during processing of licenses.

To be corrupt, the implementing officers are offered cash or drinks to let go of the culprits. Some engage in weekly or monthly collection of rent from alcohol traders as a way of protecting their illegal businesses. When the people tasked with implementing all the provisions of alcoholic brews choose to protect law breakers for money, the policy automatically loses its significance in the first place hence a challenge.

Corruption is mainly at the licensing and implementation stage. According to Lutta (2016), the County Alcohol Control Boards take bribes to erroneously license improper alcohol outlets.

A bribe of between Ksh 50 - 200 would be taken by the police from revelers if found drunk and disorderly and drinking beyond the hours stipulated by the policy. Those who owned bars would pay a bribe ranging between. Ksh 500 – 1,500 or would offer free meals and drinks if found without licenses or operating outside the recommended hours (Lutta, 2016). There is a higher magnitude of corruption in Kenya. It is present in all sectors, alcohol industry included. Globally, Kenya's public sector was ranked 136 out of 177 countries on corruption (Transparency International 2013). This ranking at the bottom of the index clearly explains the magnitude of how corrupt dealings affect implementation of alcohol control policy hence unattainment of intended policy goals.

Enforcement officers

The officers who implement the policy are in themselves a challenge. Some Police officers, Chiefs and Assistant Chiefs are alcohol dependent (Kwambai and kimutai, 2017).

Secondly, their numbers in relation to the population they serve is wanting, hence raising the inadequacy of the human resources dedicated to implementing the Act (Lutta, 2016). There is a shortage of personnel in the rehabilitation and treatment sectors, acting as a barrier to part of the policy's objective (Mututho, 2014).

The low enforcer to population ratio is a challenge because efficiency will not be achieved.

Sometimes, the Chiefs and the police are not be in good terms thus jeopardizing implementation of the Act that requires cooperation within the policing sectors. When implementing bodies are not in harmony and when there is inadequate numbers, then the Act will not be adequately put into practice.

Devolution of the function of alcohol control

The alcohol control function was devolved to County government when the Constitution of Kenya 2010 was adopted (Lutta, 2016; Amuya and Onantwa, 2017; Kwambai and Kimutai, 2017). This provision has therefore derailed earlier gains in alcohol control because it is reported that the modelled framework for alcohol control was faulted by county governments (Lutta, 2016; Amuya and Onantwa, 2017). Instead, they considered the function a means towards generating additional revenues (Kwambai and Kimutai, 2017). Consequently, this led to haphazard licensing, sale of adulterated alcoholic drinks and breach of alcohol outlets legal operational hours (Lutta, 2016). The county governments also have inadequate technical

capacity and legal framework to effectively execute the policy (Mututho, 2014).

When the national policy and county government policies in terms of control of alcoholic brews are not in harmony, then the implementation process suffers a blow.

Licensing local brews to operate outside the policy's stipulated hours and without the meeting the requirements of the policy to be licensed raises conflicts of interests in terms of implementation among the parties hence a challenge.

Litigation

Since its enactment, the Act has been fought by actors in the alcohol industry who have filed about 20 cases in court against it or the provisions of some of its parts (Mututho, 2014). These occurrences pull back efforts towards the success of the policy.

Insecurity

In the process of implementing the Alcoholic Drinks Control Act 2010, there are reports indicating that the officers' security is not guaranteed, causing fear and hence non-implementation. This, as noted by Akala et al., (2016) is evident when alcohol brewers and consumers join hands against law enforcement officers, sometimes killing or injuring them. There have been reports of chiefs and police killed while on duty by irate illicit brewers and consumers, while some were injured. Coupled with their small numbers, corrupt officials and inadequate co-ordination, implementers of the Act for fear of their safety, which is a barrier to full implementation of the policy.

Inadequate knowledge of Alcoholic Drinks Control Act 2010

It has been reported by prior studies that there is inadequate knowledge of Alcoholic Drinks Control Act 2010 by both policy implementers and alcohol trade operators. According a study by Kwambai and Kimutai (2017), 94 % of respondents were ignorant on the contents of the Act. The lack of knowledge on the Act acts as a barrier to its implementation. People will continue going against the law as long as they are not aware of any legal provisions against it. This assertion was further reported by 89% of the respondents who cited absence of constant educational campaigns in the community about the Act hence its inefficiency in controlling alcohol.

When the policy implementers are not knowledgeable about the policy, implementation becomes inadequate. Equally, when the citizen are not aware of the provisions of the legislation concerning alcohol, compliance will not be attained hence a challenge.

Lack of public participation

There is lack of community involvement in the entire implementation process (Kwambai and Kimutai, 2017). This has led to members of the public either ignoring the illicit alcohol problem or aiding it by developing a surveillance system to alert each other on an intended raids hence defeating the efforts of the policy implementers (Akala, et al., 2016). This is carried out by use of 'coded' language, signals and mobile technology. Any attempt to implement the Act therefore becomes fruitless due to these neighborhood watches and alienation of the members of the public in the implementation process who feel as outsiders.

Conclusion

Although the Alcoholic Drinks Control Act 2010 has been in place and achieved certain milestones, there are barriers especially at the implementation level that hinder it from achieving its intended goals. The challenge emanates from multiple level of stakeholders, including officers at the county and national government levels, as well as the citizens.

Training on the provisions of the alcohol control policies is key to effective implementation of Alcoholic Drinks Control Act 2010. If actors in the alcohol industry are not aware of the legal provisions, then the Act will be redundant especially when coupled with inadequate implementation personnel, inadequate citizen participation and corruption.

The Alcoholic Drinks Control Act 2010 is a comprehensive policy and if its implementation challenges are eliminated, alcohol control in Kenya will be effective and efficient. Alcohol related deaths, illicit brewing and consumption, counterfeit

alcohol, adulteration among other alcohol related evils will be a thing of the past. Revenue collection will also rise thus achieving both social, health and economic balance.

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Prevalence And Patterns Of Early Drug Abuse Among Clients Attending Ngara Medically Assisted Therapy Clinic Nairobi, Kenya - A Retrospective Study

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ABSTRACT

Substance abuse and its effects on physical and psychosocial health is becoming a global public health concern, mostly affecting adolescents and youth. Globally, 29.5 million people suffer from drug use disorders, opioids being the most harmful. A report by NACADA (2016), reveals that 11.7% of boys and 5.4% of girls in schools abuse drugs and that initiation of drug and alcohol use is likely to occur during adolescence. The objective of this study was to establish the age of onset to drug use and pattern of substance abuse among patients attending the Ngara Methadone Clinic. Data was collected on sex, age of onset of drug use, age of onset of heroin use and the type of drug first used from the standard government registers and patients' medical records for clients attending medically assisted therapy at the Ngara Methadone Clinic from February 2017 to March 2018. A total of 388 clients participated in the study. Findings revealed that the mean age of onset to drug use was 16 years. Cannabis was the most commonly used drug (35.9%) followed by Tobacco (29.1%), alcohol (12%), heroin (11.3%), khat (5.9%), benzodiazepines (3%), glue (1.5%), amphetamines (0.3%), cocaine (0.3%) and barbiturates (1%). Most participants used more than one drug at a time. A two sample independent t-test revealed that there was a significant difference in the mean ages of onset of other drug use (M =16.3, SD 4.6) and mean ages of onset of heroin use (M=21.8, SD=5.7). The study recommends the creation of awareness on drug use in schools and subsequent screening for drugs in both primary and secondary schools.

Introduction

Substance abuse and its effects on physical and psychosocial health is fast becoming a global public health concern that affects every level of society including individuals, families, communities and governments (Schulte and Hser, 2014, Winters, Botzet and Fahnhorst, 2011) Globally 275 million people use drugs which is roughly 5.6% of the global population aged 15-64 years with 30.5% of these having drug use disorders (World Drug Report, 2018). In Kenya, 18.2% of the total population are currently using one drug or substance of abuse (NACADA, 2016). Opioids cause the most harm

and account for 76% of deaths which occur as a result of drug use disorders. Currently, the non-medical use of prescription drugs is a major threat to public health and law enforcement worldwide (World Drug Report, 2018).

Globally, more preadolescents and teenagers are using drugs and alcohol (Chen and Kandel, 1995; Ali et al., 2011). Early adolescence (12–14 years old) to late adolescent (15–17 years old) are critical risk periods of initiation to drug and substance abuse with the peak being between 18-25 years (Jordan and Andersen, 2017).

In Kenya, the period of transition from primary school to secondary school, that is, between the ages of 13-15 years, marks the age of onset of drug abuse (NACADA, 2016). During this age young people are vulnerable to new experiences, new ideas and negative peer influence and they opt for drugs to cope with the social and physical challenges they experience during the different phases of development (Chen and Kandel, 1995). Other factors that may influence the path to early initiation to drug and substance abuse include socioeconomic factors and physical environment, parental and family functioning, mental and behavioral health problems, poverty, lack of opportunities, lack of social support and parental guidance.

The drug abuse in young people increases their likelihood of physical health problems, unemployment, suicidal tendencies, mental illness and lower life expectancy. Additionally, substance use problems in adolescence has been shown to increase the risk of development of substance abuse disorder later on in life (UNODC, 2018; Pompili et al., 2015).

Globally the rate of drug abuse in men is higher than women (United Nations Office on Drugs and Crime, 2018). Overall, men are more likely than women to use cannabis, cocaine and opiates, whereas the prevalence of the non-medical use of opioids and tranquillizers is comparable between men and women (Becker and Hu, 2008). In Kenya, 11.7% of school going boys and 5.4% of school going girls abuse drugs (NACADA, 2016).

Early drug abuse often includes such substances as tobacco, alcohol, inhalants, marijuana, and prescription drugs such as sleeping pills and anti-anxiety medicines. If drug abuse persists into later adolescence, abusers typically become more heavily involved with marijuana and then advance to other drugs, while continuing their abuse of tobacco and alcohol (Brasseux, D'Angelo, Guagliardo and Hicks, 1998). Studies have also shown that abuse of drugs in late childhood and early adolescence is associated with greater drug involvement later on in life (Gallimberti et al., 2015). Cannabis is a common drug of choice for young people as it is perceived to be easily available and there are perceptions of low risk of harm making it the most common drug that is initiated at adolescence before subsequent use of other drugs. In Kenya, khat and cannabis are the most frequently used drugs in the general population while heroin, cocaine and prescription drugs are common among the 18-24 age bracket (UNODC, 2018). Secondary school students in Kenya are more likely to be initiated to drug use with prescription drugs and inhalants at 13 years, alcohol, khat, tobacco and heroin at the age of 14 years, cocaine at 14.5 years and bhang at 15 years. A survey conducted in Kenya by NACADA in 2016 among secondary school students concluded that alcohol was the most common substance of abuse followed by khat, prescription drugs, tobacco, bhang inhalants, heroin and cocaine (NACADA, 2016).

Objectives of the Study

The main objective of this study was to establish the prevalence and patterns of drug and substance abuse among patients attending the Ngara Methadone Clinic in Nairobi.

Methodology

This was a retrospective cross sectional study whereby data of clients who attended medically assisted therapy in Ngara Methadone Clinic from February 2017 to March 2018 was analysed. The data was collected retrospectively from patient medical records and standard government registers. The researchers collected data on sex, age of onset of drug use, age of onset of heroin use and the type of drug first used. The participant records were selected using systematic random sampling and a total of 388 participants who had complete

records were included in the analysis. The data was de-identified and entered into an excel spreadsheet and later exported to STATA version 11 for analysis.

