

MINISTRY OF YOUTH



In Partnership with Kigali Health Institute



PREVALENCE OF PSYCHOACTIVE SUBSTANCE USE AMONG YOUTH IN RWANDA

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Acronyms & Abbreviations

AUDIT:	Alcohol Use Disorders Identification Test
CAST:	Cannabis Abuse Screening Test
HONC:	Hooked on Nicotine Checklist
KHI:	Kigali Health Institute
MIJESPOC:	Ministère de la Jeunesse, Sport et Culture
MINIYOUTH:	Ministry of Youth
NISR:	National Institute of Statistics of Rwanda
PPS:	Probability Proportional to Size
RPHC:	Rwanda Population and Housing Census
WHO:	The World Health Organization

Executive Summary

Background

Drug abuse among youth is worldwide a significant public health concern and recent studies in African countries have shown that drug abuse have as well a tendency to be in this continent one of important health problems among the youths. However, in Rwanda little is known about prevalence of drug use among youth and hence the gravity of the problem is not documented. In 2011, the ministry of Youth in collaboration with Kigali Health Institute has supported a research to increase knowledge and understanding about the extent of drug consumption among youth in Rwanda.

Objectives

This study measures the prevalence and identifies risk factors associated with substance use among youth in Rwanda

Methods

Using a multistage sampling design, a sample of 2479 youth aged between 14 and 35 years was taken randomly from 20 districts. A structured questionnaire with thirty-one close-ended questions was used to obtain socio-demographic information of participants and to assess the prevalence of drug use. Misuse and Dependence to alcohol, marijuana and tobacco were respectively assessed by the Alcohol Use Disorders Identification Test (AUDIT), the Cannabis Abuse Screening Test (CAST), and the Hooked on Nicotine Checklist (HONC).

Results

The results indicate that 52.5% (95% Confidence interval, 50.6% - 54.5%) of the respondents had consumed one or more substances at least once in their life time (lifetime prevalence). Only 7.3% of them were able to stop substance use after the first experimentation and 92.7% continued drug/substance use. This re-attempt resulted into a current and continuing drug use. From this study, the past-30 day prevalence (whether the youth has used the drug within last month) was 34% for alcohol, 8.5%

for tobacco smoking, 2.7% for cannabis, 0.2% for glue and 0.1% for medicines like diazepam. Due to regular substance/drug use, One youth in thirteen (7.46% of our total sample) is alcohol dependent, one youth in twenty (4.88%) had problem of being dependent on nicotine and one youth in forty (2.54%) were found to be dependent on cannabis.

The risk profile is that drug use is more common among males (67.03%) than females (36.92%) ($p=0.00$); surprisingly prevalence of substance/drug use is higher among Youth residing in rural settings (55.61%) than those in urban area (45.12%) ($p=0.00$). Having parents Vs having no parents; substance use was more prevalent among youth who had lost one or both parents compared to those with parents (62.61% Vs 50.22%, $p=0.00$ respectively). The proportion of youth using drugs is gradually increasing with age varying from 30.77% among those aged between 10-14 years old to 68.54% among those aged between 31-35 years old ($p=0.000$). Being a student was also associated to low rates of drug consumption while dropping school and never had chance to go to school were associated to high rates of drug use ($p=0.00$).

Conclusion

Tobacco, alcohol, marijuana and other drug use are realities in the daily lives of youth in Rwanda. The findings of this study confirm the need for substance abuse prevention programs and at the same time the importance of increasing efforts to ensure intervention for those who are already dependant.

Keywords: Drug use, Misuse, Dependence, Youth, Prevalence, Rwanda

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1

Introduction

Abuse of substances especially the psychoactive ones by young people has been a significant public health concern for many years. Epidemiological surveys in African countries have shown that substance abuse is common and is one of the most disturbing health-related problems among the youths (Igwe, Ojinnaka, Ejiofor, Emechebe & Ibe, 2009). Most of these young people begin with alcohol and cigarettes and later progress to more dangerous ones such as cannabis and cocaine (Abiodun, Adelekan, Ogunremi, Oni, Obayan, 1994). Studies show that there is an increasing trend in the use and decreasing age of onset of use of these substances (Fatoye, 2003; Fatoye, Morakinyo, 2002). Adolescents start with alcohol and cigarette smoking which are referred to as a gateway substance. They are described as gateway because they are the initial substances used before others are tried out.

Substance abuse has complex roots; in biological predisposition, personal development, and social context (McArdle, 2004). Specific social correlates include parent-child conflict, child physical and sexual abuse, family breakdown, and in relation to school, scholastic failure (Diaz, Simantov & Rickert, 2004). Substance abuse also predicts affiliation with network of deviant peers who introduce these adolescents to other substances (Fergusson & Horwood, 1999). Since majority of substance abuse among youths starts in the school, the school population is the best place for early detection and prevention of substance abuse in the adolescent population. As a result of lack of sufficient and reliable data from which generalization can be derived for Rwanda, there is a definite need for school and non school surveys on substance abuse in the country.