Results

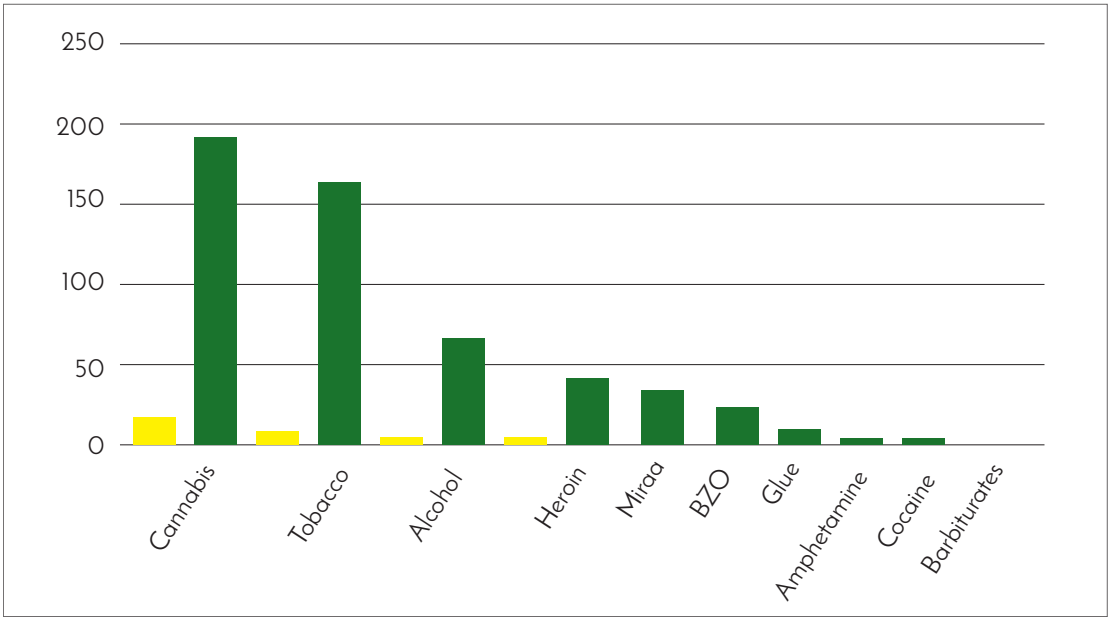
A total of 388 participants who had complete records were sampled for the study. Of these, 28 (7%) were females while 360 (93%) were males.

Cannabis was the most commonly used drug and it was used by 212 (35.9%) of the participants. Tobacco was used by 172 (29.1%), alcohol 71 (12%), heroin 67 (11.3%), 35 (khat 5.9%), benzodiazepine 20 (3%) while the least used drugs were glue 9 (1.5%), amphetamines 2 (0.3%), cocaine 2 (0.3%) and barbiturates 1 (0%). Most participants used more than one drug at a time.

Table 1: Drug use per age group

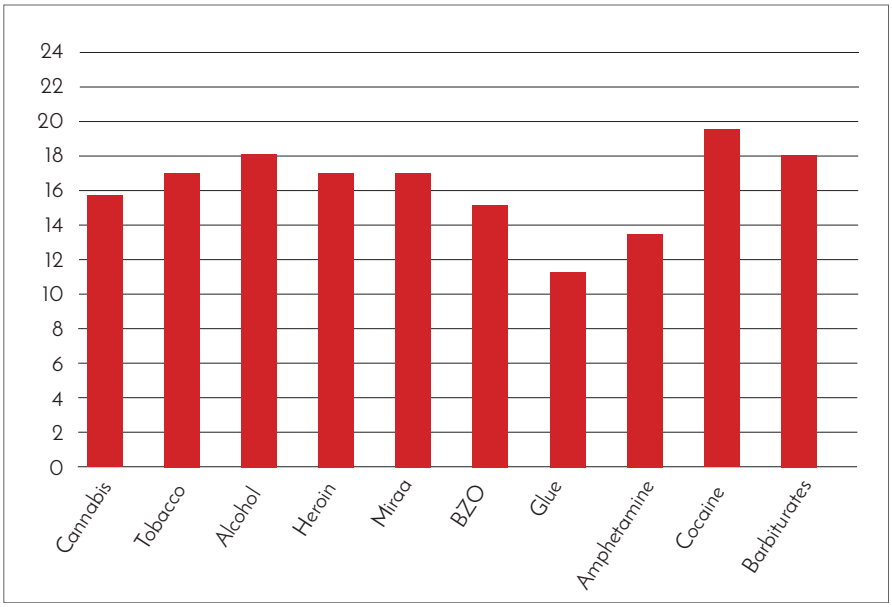
	AGE GROUP										
Drug Use	5 - 9	10-14	15- 19	20-24	25-29	30-34	34-39	40-44	45-49	Total	%
Cannabis	4	67	102	30	7	2	0	0	0	212	35.9
Tobacco	6	49	78	30	7	2	0	0	0	172	29.1
Alcohol	3	13	45	9	0	0	0	0	1	71	12.0
Heroin	0	13	29	14	7	2	1	1	0	67	11.3
khat	2	5	19	9	0	0	0	0	0	35	5.9
Benzodiapezine	3	3	10	4	0	0	0	0	0	20	3.4
Glue	5	2	1	1	0	0	0	0	0	9	1.5
Amphetamine	0	1	1	0	0	0	0	0	0	2	0.3
Cocaine	0	0	2	0	0	0	0	0	0	2	0.3
Barbiturates	0	0	1	0	0	0	0	0	0	1	0.2

Figure1: Frequency of use of drug by sex



Out of the total 212 (35.8%) participants who used cannabis as their first drug, 195 (92%) were males while 8% were females; out of the 172 (29%) who used tobacco as their first drug, 162 (94%) were males while 10 (6%) were females; out of the 71 (12%) who used alcohol as their first drug, 66 (93%) were males while 10 (6%) were females; out of the 67 (11%) who used heroin as their first drug, 66 (93%) were males while 10 (6%) were females; out of the 35 (5.9%) who used khat as their first drug, 34 (97%) were males while 1 (3%) were females; and, out of the 20 (5.9%) who used benzodiazepines as their first drug, 19 (95%) were males while 1 (5%) were females. Glue, amphetamines, cocaine and barbiturates were used by only males (Figure 1).

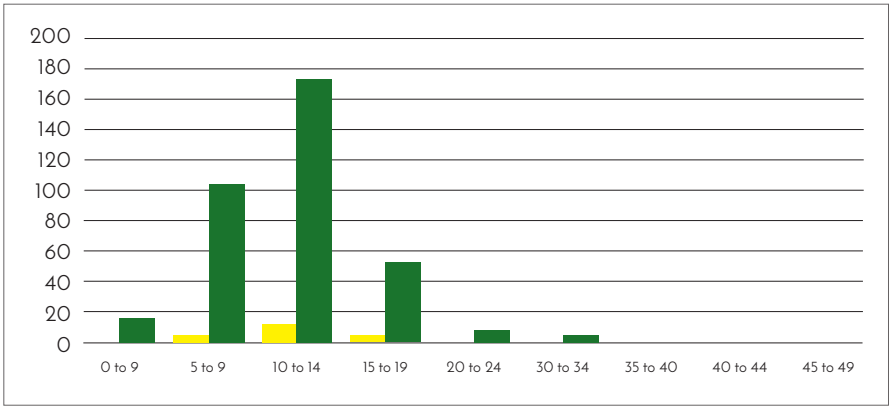
Figure 2: Age of onset of drug use by type of drug



As shown in Figure 2, the age of onset of drug use is 16 years for cannabis, 16.5 years for tobacco, 16.8 years for alcohol, 16.5 years for heroin, 16.7 years for khat, 15.5 years for benzodiazepines, 12 years for glue, 13.5 years for amphetamines, 19 years for cocaine and 18 years for barbiturates.

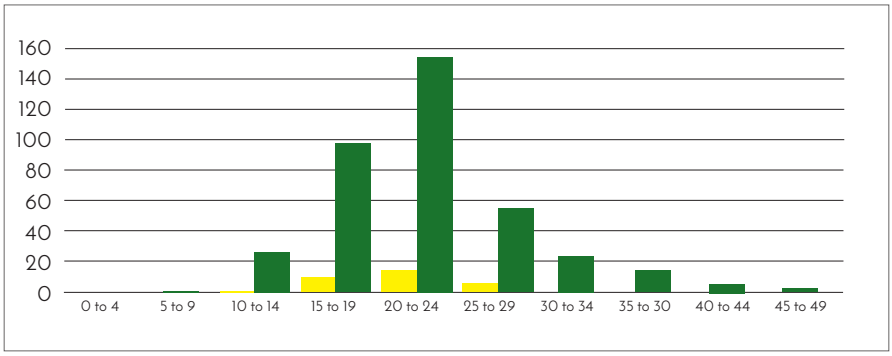
Generally, the mean age of onset of other drug use was 16 years while the minimum age of onset of drug use was 5 years.

Figure 3: Age of onset of use of other drug by gender



190 (49%) participants were between the age of 15-19 years when they first took drugs. 110 (28%) were between ages 10-14 years; 54 (14%) were between the ages 20-24 years; 17 (4%) were between the age of 5-9 years; 11 (3%) were between ages 25-29 years; 3 (1%) were between the age of 30-34 years; 1 (0.16%) was between the age of 35-39 years; 1 (0.16%) was between the age of 40-44 years; 1 (0.16%) was between the age of 45-50 years (Figure 3).

Figure 4: Age of onset of Heroin Use by gender



The age of onset of heroin use being 9 years. Male heroin users were 360 (93%) while the female heroin users were 28 (7%). Out of the 163 (42%) heroin users who were between the age of 20-24 years, 148 (90.8%) were male and 15 (9.2%) were females.

Out of the 103 (26.55%) heroin users who were between the age of 15-19 years, 95 (92.2%) were males while 8 (7.8%) were females.

Out of the 60 (15.5%) heroin users who were between the age of 25-29 years, 56 (93.3%) were male and 4 (6.7%) were females.

Out of the 25 (6.4%) heroin users who were between the age of 10-14 years, 24 (96%) were male and 1 (4%) were females. There were no female heroin users above 30 years of age (Figure 4).

Table 2: Independent T test for differences in mean between age of first drug use and age of first heroin use

Two-sample t test with equal variances						
Variable	Obs	Mean	Std. Err,	Std. Dev.	(95% Conf.	Interval)
AGEFIR~G HEROIN~E	388 388	16.2732 21.76289	.2347828 .2826744	4.624684 5.5658039	15.81159 21.20712	16.734881 22.31866
Combined	776	19.01804	.2084104	5.805642	18.60893	19.42716
Diff		-5.489691	.3674612		-6.211029	-4.768352

diff=mean (AGEFIRSTUSEDOT~G) - mean (HEROINEFIRSTUSE) T=-14.9395

Ho: diff=0 degree of freedom =774

Ha: diff < o Ha:diff!=0 Ha: diff>0

Pr (T< t) = 0.0000 Pr (|T| > |t|) = 0.0000 Pr (T>t) = 1.0000

A two sample independent t test was used to compare the mean age of onset of other drug use and mean age of onset of heroin use. There was a significant difference in the mean ages of onset of other drug use (M =16.3, SD 4.6) and mean ages of onset of heroin use (M=21.8, SD=5.7) df=774, p=0.0000. Therefore the mean age of onset of heroin use is higher than the mean age of onset of other drug use which means use of other drugs precedes heroin use.

Discussion

In this study the mean age of onset of use of drugs was 16 years with the youngest age of onset of drug use being 5 years. This is consistent with the findings from a survey that was conducted by NACADA that found the mean age of onset of drug abuse in Kenya to be between 15-17 years (NACADA, 2016). In a study conducted in Eldoret, the mean age of onset of alcohol use was 17.5 years (Atwoli, Mungla, Ndung'u, Kinoti and Ogot, 2011) while a study in Kisumu recorded the mean age of onset of drug abuse to be between 16-18 years (Otieno and Ofulla, 2009). Glue had the lowest age of onset of 11 years which might be as a result of ease of availability and it is largely used by street children (Embleton, Ayuku, Atwoli, Vreeman, and Braitstein, 2012). The age of onset of cocaine was 19 years which was higher than other drugs. This findings are consistent with the findings of a study conducted in United States whereby the onset of drugs like cannabis was lower compared to age of onset of hard drugs like cocaine (Bracken, Rodolico and Hill, 2013).

Generally, there were gender differences in the choice of drug used with all substances being used with more males than females. This is consistent with other studies that have documented high prevalence of drug use among males compared to females (Becker and Hu, 2008).

The most commonly used drug was cannabis while the least used drug was barbiturates. The World Drug report indicated that cannabis was the most abused drug due to easy availability and perception of low risk of harm and it is the most common substance initiated in adolescence (United Nations Office on Drugs and Crime, 2018). Cannabis has been labelled as the 'gateway drug' meaning that its use is likely to precede use of other drugs and development of addiction to other substances. In addition, Cannabis has been linked to alcohol use and related disorders and nicotine addiction (Weinberger, Platt and Goodwin, 2016).

From the findings, it is noted that the mean age of onset of heroin use was 21 years while the mean age of onset of other drugs was 16 years. This means that most people start with more established substances like cannabis and khat, while the substances that have become readily available in Africa like heroin are mostly used among young adults of between the age of 18-24 years (UNODC, 2018).

Conclusion and Recommendations

The findings of this study have demonstrated that drug abuse starts early in life, affecting the health and well-being of adolescents and young adults. Therefore there is need to develop effective strategies to mitigate the onset of drug abuse among this age bracket. In Kenya there is need to formulate policies and design programs for creating awareness and prevention of substance and drug use.

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Level of risk in substance use among undergraduate students in Kenya: Implications for prevention intervention

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Abstract

Despite the negative effects of substance use on university students, the level of risk of substance use and its implication on prevention interventions in Kenya is yet to be fully explored. The main objective of the study was to determine the level of risk in substance use among students and its implications on prevention interventions. Descriptive cross sectional survey research design was used. A World Health Organization questionnaire - Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) was adapted to measure the level of risk and student awareness of prevention

interventions. The questionnaires were distributed to 1,500 participants from 12 universities across Kenya. An in-depth interview was conducted among the university counsellors to find out the efficacy of prevention interventions. Overall, lifetime prevalence for substance use was 48.6% and current prevalence rate was 37.9% among undergraduate students in Kenya. Public universities reported significantly higher prevalence of current use of substances than private universities. Those who had not used substances in the past three months before the study were 993 (69.5%), the low-risk users were 205 (14.3%), moderate risk users were at 187 (13.1%) and 44 (3.1%) of the respondents were high-risk users. Prevention interventions that were found in universities were mostly universal prevention strategies which targeted the entire student population without regard to the level of risk of individual students. The study concludes that substance use is a health problem in Kenyan universities and there is urgent need to develop and implement interventions that target moderate and high risk users.

***Key Words**: Substance use, level of risk, university students, prevention interventions*

Introduction

Globally, there is an increase in the estimated total number of people who are at high risk level in their use of substances, therefore suffering from substance use disorder. The number now stands at 29.5 million (0.6% of the total population). The prevalence of substance use among young people is high, with nearly 70% of youths aged 15-49 worldwide having had used various substances at one point of their life. Among them, alcohol is the most used substance (UNODC, 2012).

In the institutions of higher learning worldwide, studies reveal an increase in substance use and especially the consumption of alcohol (Akmartov, Mikolajczyk, and Kramer, 2011; Arbour-Nicitopoulos, Kwan, Lowe, Taman, and Faulkner, 2010; Carter, Brandon, and Goldman, 2010; Chiauzzi, Donovan, Black, Cooney, Buechner, and Wood, 2011). In Europe, one-quarter of youth aged between 18-21 years reported having consumed an illicit drug in their lifetime. A survey conducted in Germany among university students reported 80% heavy drinking and 20% displayed problem drinking. In the USA and Australia, studies revealed that university students had a higher prevalence of alcohol consumption than non-college youths college student (Tse, 2011; Kypri, Cronin, and Wright, 2005).

In Africa, studies conducted in Nigeria, Ethiopia and South Africa on substance use among undergraduate students reported a high prevalence of substance use (Tesfaye, Derese, and Hambisa, 2014; Makanjuola, Daramola, and Obembe, 2007; Steyl, and Phillips, 2011). In Kenya, studies reveal a high prevalence of substance use among university students. About 60% of college students had used alcohol and nearly half suffered adverse effects of alcohol use disorder (NACADA, 2010), indicating that the students are at high risk level in substance use. Atwoli and colleagues reported high prevalence rate of 68% in public universities in Uasin Gishu District (Atwoli, Mungla, Ndungu, Kinoti, and Ogot, 2011). The study also revealed that students using substances reported negative effects including medical problems, engaging in unprotected sex, relationship problems and poor academic performance (Atwoli, Mungla, Ndungu, Kinoti, and Ogot, 2011). Despite the negative effects of substances use, the efficacy of prevention interventions in mitigating all levels of risk is yet to be explored.

Institutions of higher learning, being the machinery that upholds education, are expected to play a key role in prevention intervention strategies against substance use. Universities have an opportunity to offer the three prevention intervention programmes as stipulated by World Health Organization (Humenuik, Ali, Babor, Farrell, and Formigoni, 2008). This includes primary (universal), secondary (selective) and tertiary (indicative) prevention intervention strategies. Butcher and colleagues (Butcher, Hooley, and Mineka, 2011) describe the three prevention intervention programs as follows: the primary (universal) is meant for those individuals who are not using substances. The messages and programs are aimed at preventing or delaying the use of substances by providing all individuals with the information and skills necessary to prevent the substance use problem. Secondary (selective)

prevention intervention strategies are for those experimenting on substances; it targets those at higher-than-average risk for substance use, and aims at stopping development of substance use into substance use disorder. The selective prevention program entails conducting early screening to identify those who fall under the different levels of risk. Some of the interventions include Brief Alcohol Screening and Intervention for College Students (BASICS) developed in 1997 by Dimeff and colleagues (Dimeff, Baer, Kivlahan and Marlatt, 1999). Tertiary prevention strategies are for individuals who have developed substance use disorder. It helps people to manage health problems that have long term consequences such as substance use disorder and relapse to substance use (Butcher, Hooley, and Mineka, 2011). Activities which may be included at this level of intervention are follow up programs such as inpatient and outpatient programs, Alcoholics Anonymous (AA), Narcotics Anonymous (NA) and After Care Services. Rehabilitation services which provide emotional support as well as psychotherapy towards psychological change along with growth of the individual's self-actualization also fall in this category of intervention.

National Institute on Drug Abuse [NIDA] recommends that prevention programs be designed to enhance protective factors and towards reversing or reducing known risk factors (NIDA, 2017). This has been supported by Khushabi, Moradi, and Habibi (2012) who assert that the most important achievement in the area of prevention is to emphasise risk and protective factors as a descriptive and predictive framework. In an attempt to curb substance use, institutions of higher learning in Kenya have put in place strategies that would postpone students' initial use of substance, reduce prevalence of use and intervene. This is through the establishment of students support services, counselling services, peer education programs, formulation of alcohol and drug policies, and encouraging alternative activities such as sports and declaring that the institution is drug-free. Most universities have campaigns against substance use where they create awareness during orientation of first year students and during the alcohol and drug awareness weeks (Tumuti, Wangeri, Waweru, and Rono, 2014; Ndegwa, Munene, and Oladipo, 2017). Most of these prevention strategies are designed to reach the entire student population and do not consider individual student's level of risk. The purpose of the study was to determine the level of risk of substance use among undergraduate students and whether prevention interventions strategies address these levels of risks in Kenya.

Methodology

This study adopted the cross sectional descriptive research. In depth interviews were conducted with university counsellors to find out the prevention interventions strategies used in universities. The target population was 451,081 undergraduate students, where 390,456 were in chartered public universities and 60,625 in chartered private universities. The sample size was 1,500 participants who were selected using multi-stage sampling technique from seven public and five private universities across Kenya drawn from urban, suburban and rural environments in five selected regions of Kenya. These regions were Coast, Western, Central, Rift Valley, and Eastern regions. The twelve universities were selected from ten counties across the country.
The first section of the questionnaire asked for descriptive information including age, gender, religious preference and years of study. The second section adopted the World Health Organization (WHO) questionnaire - Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) - in order to gather data on substance use patterns and level of risk. Prevention interventions were measured using the Likert type scale which measured the respondent's awareness of the prevention interventions and substance use policies, engagement in extra curricula activities and availability of counselling interventions. An in-depth interview was conducted among the university counsellors to find out the efficacy of prevention interventions in mitigating all levels of risk.

Results

This cross-sectional study obtained information on 1,438 consented undergraduate university students from 12 universities in Kenya. The male respondents were 53.5% and female respondents were 45.4%. The respondents' age ranged from 17 - 33 years,

with the majority (89.2%) being in the age category of 17-24 years. First through fourth year students represented 26.1%, 29.2%, 20.9%, and 24.9% of the sample respectively.

Concerning religious preference, majority of the respondents were Christians (92.4%), of whom Protestants were 48.4%, Catholics were 30.2%, and Adventists were 13.8%. 3.5% were Muslims. Majority practised their religion of preference once a week (50.2%), followed by those who practiced their religion daily (35.4%).

Table 1 : University students' responses on life time use of any substance

Response	Public	Private	Overall
	n=781	n=675	1438
No	345 (51.9%)	385 (58.6%)	739 (51.4%)
Yes	427 (54.7%)	272 (41.4%)	699 (48.6%)

The overall lifetime prevalence and current prevalence of substance use respectively 48.6% and 37.9% as shown in Table 2 and Table 3. Public university had higher prevalence for both lifetime and current use at 54.7% and 48.1% respectively while private university had 41.4% and 25.7% respectively. There was significant difference in the prevalence of current substance use between public universities and private universities in Kenya (M=.26, SD=.43); t (779) = 26.85, p=.000) as illustrated in Table 4.

Table 2: Current use of any substance

Variable	Public	Private	Overall
	n=781	n=657	n=1438
No	405 (51.9%)	488 (74.3%)	893 (62.1%)
Yes	376 (48.1%)	167 (25.7%)	545 (37.9%)

Table 3: Lifetime use of all substances

Variable	Public	Private	Overall
Tobacco	109 (14%)	78 (11.9%)	187 (13.0%)
Shisha	149 (19.1%)	107 (29%)	256 (17.8%)
Kuber	33 (4.2%)	29 (4.4%)	62 (4.3%)
Alcohol	376 (48.2%)	245 (37.3%)	621 (43.2%)
Cannabis	121 (15.5%)	83 (12.7%)	204 (14.2%)
Cocaine	28 (3.6%)	11 (1.7%)	39 (2.7%)
Amphetamine	19 (2.4%)	5 (0.8%)	24 (1.7%)
Inhalants	9 (1.9%)	5 (0.8%)	14 (1.0%)
Sedatives	34 (4.4%)	37 (5.6%)	71 (4.9%)
Hallucinogens	3 (0.4%)	9 (1.4%)	12 (0.8%)
Opioids	9 (1.2%)	10 (1.5%)	19 (1.3%)
Khat	100 (12.8%)	65 (9.9%)	165 (11.5%)
Muguka	63 (8.1%)	53 (8.1%)	116 (8.1%)

Table 4: Lifetime prevalence of substance use in Public and Private Universities

One-Sample Test							
University category		Test Value = 0					
		T	DF	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Public	Tobacco	11.252	778	.000	.142	.12	.17
	Alcohol	26.926	779	.000	.482	.45	.52
	Cannabis	11.960	779	.000	.155	.13	.18
Privare	Tobacco	9.402	655	.000	.119	.09	.14
	Alcohol	19.761	655	.000	.377	.34	.41
	Cannabis	9.741	655	.000	.127	.10	.15

Analysis of risk levels of substances using ASSIST scores of the respondents was done. As is shown in Table 5, the study revealed that majority of those who had used substances in the past three months were low risk users for alcohol; while for cannabis and tobacco, the majority were moderate risk users. Those who had not used alcohol, cannabis and tobacco in the three months prior to the study (referred to as non-users) were 99 (69.5%), 1,231 (88%) and 1,305 (93%) respectively.

Respondents who had used alcohol, cannabis or tobacco once or twice in the past three months, who referred to as low risk users, were 205 (14.3%), 30 (2.2%) and 13 (0.9%) respectively.

The respondents who had used alcohol, cannabis and tobacco weekly in the past three months, who were referred to as moderate risk users, were 187 (13.1%), 112 (8%), and 76 (5.4%) respectively.

The findings also revealed that there were high risk users for alcohol 44 (3.1%), cannabis 19 (1.4%) and tobacco 9 (0.6%).

Table 5: Current use prevalence of substance use in Public and Private Universities

One-Sample Test						
		Test Value = 0				
University	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Public	26.857	779	.000	.481	.45	.52
Private	15.073	656	.000	.257	.22	.29

Analysis of students' awareness of prevention interventions, such as available substance use policies, respondent engagement in extra curricula activities and availability of counselling interventions are outlined in Table 6. The findings revealed that universities had put in place policies prohibiting the use of substance and students were aware. In public universities, 603 (79.1%) and in private universities 548 (85.6%) were aware of a policy that prohibits the use of substances in the university. Majority of the students agreed with the statement that their university was a smoke free zone 462 (61.6%) in public universities and 390 (61.4%) in private universities. However, the students indicated that universities policies relating to alcohol use were not too strict, with 297 (39.5%) in public and 258 (40.3%) in private universities agreeing with the statement. Also few students agreed with the statement that "our university's strict management style helps check substance use". Therefore the implementation of the substance use policies could be insufficient or poor.

Table 6: Level of risk of common substances

Variable	Public n=781	Private n=657	Overall n=1438
Alcohol			
Never	488 (63%)	505 (77.1%)	993 (69.5%)
Low	132 (17.1%)	73 (11.1%)	205 (14.3%)
Moderate	122 (15.8%)	65 (9.9%)	187 (13.1%)
High	32 (4.1%)	12 (1.8%)	44 (3.1%)
Cannabis			
Never	621 (84.5%)	610 (92.8%)	1231 (88%)
Low	20 (2.7%)	10 (1.5%)	30 (2.2%)
Moderate	76 (10.3%)	36 (5.5%)	112 (8%)
High	18 (2.4%)	1 (0.3%)	19 (1.4%)
Tobaccco			
Never	647 (90.3%)	631 (96%)	1305 (93%)
Low	8 (1.1%)	5 (0.8%)	13 (0.9%)
Moderate	55 (7.4%)	21 (3.2%)	76 (5.4%)
High	9 (1.2%)	0 (0%)	9 (0.6%)

Majority of the respondents were aware of the counselling interventions in their institutions and they agreed that the interventions such as mentorship program, peer counselling and substance use prevention strategies were helpful in curbing substance use. The p-value on the statistically significant shows one item as statistically significant - I am aware of the counselling interventions in our campus ($p<.05$). Majority of the students in both public 591 (78%) and private universities 523 (82.4%) were aware of counselling services, and 585 (77.3%) in public and 501 (79%) in private agreed with the statement that they recommended other students with issues of substance use to counsellors. A majority 434 (57.5%) from public and 361 (57.2%) from private universities acknowledge that university counsellors played an important role in curbing substance use in the university. However majority did not utilize the counselling services.

Findings from the in depth interview with the university counsellors revealed that all universities under the current study had prevention interventions in place. Most universities had alcohol and drugs awareness weeks and counsellors facilitated peer counsellor training. An orientation program for all new students was one of the strategies used by all university counsellors to create awareness on the effects of substance use. Majority of the counsellors reported that students with issues of substance use rarely sought for help from the counsellors, and the only cases of substance use they handled were those referred by the disciplinary committee or students caught by security officers. Majority of the counsellors also indicated that they referred students who were at high risk of using substances to rehabilitation centres for treatment. The findings revealed that most of the interventions were at primary (universal) prevention level where all students were involved. There was no effort done to identify students who were at risk of using substances and no institution of higher learning had rehabilitation facilities for students with substance use disorder.

Table 7: A Descriptive on Percentage of Prevention Interventions

Prevention interventions	University	Agreed	Neutral	Disagree	p-value
I am aware of a policy on campus that bans the use of alcohol and drugs	Public	603 (79.1%)	81 (10.6%)	78 (10.2%)	.004
	Private	548 (85.6%)	40 (6.3%)	52 (8.1%)	
Our university is a smoke free zone	Public	462 (61.1%)	81 (10.7%)	2 1 3 (28.2%)	.379
		390 (61.4%)	81 (12.8%)	1 6 4 (25.8%)	
University policies related to alcohol are too strict	Public	297 (39.5%)	144 (19.1%)	311 (41.4%)	.902
	Private	258 (40.3%)	125 (19.5%)	2 5 7 (40.2%)	
Our university's strict management style helps check substance use	Public	372 (49.4%)	183 (24.3%)	197 (26.1%)	.083
	Private	346 (55.8%)	159 (25.6%)	115 (18.5%)	
Our university has substance use prevention programs	Public	445 (58.8%)	180 (23.8%)	132 (17.4%)	.536
	Private	393 (61.7%)	142 (22.3%)	1 0 2 (16.0%)	
A strong mentoring program discourages students from using alcohol	Public	511 (68.7%)	127 (17.1%)	1 0 6 (14.2%)	.412
	Private	423 (66.6%)	126 (19.8%)	86 (13.5%)	
Counselling interventions have helped students with alcohol and drug related problems	Public	450 (59.8%)	168 (22.3%)	135 (17.9%)	.198
	Private	382 (60.3%)	158 (25.0%)	93 (14.7%)	
I know students who have been trained as peer counsellors in our campus	Public	410 (54.8%)	147 (19.7%)	191 (25.5%)	.146
	Private	336 (53.1%)	151 (23.9%)	146 (23.1%)	
Peer counsellors have been of help to students with alcohol and drug abuse related problems	Public	429 (57.1%)	181 (24.1%)	141 (18.8%)	.096
	Private	354 (55.8%)	181 (28.5%)	99 (15.6%)	
I am aware of the counselling interventions in our campus	Public	477 (63.4%)	124 (16.5%)	151 (20.1%)	.001
	Private	392 (62.2%)	147 (23.3%)	92 (14.6%)	
Our institution has programs in place to help students with substance use related problems	Public	437 (58.0%)	180 (23.9%)	137 (18.2%)	.219
	Private	339 (53.4%)	164 (25.8%)	1 3 2 (20.8%)	
Mentoring programs have been helpful in curbing alcohol and drug abuse	Public	464 (61.5%)	154 (20.4%)	136 (18.0%)	.205
	Private	378 (59.5%)	154 (24.3%)	103 (16.2%)	
I am actively involved in university religious activities	Public	394 (52.0%)	181 (23.9%)	183 (24.1%)	.471
	Private	327 (51.3%)	169 (26.5%)	1 4 2 (22.3%)	
I am actively involved in extracurricular activities of our university	Public	518 (66.6%)	105 (13.9%)	132 (17.5%)	.720
	Private	431 (67.8%)	98 (15.4%)	107 (16.8%)	

Table 8: Effect of prevention intervention on substance use among university students

ANOVA						
		Sum of Squares	Df	Mean Square	F	Sig.
Alcohol	Between Groups	5.633	2	2.817	4.043	.018
	Within Groups	912.608	1310	.697		
	Total	918.241	1312			
Cannabis	Between Groups	1.593	2	.796	1.947	.143
	Within Groups	522.279	1277	.409		
	Total	523.872	1279			
Tobacco	Between Groups	1.494	2	.747	2.841	.059
	Within Groups	338.493	1287	.263		
		339.988	1289			

Discussion

The lifetime prevalence of substance use in this study is 48.1%. These findings are higher compared to the findings from a national survey that was conducted by NACADA (NACADA, 2010) which showed that 37.1% had ever used at least one substance in their life time. The World Drug Report revealed that 20% of people aged 15-64 had used at least one substance in 2014. The high lifetime prevalence could be explained by the fact that the two surveys - NACADA and World Drug Report - were conducted on the general population and not specifically university students. High prevalence in university could be attributed to the unique environment and settings. For example, university environment has less supervision and restrictions compared to high school, thus students make transition from restricted life monitored by parents and teachers to a more self-directed life influenced by the university environment (Osman, Victor, Abdulmoneim, Mohammed, Abdalla, Ahmed, Ali and Mohammed, 2016), and thus are at higher risk of using substances.

A study conducted in Hamaraya University in Ethiopia revealed that the lifetime prevalence was 62% (Tesfaye, Derese, and Hambisa, 2014) and a different study conducted in Kenya among university students revealed that lifetime prevalence was 69.8% (Atwoli, Mungla, Ndungu, Kinoti, and Ogot, 2011). High prevalence of lifetime substance use among university students can determine the current use of substances in the university environment.

The prevalence of current use substance was 37.9%, which means that majority of those who had used substances in their life time had not used substances in the past three months before the study was conducted. This could be attributed to the fact that in the three months prior to the survey the respondents were in the university setting where in some universities there are restrictions regarding substance use. Public universities had higher current prevalence of substance use, at 48.1%, than private university at 25.7%. Several studies reveal high prevalence of substance use among students in public universities (Atwoli, Mungla, Ndungu, Kinoti, and Ogot, 2011; Tumuti, Wangeri, Waweru, and Rono, 2014; Magu, Mutugi, Ndahi and Wanzala, 2013). The lower prevalence in private universities could be attributed to the fact that most of the private universities under study were religious sponsored institutions which prohibits the use of substances in the university premises. Also such institutions have an emphasis on religious activities and student involvement is encouraged, which reduces alcohol use in universities (Miller, 2013). However, few studies have shown high prevalence of substance use in private universities in Kenya (Ndegwa, Munene, and Oladipo, 2017).

The study reveals that majority of the students were at low risk of substance use, however there were students who were moderate risk users and high risks users. This is interpreted to mean that the substance use had caused damage to health, either physical or mental, and they were at moderate risk

of health and other problems and were experiencing some of these problems currently (Butcher, Hooley, and Mineka, 2011). This category of moderate risk users is likely to progress to becoming high risk users with continued use of substance. This may result in increased risk of adverse health, with behavioural and social consequences.

The high risk users were respondents who had used substances daily in the past three months. The implication is that the respondent had a pattern of substance use that increased risk of dependence or is dependent on a substance and was probably experiencing health, social, financial, legal and relationship problems (Butcher, Hooley, and Mineka, 2011). Such a student may need to be referred to a rehabilitation treatment centre by the university student counsellor.

It is worth noting that majority of the student population fall in the category of non-users 993 (69.5%). Therefore an intervention to delay their use of substance would be needed.

According to NACADA, those aged 15-65 years who reported current use of at least one substance were at 19.8% (NACADA, 2010). Among the young people aged 15-24, current use of the commonly used substance was alcohol 11.7%, tobacco 6.2% and cannabis 1.5%. The NACADA study also revealed the levels of high risk use where 5.5% were dependent on alcohol use, followed by 4.5% who were dependent on tobacco use, 1.5% dependent on khat, and 0.4% dependent on cannabis use.

A recent study conducted in a private Christian University in Kenya revealed higher levels of risk compared to the current study, where most of the university students who had used alcohol in the past three months were at moderate risk of alcohol use (at 45.7%), followed by high risk (39.3%), and low risk (15.0%) (Ndegwa, Munene, and Oladipo, 2017). However the study had a sample of 140 respondents who were obtained using respondent-driven sampling that targeted students using alcohol or cannabis therefore the study may not be generalizable.

Another study conducted in Kenya among college students revealed that the respondents were at different levels of risk of using substances. The study showed that most of the respondents had a low risk for alcohol use at 98.1%; moderate risk at 1.7%; and those with high risk for substance use were 0.25% (Muriugi, Ndetei, Karanja and Cyrus, 2014). This compares with the findings of NACADA which revealed that among the youth aged 15-24 where high risk users for alcohol, tobacco and cannabis were 5.5%, 4.5% and 0.4% respectively. This was higher than the current study where the high risk users were 3.1% dependant on alcohol, 0.6% tobacco and 1.4% cannabis.

The findings on levels of risk have implications for prevention interventions because the different levels of risk may need specific type of intervention to appropriately help the university students. It is worth noting that majority of the student population fall in the category of non-users (69.5%). Therefore appropriate interventions to delay those who are not using substances would be needed. The prevention interventions that were found in institutions of higher learning were at the primary (universal) level, therefore, students who were at the low, moderate and high level of risk did not benefit from the interventions.

Analysis of students' awareness of prevention interventions, such as available substance use policies, respondent engagement in extra curricula activities and availability of counselling interventions is outlined on Table 6. The findings revealed that universities had put in place policies prohibiting the use of substance and students were aware. In public universities, 603 (79.1%) and in private universities 548 (85.6%) were aware of a policy that prohibits the use of substances in the university. Majority of the students agreed with the statement that their university was a smoke free zone 462 (61.6%) in public universities and 390 (61.4%) in private universities. However, the students indicated that universities policies relating to alcohol use were not too strict 297 (39.5%) in public and 258 (40.3%) in private universities. Also few students agreed with the statement that "our university's strict management style helps check substance use". Therefore the implementation of the substance use policies could be insufficient or poor.

Many studies have shown that creating awareness

may result in improved knowledge on the effects of the substances but may not be translated to reduced substance use among the youth (Scheier and Grenard, 2010). A study conducted in the USA revealed that there was no association between the antidrug campaign and the rates of past month alcohol use (Carpenter and Pechmann, 2011).

There was high level of agreement on the students' awareness of counselling services and interventions in their institutions. The majority of the respondents were aware of the counselling interventions and they agreed that the interventions such as mentorship program, peer counselling and substance use prevention strategies were helpful in curbing substance use is in line with a study that was conducted among tertiary institutions in Plateau State. The study revealed that university students were more aware of the counselling services than the polytechnic and college students (Ibu and Maliki, 2010). However, the utilisation of counselling services was wanting, as a majority of the students did not utilise or seek counselling service.

In the current study, those who agreed with the statement, "I frequently utilise counselling services at my university" were 219 (29.3%) in public and 217 (34.2%) in private universities, while those who agreed with the statement "I seek counselling services because of alcohol and drug related issues" were 173 (23.1%) and 142 (22.5%) from public and private universities respectively. Lack of utilization of counselling services by most students has been explored in other studies and the reasons given include; lack of time, unwillingness to disclose personal issues to others and lack of trust and confidentiality of professionals at the centres (Okiei, 2015). A study conducted in public and private universities in Kenya (Kamuyu, Ndungo and Wango, 2016) revealed that though student had issues that desperately needed counselling interventions, only 35% sought for the counselling services. It would also mean that the students are not aware of the importance of seeking counselling services.

Conclusion

Substance use is a problem in universities where the majority of the students fall into low risk and moderate risk use categories. There is need for universities to use prevention strategies that will target the low, moderate and high risk users separately. The interventions available to some extent cater for the non-users who were found to be the majority, therefore postponing early use of substances. There is urgent need to develop and implement interventions that focus on low moderate and high risk users to mitigate the potential risk of developing substance use disorders. The high prevalence of substance use and the low utilization of counselling services in Kenyan universities calls for urgent action. Universities should strive to provide accommodation for students and strengthen counselling by hiring adequate staff and seeking innovative ways of encouraging students to seek counselling services.

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Prevalence of Depression among Female Injecting Drug Users (FIDUs): Study of a Drop-in Rehabilitation Center in Nairobi County, Kenya

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Abstract

Female injecting drug use needs to be addressed urgently because of its association with depressive symptoms. Females with the habit of getting drugs injected into their bodies have significant needs which expose them to a high risk of diseases making them vulnerable to depression and other psychological morbidities. The study was carried out to explore the extensiveness of depression among females injecting drug users in Nairobi County, Kenya. A cross-sectional design was used in the study while purposive sampling was used to recruit 149 participants aged above 18 years. Socio-demographic questionnaire, Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and Becks Depression Inventory (BDI) were used to collect data. Data was analyzed quantitatively using frequencies and percentages using SPSS version 21. Most respondents were unemployed (83.2%) and single (81.9%) whose ages ranged between 26-40 years. Even though the risk level for heroin was notably high compared to all other drugs, alcohol products seemed to be the most commonly abused by female injecting drug users followed by tobacco products and khat. This is an indication that most participants are poly-drug users. There are scanty studies on female drug users that have been carried-out in Africa to objectively evaluate the relationship between depression and female injecting drug users. Most studies focus on men or generally do a combined study of both males and females. This fact implies that issues associated with female IDUs are not well documented which raises a possible concern for policy makers to develop suitable regulations that revolve around needs affecting these females. It would be vital for harm reduction strategies to be implemented in all drug programs and Comprehensive Care Clinics (CCC).

Keywords: Female injecting drug users, poly-drug users, depression, drop-in rehab center, Comprehensive Care Clinics

1.0 Introduction

Studies show that female injecting drug users (FIDUs) are more likely to have a mental disorder than in general population (United Nations Office on Drugs and Crime, 2013). As a matter of fact, studies done on low esteem issues indicate that in most countries, women are the minority of IDUs which can be partly associated with the fact that their specific needs and risks are not well addressed (Bifulco et al., 1998). Studies indicate that depression is a common problem associated with many IDUs. For instance, a study by Bing et al (2001) revealed that most IDUs were intensively affected by depression. About 36% of IDU's were diagnosed as having major depressive disorder (United Nations Office on Drugs and Crime, 2007).

Further, women involved in injecting drugs have various needs which may differ from one female to another and they are also exposed to more risk of contracting diseases and being oppressed compared to males who inject drugs (United Nations Office on Drugs and Crime, 2004). Discussions on drug injection are commonly concentrated on male IDU's yet FIDUs also face unique risks for infections. Studies further show that in groups most women will inject drugs being the last ones therefore making them the group of individuals who require help while injecting (United Nations on HIV and Injecting Drug Use, 2009). Women, compared to men, may have more sexual relationships with people who are also on drugs which increase their risks to diseases such as HIV and AIDS and violence (United Nations on HIV and Injecting Drug Use, 2009). Moreover, facilities in conventional harm reduction programs are mainly created to accommodate and serve males and also the working staffs involved have no training designed to handle females. This gender imbalance needs to be addressed.

The extent of depression among FIDU's in Kenya has not been fully assessed. It is therefore necessary to get the current statistics on the prevalence of depression among FIDUs that will help in developing tailor made programs that can specifically address their needs. The objective of this article is inclined towards offering an understanding about the influence and extent at which depression affects FIDU's.

1.2 Specific Objectives of the study

The following research objectives were used to guide the study:

(1) To assess the prevalence of depression among female injecting drug users

(2) To explore the relationship between depression and injecting drug use among females

2.0 Literature Review and Conceptual Framework

Studies done in this area have shown that there exists a relationship between injecting drug use and disorders caused by depression (Bing et al, 2001). Moreover, research indicates that depression is one of the main mental disorders associated with individuals on injecting drug use. Bing et al in (2001) reported significant symptoms of depression among IDU's. About 36% of IDU's were diagnosed as having major depressive disorder (UNODC, 2007).

A report by National Institute on Drug Abuse (NIDA) USA shows that 20 to 50 percent of people suffering from extensive effects of mental disorders more often are IDU's. The report further reveals that 20 to 40 percent IDU individuals are severely affected by depression. The research carried out in Baltimore focused on evaluating how depression symptoms and needle sharing behavior of IDU individuals are related. It revealed a significant relationship between the two factors - depression symptoms and needle sharing (Chander and Moore, 2006).

Another study done in Puerto Rico which involved 536 IDUs disclosed that 35 per cent of the IDUs had severe depression symptoms (Reyes et al, 2002).

Women who inject drugs have significantly different needs and face higher risks of infections, violence and psychological morbidities such as depression than men who inject. (United Nations Report, 2004).

There are scanty studies on females that have been carried out in Africa objectively to evaluate the relationship between depression and female injecting drug use. Most studies focus on men or generally do a combined study of both males and females (United Nations Report, 2004). This fact implies that issues associated with female IDUs are not well documented which raises possible concerns in Africa regarding the association between depression and female injecting drug use. This has led to a possible under representation of the specific issues that female IDUs face and a gap in appropriate policy development and understanding around their specific needs especially when it comes to designing rehabilitation programs.

3.0 Methodology

3.1 Study Site Description

The study site was the Support for Addiction Prevention and Treatment in Africa (SAPTA) drop-in Centre situated in Pangani in Nairobi County. This drop-in Centre was started in January 2013. SAPTA is an NGO that runs addiction programs such as the 12-step programs as well as individual and group counseling services. To its clientele. it offers addiction counseling, health education talks and seminars, HIV Testing and Counseling (HTC) services, condom distribution and needle exchange programs.

3.2 Study Design

This study used a quantitative research method to collect data. A descriptive study design was utilized because the researcher recorded the information that was present in the population without manipulating the variables.

3.3 Study Population

All female clients who visited SAPTA Pangani drop-in Centre participated in the study. Participants were conveniently selected and interviewed. The entire study period was two months.

3.4 Inclusion Criteria

The following were the inclusion criteria for the study participants:

1. Must be a female injecting drug user with identifiable needle marks on their bodies
2. Must be 18 years of age and above
3. Must be respondents at SAPTA
4. Must be able to give written consent
5. Must have the ability to participate meaningfully to achieve logical and articulate findings

3.5 Study Instruments

The recruitment and consenting procedure has been illustrated in the sampling flow chart in Figure 3. The instruments used to collect data included:

1. Demographic survey questions
2. The Beck Depression Inventory (BDI)
3. Alcohol Smoking and Substance Involvement Screening Test Scores (ASSIST)

3.6 Procedure for collecting data

After getting permission from SAPTA, the department of Psychiatry, and KNH/UON/ERC, the researcher called the Pangani Drop-in Centre to book an appointment with the site supervisor. On the appointment date the researcher presented the site supervisor with the written approvals and a request for an office space for conducting the study. The researcher then commenced research for a period of two months. Currently SAPTA Pangani drop in-Centre registers about a minimum of 5 new female clients and a maximum of 10 per day. The researcher therefore interviewed all female participants who visited the Centre.

This was a researcher administered study, since the literacy levels of the clients varied. The researcher personally took each client through the consent processes and then presented the client with a consent form to sign. The researcher then administered the socio-demographic questionnaire and BDI. The interviewing instruments were available in both English and Kiswahili language and each interview lasted about 45 Minutes. Those found to be suffering from depression received counseling services from SAPTA counselors. Those who required psychiatric evaluation and medication were referred to Medecin Sans Frontiere (MSF) doctors. The number of participants was 149 which

was the full population of the participants reporting to the drop-in center.

Participants found to be either suffering depression or addictions were taken through therapy by SAPTA counselors and the researcher for the benefit of enhancing behavior change. Potential benefits to the society included redesigned intervention programs for the future that would address specific needs of women and not just the addiction problem.

4.0 Results

This study sought to ascertain the demographic features of the respondents which included level of physical maturity, education level, conjugality and economic activities among others as presented in Table 1.

The study found that initiation to drug use was more rampant among young female adults, with 94% of the respondents being aged below 40 years and the highest number of drug users falling in the age bracket of 26 - 30 years at (28.2%). This implies that IDU among females cut across all ages even though it was more rampant among young adults.

Most respondents (81.9%) were out of the marriage institution with the highest number of drug users being single women followed by separated women at 52% and 47% respectively.

The distribution of the respondents by marital status was statistically significant at a p (0.000) ≤ 0.001, showing the representative differences in marital status. This is in line with similar studies done in the area of drug use which indicate that majority of females who engage in drug use are single, separated or divorced. Similar studies have found that women who involved themselves in abusing drugs commonly refer to their marital challenges as the reason behind them abusing specific drugs.

Slightly less than a half of the respondents (45.6%) had attained up to primary level of education whereas 38.9% indicated that they had secondary school certificate which is their best achievement when it comes to education.

Statistical significance of the distribution of the respondents by the level of education yielded p (0.0002) ≤ 0.001. This implies that distribution of participants using highest education attainments was significant among the female injecting drug users; respondent had attained lower levels of education. Females who lacked career skills due to low education had a challenge in getting employment and this made many of them vulnerable to using drugs, engaging in risky sexual behavior, criminal activity, etc.

Majority of the respondents (83.2%) were unemployed. A few of them (14.8%) indicated that they were self-employed, while 2% of the respondents were employed. This could be attributed to their substance abuse status and low levels of education. The relationship between substance abuse and employment status was statistically significant with a P (0.0004) ≤ 0.001. This meant that there were significant differences related to statistical data concerning employment conditions of respondents involved. Basically; this could imply that those who were not employed had a lot of idle time which might have influenced their mental status. The lack of money may lead to feelings of frustration due to inability to provide even basic needs for them resulting in increased rates of drug abuse.

Distribution of the respondents by whether they injected drugs yielded a p (0.0001) ≤ 0.001. This implied that distribution of respondents by whether they injected drugs into their body was representative of the true population. Majority of the respondents had a preference for injectable drugs due to their ability to elicit quick action in achieving a "high". More than two thirds of the respondents (73.8%) indicated that they injected drugs, while the rest (26.2%) did not inject drugs due to various reasons like collapsed veins due to previous addictive use, preference to non-injectable drugs, affordability of non-injectable drugs compared to injectable ones which tend to be costly.

An overwhelming majority of the participants (95.3%) indicated that they were not recruited into any treatment program for drugs. However, a few of them (4.7%) indicated that they were in a treatment program. There were statistical differences in the participants' involvement in treatment programs for drugs with a P (0.0009) ≤ 0.001, implying that either the participants were not willing to quit drug use or they did not have knowledge of treatment centers available for drug treatment.

The ASSIST Scores, presented in Table 2, presents a summary of the drugs the participants commonly abused, frequency of their use and risk levels.

Their scores were rated as follows: (Refer to Table 2 for the actual scores)

ASSIST Scores

1. Low, 0-3: Means that an individual's health risk is low among other challenges from their present habit of drug use.
2. Moderate, 4-26: Means a person is at higher health risk among other challenges from his / her present habit of drug use.
3. High, 27+: Means that an individual is exposed at a higher risk of serious health effects; socially, financially, legally and even marital status caused by their present habit of substance use and most of such people are not independent.

The risk level for heroin was notably high compared to all other drugs, followed by alcohol products, tobacco products and Khat, which implied implies that most participants are poly-drug users. This observation can be attributed to the fact that Heroin is relatively scarce and more expensive because of its complex supply chain network. In order to remain high, most heroin users would need about KShs 150 - 300 for a dose every 6 hours. Majority of the participants cannot afford this, thus the need for participants to engage in combining injectable drugs with other drugs for its potentiality effect and possibly to self-medicate against the depressive and withdrawal symptoms.

4.1 Levels of Depression among Female Injecting Drug Users (FIDUS)

The existence of depressive disorders among IDUs is supported by robust studies. Often, depression is reported to be the major cause behind most mental disorders among substance abusers. In this context, the study has concentrated on determining the levels of depression in FIDUs using BDI, a 21-scale item. This is a self-report rating inventory that is propelled towards finding an appropriate measurement for mood features and depressive symptoms among drug using individuals.

The results according to BDI scores are illustrated in Figure 2. From the findings, the proportion of respondents with depressive disorder symptoms drawn from borderline clinical depression to extreme depressive symptoms was 86.6% (129), which is very high. These results indicate that the prevalence of depressive disorders among the respondents was very high revealing that female drugs users have high levels of depression. If we take a cut off point from moderate depression to extreme depression, we can infer that mood is seriously affected by one's substance use. As observed in Figure 2 slightly more than half of the respondents 54.4% (81) had moderate levels of depression while slightly more than a quarter of the respondents 25.5% (38) indicated that they had severe to extreme depression levels.

5.0 Discussion, Conclusion and Recommendations

The findings in this study show that most respondents involved had moderate to severe depression (75.9%). The existence of the articulate relationship of injecting drug using individuals and disorders caused by depression resonates with many other studies. This result further indicates that depression is the most common mental disorder among injecting drug users.

The findings are in agreement with Bing et al (2001) who in a study conducted in the US reported considerable disorders associated with depression among injected drug using respondents where in this group, 36 percent were immediately put in treatment schedules for people with severe depressive symptoms. Chander et al (2006) carried out a similar research for the same state to come to a conclusion that most injected drug users had a high percentage of depression levels.

This study has revealed that depression symptoms and disorders are widespread and common among the female population involved in injection drug use. Further, the findings indicate that this key population is comprised of people who are single, separated, divorced or widowed and have no

livelihoods (unemployed) and therefore have poor psychosocial and economic support systems. It is also demonstrated that most of the respondents are not in any treatment programs for abuse of drugs.

The study was impelled towards establishing the extent of effect of depression among positive female IDUs in Nairobi County.

Having established the extent and implications of depression among female injecting drug users, this study therefore proffers some significant solutions to the main challenge of substance abuse and depression keeping in mind that these two factors are highly related. It is the responsibility of policy makers, academicians as well as researchers to immerse their efforts on how to handle depression which will be a helpful tool for physicians and psychologists to help depressed individuals overcome this common problem and avoid extensive effects on their lives including drug and substance abuse.

This study demonstrated that most of the respondents are not in any treatment program for abuse of drugs. At this point it would be vital to have Drug Rehabilitation programs that are tailored around female specific needs so that females with children, females who are pregnant, females who are incarcerated or those infected with diseases like HIV can all get treatment services that holistically address their needs under one roof.

This will help to take away the self-stigma that many females experience which makes them shy away from presenting themselves in treatment facilities for treatment for abuse of drugs.

7.0 Acknowledgement

Special appreciation to the whole of my family members who dedicated themselves to offer their efforts that encouraged me during my entire MSC Clinical Psychology program.

Exceptional gratitude to my statistician Alex, not forgetting my children, Alvin, Audrey and Amilia, for their composure and tolerance, understanding and unending support throughout the whole period of my studies.

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8.0 Figures and Tables

Figure 1: The conceptual framework

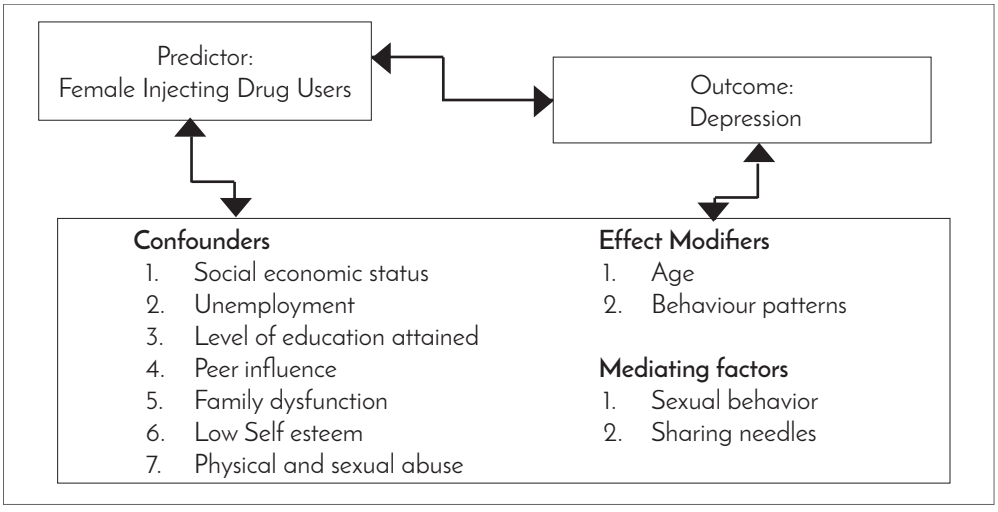


Figure 2: Becks Depression Inventory (BDI) Scores

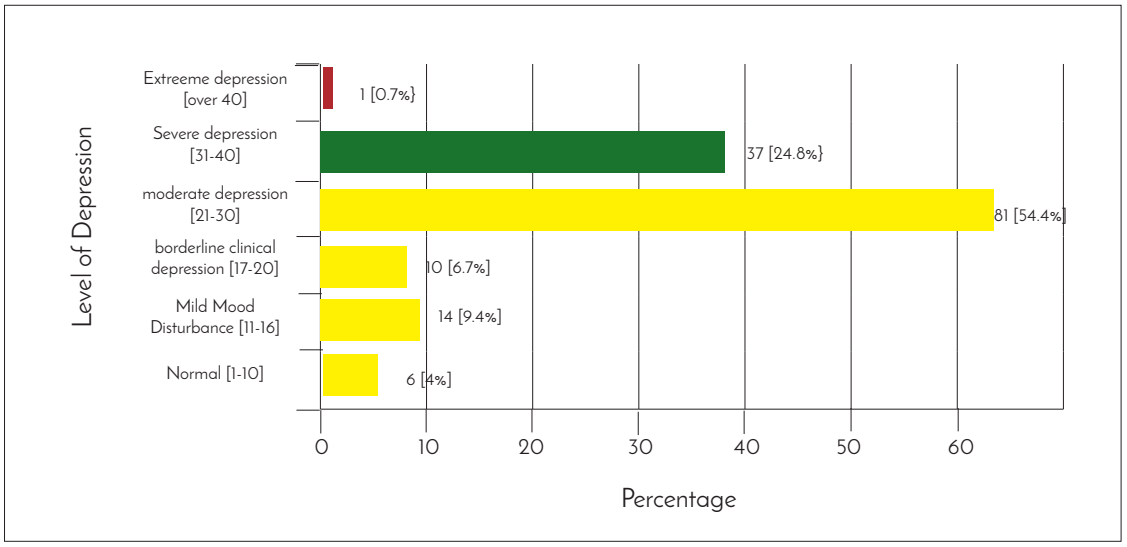
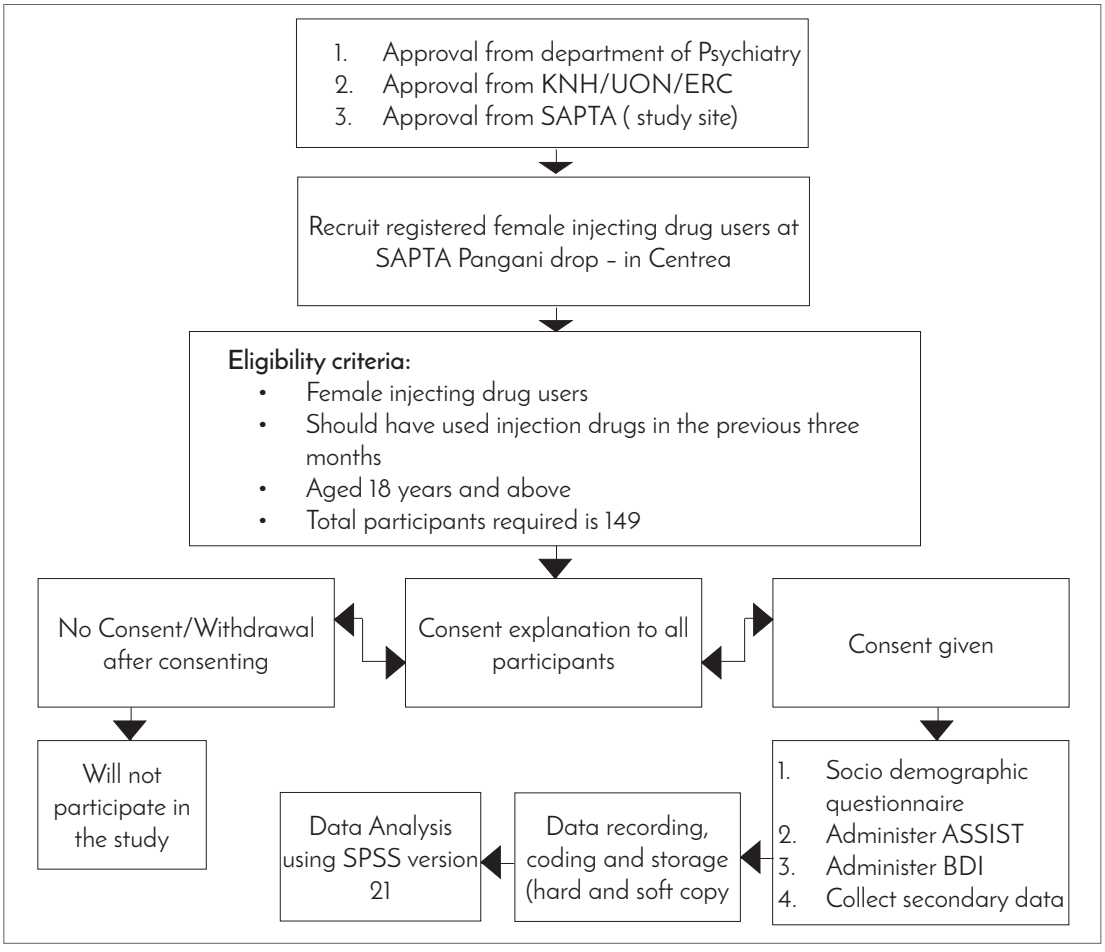


Figure 3 Sampling flow chart (recruitment and consenting procedure)



Demographic Characteristics of the Respondents

This study sought to ascertain the demographic features of the respondents including; age, education achievement, relationship status and economic activities among others, as presented in table1:

Table 1: Summary Distribution of the Respondents by their Background Information (n=149)

Covariates	Frequency (F)	Percentage (%)
Age		
15-20 years	10	6.7
21- 25 years	31	20.8
26-30 years	42	28.2
31-35 years	37	24.8
36- 40 years	23	14.4
41 years and above	6	4
Relationship status		
Single	52	34.9
Married	21	14.1
Separated	72	47
Widow	6	4
Education level		
No Formal education	19	12.8
Primary	68	45.6
Secondary	58	38.9
College	4	2.7
Occupation		
Unemployed	124	83.2
Employed	3	2
Self Employed	22	14.8
Enrollment in Treat-ment Programs		
Yes	7	4.7
No	142	95.3

Table 2: Alcohol Smoking & Substance Involvement Screening Test (ASSIST) Scores

Substance	Commonly Abused (Score %)	Frequently Used (Score %)	Risk level
Tobacco Products (cigarettes, chewing tobacco, kiraiko)	19	37	27+ High
Alcohol Products (Tusker, Tusker malt, Guinness, senator, White cap, Wines, Changaa', Karubu and Muratina)	42	35	27+ High
Miraa, Khat, Kanget, Mogoka, Kuber	19	28	27+ High
Heroin	21	38	27+ High
Rhypnol	1	1	0 – 3 Low
Canabis (Bhang)	2	3	0 – 3 Low
Cocaine	1	1	0 – 3 Low

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Status of Drugs and Substance Abuse among the General Population in Kenya

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Abstract

This study was undertaken between November and December 2016 as a follow-up to two other studies conducted in 2007 and 2012 to assess the status of drugs and substance abuse in Kenya. The study covered respondents aged 15 – 65 years who were identified through stratified multi-stage random sampling. The 3,362 sampled households were distributed proportionately across the eight regions of Kenya. According to the findings, the prevalence of current usage of alcohol among respondents aged 15 – 65 years stands at 12.2%, tobacco 8.3%, khat 4.1% and bhang / marijuana 1.0%. Data on current use of multiple drugs and substances of abuse among respondents aged 15 - 65 years shows that the prevalence stands at 6.0%. Further, the study shows that the prevalence of alcohol use disorders among respondents aged 15 - 65 years stands at 10.4%, tobacco use disorders stands at 6.8%, khat use disorders stands at 3.1% and bhang / marijuana use disorders stands at 0.8%. Although findings point towards a downward trend on usage, the burden of substance use disorders presents a serious challenge for the country. The study therefore lays emphasis on evidence based prevention programs as well as increasing access to affordable treatment and rehabilitation services in Kenya.

Key words: *Drugs and Substance Abuse and Substance Use Disorders.*

Introduction

Globally, the harmful use of alcohol resulted in some 3 million deaths (5.3% of all deaths) worldwide and 132.6 million disability-adjusted life years (DALYs) – i.e. 5.1% of all DALYs in 2016. Mortality resulting from alcohol consumption is higher than that caused by diseases such as tuberculosis, HIV and AIDS and diabetes. Among men in 2016, an estimated 2.3 million deaths and 106.5 million DALYs were attributable to the consumption of alcohol. Women experienced 0.7 million deaths and 26.1 million DALYs attributable to alcohol consumption (Degenhardt et al, 2018).

In 2016, of all deaths attributable to alcohol

consumption worldwide, 28.7% were due to injuries, 21.3% due to digestive diseases, 19% due to cardiovascular diseases, 12.9% due to infectious diseases and 12.6% due to cancers. About 49% of alcohol attributable DALYs are due to non-communicable and mental health conditions, and about 40% are due to injuries (Degenhardt et al, 2018). There are significant gender differences in the past 12-month prevalence of alcohol use disorders. Globally an estimated 237 million men and 46 million women have alcohol use disorders (WHO, 2018).

According to Degenhardt et al (2018), 3.7% of the global burden of disease is attributable to tobacco use. Disorders due to psychoactive substance use – including alcohol, drug and tobacco dependence – are the main underlying conditions ultimately responsible for the largest proportion of the global burden of disease attributable to substance use.

A study conducted by the National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA) in 2012 revealed that at least 13.6 percent of Kenyans aged 15-65 years were current users of alcohol. The current usage of other drugs and substances of abuse stood at 9.1% tobacco, 4.2% khat / miraa, 1.0% bhang / marijuana, 0.1% hashish and 0.1% heroin (NACADA, 2012).

The current study is part of a five year assessment conducted to establish the trend of drugs and substance abuse in Kenya. The study provides data that is used to assess the effectiveness of the universal preventive interventions in Kenya. The study therefore aimed to establish the trends in current use of drugs and substances of abuse as well as the status of substance use disorders among the general population in Kenya.

Methodology

A cross-sectional study was conducted where both quantitative and qualitative data was collected. The study covered all the eight regions of Kenya namely; Nairobi, Coast, Nyanza, Western, Central, Eastern, North Eastern and Rift Valley. A total of thirty one (31) counties were covered.

A stratified multi-stage random sampling technique was used to identify the enumeration areas for data collection. At the national level, all the eight regions (Nairobi, Central, Eastern, Rift Valley, Western, Nyanza, Coast and North Eastern) were purposively selected and the 3136 sampled households were distributed proportionately across each of the eight regions. The first stratification was applied at the county level. The 47 counties were stratified based on their unique cultural, socio-economic and geographic characteristics (NACADA, 2012). However, due to logistical and resources limitations, a purposive sample of 31 counties was randomly selected from each stratum.

From each county, sub-counties were randomly selected and then two divisions were randomly selected from each sub-county. One location was then selected randomly per division. The enumeration areas (sub-locations) were randomly drawn from each selected location and the sample was proportionately distributed based on the total population distribution (NACADA, 2012). For comparison purposes of drugs and substances abuse indicators, the same sampling points identified in the two previous studies were maintained. At the sub-location level, a landmark (e.g. a school) was identified and selected to determine the starting point. The direction was determined by spinning a pen in the air and letting it drop on the ground. The date score was then used to determine the first household to be sampled (NACADA, 2012).

The second stratification was done at the household level. Potential respondents were stratified by their age (15-35 years and 36-65 years) and gender categories. The Kish Grid was used to identify a potential respondent based on age and gender categories in a given household. Subsequent households were then selected using the random walk method, turning left or right at every junction. After administering the first interview, systematic random sampling was used where every 3rd household was selected to participate in the study (NACADA, 2012).

Data Collection

Supervisors and research assistants were trained for three (3) days in Nairobi. This involved a detailed discussion of each question in the instruments and mock interviews among themselves. Training also involved extensive discussions of street names of all drugs and substances of abuse in the country

and compilation of a list of such names for easy referencing during data collection. After training, a pre-test of the questionnaires was carried out in three sampled sub-locations that were not part of the main study. The questionnaires were revised to accommodate for any observations and variation that were made during the pre-test (NACADA, 2012).

Data was collected for a period of eight weeks from November to December 2016. Data collection was divided into three clusters namely; Nairobi/Eastern/Coast, Nairobi/Central/North Eastern/Lower Rift Valley and Nairobi/Nyanza/Western/Upper Rift Valley. Further, data on substance use disorders was captured using the fifth edition of the Diagnostic and Statistical Manual of Mental Disorder (DSM – 5) (American Psychiatric Association, 2013).

Data Analysis

An interviewer screen was developed for data entry to minimize errors. Quantitative data was coded, sorted, entered and analysed using SPSS software version 20. Descriptive statistics were used to describe, organize and summarize collected data.

Results

Lifetime Abstainers

In terms of usage of drugs and substances of abuse, statistics on lifetime abstainers (a respondent who has never used any drug or substance of abuse) among respondents aged 15 – 65 years showed that the prevalence had declined slightly from 62.9% in 2012 to 62.5% in 2017. In comparison with 2007, the prevalence had greatly improved from 51.7% in 2007 to 62.5% in 2017.

Current Use Alcohol

Analysis of current usage of alcohol among respondents aged 15 – 65 years showed that the prevalence stood at 12.2% in 2017, presenting a decline from 13.6% in 2012 and 14.2% in 2007. Nairobi region was leading in the prevalence of current usage of alcohol (17.5%) followed by Eastern 14.3% and Western 13.4% regions. Western region had recorded a steady increase in the prevalence of current usage of alcohol from 6.8% in 2007, 13.6% in 2012 to 13.4% in 2017. From the findings, Nairobi, Eastern, Western and Rift Valley regions had continued to record the highest current prevalence of alcohol usage.

Data across the age categories showed that 12.2% of respondents aged 15 – 65 years were currently using alcohol; 15.1% of respondents aged 25 - 35 years were currently using alcohol; 5.6% of respondents aged 15 – 24 years were currently using alcohol; and 0.9% of respondents aged 10 – 19 years were currently using alcohol.

Current Use of Tobacco

The findings on tobacco use showed that the prevalence in the current usage of tobacco among respondents aged 15 – 65 years had declined from 9.1% in 2012 to 8.3% in 2017. Coast region was leading in the prevalence of current usage of tobacco (11.0%) followed by Eastern (10.9%) and Nairobi (10.4%). Coast, Eastern Nyanza and Western regions had recorded a steady increase in the prevalence of current usage of tobacco from 2012 to 2017. Data showed that 8.3% of respondents aged 15 – 65 years were currently using tobacco; 7.2% of respondents aged 25 - 35 years were currently using tobacco; and 2.9% of respondents aged 15 – 24 years were currently using tobacco.

Current use of Khat / Miraa

Data on usage of khat / miraa showed that the current prevalence among respondents aged 15 – 65 years stood at 4.1% in 2017. The trend showed a slight decline from 4.2% in 2012 and prevalence was even lower compared to 5.5% in 2007. North Eastern region was leading in the prevalence of current usage of khat / miraa in 2017 (12.2%) followed by Coast (10.1%) and Eastern (8.5%) regions. Coast region had recorded an upward trend in the prevalence of current usage of khat from 2012 to 2017. From the findings, all other regions had continued to record a decline in the current usage of khat / miraa. Statistics also showed that 4.1% of respondents aged 15 – 65 years were currently using khat / miraa; 5.5% of respondents aged 25 - 35 years were currently using khat / miraa; and 3.2% of respondents aged 15 – 24 years were currently using khat / miraa.

Current use of Bhang / Marijuana

and Hashish

The study showed that bhang / marijuana was the most widely used narcotic drug in Kenya, with prevalence stabilizing at 1.0% from 2007 to 2017. Coast region was leading in the current usage of bhang (2.8%) followed by Nyanza (2.0%) and Nairobi (1.4%) regions. Nairobi, North Eastern, Coast, Nyanza and Western regions had recorded a steady increase in the prevalence of current usage of bhang from 2012 to 2017. Data also showed that 1.0% of respondents aged 15 – 65 years were currently using bhang; 1.1% of respondents aged 25 - 35 years were currently using bhang; and 1.1% of respondents aged 15 – 24 years were currently using bhang.

On its part, the prevalence of usage of hashish among respondents aged 15 – 65 years had been recording a decline from 0.2% in 2007 and 0.1% in 2012. In 2017, very low levels of current usage of hashish were recorded.

Current use of Heroin and Cocaine

The current usage of cocaine and heroin had been on a steady decline from 2007 to 2017. The study showed that the current usage of cocaine among respondents aged 15 – 65 years has declined from 0.2% in 2007 to levels below 0.1% in 2012 and 2017. On the other hand, the current usage of heroin among respondents aged 15 – 65 years had also declined from 0.1% in 2007, 0.1% in 2012 to levels below 0.1% in 2017.

The data also showed that the current usage of inhalants and prescription drugs among respondents aged 15 – 65 years was very low in 2017. Current usage of prescription drugs had declined from 2012 to levels below 0.1% in 2017.

Current use of at least one substance of abuse

In terms of current usage of at least one substance of abuse among respondents aged 15 – 65 years, data showed that the trend had declined slightly from 19.8% in 2012 to 18.2% in 2017. The prevalence in 2017 was lower compared to 22.2% in 2007. Coast region had the highest prevalence of current usage of at least one substance of abuse (18.8%) followed by Western 14.7% and Eastern 14.4% regions. Findings showed that 9.7% of respondents aged 15 – 24 years were currently using at least one substance of abuse.

Current polydrug use

Data on current use of multiple drugs and substances of abuse among respondents aged 15 -65 years showed that the prevalence stood at 6.0% in 2017. Coast region had the highest prevalence of current polydrug use (8.3%) followed by Eastern (8.2%) and North Eastern (7.8%).

Substance use disorders

The study showed that alcohol contributes the highest burden of substance use disorders (SUDs) in Kenya. According to the data, the prevalence of alcohol use disorders among respondents aged 15-65 years stood at 10.4% in 2017. Nairobi region had the highest prevalence of alcohol use disorders (18.4%) followed by Western (13.1%), Rift Valley (10.7%), Eastern (10.6%), Nyanza (9.6%), Coast (8.7%), Central (8.3%) and North Eastern (1.4%). The prevalence of severe alcohol use disorders stood at 6.2%.

Analysis of tobacco showed that the prevalence of tobacco use disorders among respondents aged 15-65 years stood at 6.8% in 2017. Nairobi region had the highest prevalence of tobacco use disorders (10.4%) followed by Coast at 9.2%, Eastern at 8.8%, North Eastern at 8.8%, Rift Valley at 5.9%, Western at 4.9% and Nyanza at 4.4%. The prevalence of severe tobacco use disorders stood at 3.1%.

The prevalence of khat / miraa use disorders among respondents aged 15-65 years stood at 3.1% in 2017. North Eastern region had the highest prevalence of khat / miraa use disorders (7.4%) followed by Coast at 7.3%, Eastern at 6.9%, Nairobi at 5.2%, Rift Valley at 1.6%, Central at 1.0% and Nyanza at 0.6%. The prevalence of severe khat / miraa use disorders stood at 1.6%.

The prevalence of bhang / marijuana use disorders among respondents aged 15-65 years stood at 0.8% in 2017. Coast region had the highest prevalence of bhang use disorders (2.8%) followed by Nairobi at 1.9%, Nyanza at 1.8%, Western at 0.7%, Central at 0.3%, Eastern at 0.3% and Rift Valley at 0.2%. North Eastern region recorded the lowest prevalence of bhang use disorders. The prevalence of severe

bhang / marijuana use disorders stood at 0.7%.

Discussion

Statistics on lifetime abstainers (never use) showed that the trend had improved from year 2007 to year 2017 (NACADA, 2012; NACADA 2007). For respondents aged 15 – 65 years, Nairobi, Western and Coast regions had the lowest prevalence of lifetime abstainers compared to other regions.

Analysis of current alcohol use showed that the prevalence was highest in Nairobi, Western and Eastern regions. Findings also showed that the prevalence of current use of alcohol was highest among male respondents and those from urban areas. On a national level, the current alcohol use among respondents aged 15 – 65 year showed a decline from year 2007 to year 2017 (NACADA, 2012; NACADA 2007). According to the WHO (2018), globally, projection to 2025 shows that alcohol consumption will increase but the prevalence rate of current use will continue to decline.

Current usage of tobacco showed a declining trend (NACADA, 2012). Coast and Eastern regions had recorded the highest prevalence of tobacco use. For khat / miraa, findings also showed a declining trend. Current usage of narcotics was low, especially cocaine, heroin and hashish. Statistics on bhang also revealed that the trend had not changed from 2007 to 2017 with the prevalence stabilizing at 1.0% (NACADA, 2012; NACADA 2007). Globally, bhang / marijuana is the major illicit drug of abuse (UNODC, 2017). Findings on polydrug use (multiple drug use) showed that the current prevalence among respondents aged 15 – 65 years was highest in the Coast, Eastern and North Eastern regions.

Under Sustainable Development Goals (SDG 3) sub-section 3.4, countries are mandated to reduce by one third premature mortality and non-communicable diseases through prevention and treatment and promotion of mental health and well-being by 2030 (UNDG, 2015). Findings on substance use disorders (dependence) showed that the country was struggling with an increasing burden of persons who require treatment and rehabilitation.

Alcohol use was the major contributor to the burden of substance use disorders in Kenya. It was followed by use of tobacco, khat / miraa and lastly bhang. Globally, alcohol dependence was the most prevalent of the substance use disorders, with 100•4 million estimated cases in 2016. The most common drug use disorders in 2016 were cannabis dependence at 22•1 million cases (WHO, 2018). Analysis of alcohol use disorders showed that Nairobi and Western were the most affected regions. For tobacco use disorders, Eastern and Central regions had the highest prevalence. In terms of khat / miraa use disorders, North Eastern and Coast regions had the highest prevalence. For bhang use disorders, Coast and Nyanza were the most affected regions.

The emergence of alcohol-attributable burden in Southern sub-Saharan Africa reflects the changing strategies of the alcohol industry, which has started to target Africa and other low-income and middle-income countries (Jernigan and Babor, 2015; Bakke and Endal, 2010; and Hanefeld et al., 2016). Many of the causes of alcohol and drug use disorder burden can be prevented or treated. Taxation and regulation of availability and marketing can substantially reduce harms associated with alcohol (Anderson, Chisholm and Fuhr, 2009). Treatment and brief interventions have been shown to be effective with a potential public health impact (Rehm et al., 2013). However, of all mental health disorders, alcohol use disorder has the lowest treatment rates globally (Kohn et al., 2004).

Conclusion

Although findings point towards a downward trend on usage, the burden of substance use disorders presents a serious challenge for the country. The study lays emphasis on evidence based prevention programs as well as increasing access to affordable treatment and rehabilitation services in Kenya.

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