This study is important due to the fact that there is no researched data on the substance use among youth in Rwanda. This study will allow comparison of data from

different settings; urban, semi-urban and rural areas, and school and non school youth. Such study will also provide data for preventive programmes. The above factors have prompted the need for the present study in Rwanda. This research paper may serve to inform policy makers and school administrators of the severity of the problem and therefore take appropriate measure to curb further increase.

1.1 Aims

1. To establish the prevalence of substance use among youth in Rwanda.
2. To establish the risk factors associated with substance use among youth in Rwanda.

1.2 Objectives

1. To identify the substances used by youth in Rwanda
2. To identify the frequency of substance use among youth in Rwanda
3. To establish the social demographic distribution of substance use among youth in Rwanda.
4. To identify the factors leading to substance abuse among youth in Rwanda
5. To identify the correlation between substance abuse and involvement in risk behaviors by youth in Rwanda.

1.3 Motivation for the study

The use of tobacco, alcohol and illicit drugs peaks between the ages of 18 and 25 years during the end of which many young people are enrolled in colleges or universities (The National Center on Addiction and Substance Abuse at Columbia University, 2003). However the onset of use begins much earlier than this age; as early as 10 years of age. Secondary students are at particular risk for drinking and binge drinking, both of which occur at higher levels among Secondary School students than among non-enrolled students of the same age (Millstein, Irvin, Adler et al., 1992). The effects of substance use and abuse on youth are staggering in terms of substance dependence, injury, illegal acts, poor academic performance, risky sexual behavior and high costs to the parents and the surrounding community. In Rwanda little is known about prevalence, types of substances abused and hence the gravity of the problem is not documented. Statistics for the past six years from Ndera psychiatric

hospital show an increasing trend in the complications of substance use (Ndera Hospital records, 2010). In Rwanda little is known about prevalence, types of substance abused and hence the gravity of the problem is not documented.

Table 1.1: *The trends of substance use among clients visiting Ndera hospital for the past 6 years.*

Year	Number of substance abuser Admitted	Total number of patients admitted	Percentage
2004	68	2089	3.2
2005	186	2247	8.2
2006	283	2634	10.7
2007	367	2917	12.5
2008	476	3463	13.7
2009	742	3278	22.6

The data in Table 1.1 below shows a general representation of substance abuse however does not show the age distribution among abusers, it does not also include out-patients. This has inspired the researcher to explore more about the issue among youth population and therefore present a more scientific data on the substance use among this segment of the Rwanda population.

1.4 Research questions

1. What are the psychoactive substances used by youth in Rwanda?
2. What is the prevalence of psychoactive substance among youth in Rwanda?
3. What is the social demographic distribution of substance used among youth in Rwanda?
4. What are the factors leading to substance abuse among youth in Rwanda?
5. What is the correlation between substance abuse and involvement in other risk behaviors by youth in Rwanda?

1.5 Significance for the study

The results of the scientific paper would act to inform youth leaders/organizations, government, Ministries of Education and youth. The importance of this study would be to form a scientific baseline data for prevention strategies. The strategies would be

of dual nature; sensitization and policy formulation. If found that substance abuse is appreciably high it would be necessary to embark on preventive strategies that involve comprehensive education programs for substance users targeted on youths (students and non-students), parents, teachers and other segments of the population. It will help the government to set up a national health policy that will effectively control the availability and accessibility of these substances especially to youth.

2

Methodology

2.1 Research design

To establish the prevalence and identify risk factors associated with substance use among youth in Rwanda, we conducted a community household-based study with a cross-sectional, descriptive design from June to November 2011.

2.2 Participants

2.2.1 Sampling

The target population in this study was youth aged between 14 and 35 years since the Ministry of Youth Republic of Rwanda defines youth as “everyone in the age bracket of 14 to 35 years” (MIJESPOC, 2007). Based on the frame for the Rwanda Population and Housing Census (RPHC) provided by the National Institute of Statistics of Rwanda and using the Multistage sampling design, a sample of youth was taken randomly from 20 districts. Note that Rwanda is divided into 5 provinces; each province is sub-divided into districts (the total number of districts is 30); each district into sector (417 sectors), and each sector into cells and each cell into villages (14,837 villages). The average village size is 610 residents which is equivalent to 133 households (NISR, 2012).

In the first selection stage, two third of all districts in Rwanda were randomly selected. The probability of selection for each district was proportional to the number of districts in each of five provinces in Rwanda. Using this methodology, 20 out of 30 districts were selected to participate. For the second stage sampling, using the

probability proportional to size sampling (PPS), 4 administrative sectors in each district were selected (4*20= 80 sectors) and in each sector, one village was selected. For the final sampling stage, the sampling frame was a complete list of households with names of all residents and using a systematic sampling, 28 households per village were selected.

Therefore, the total number of households visited was 2240 and all youth aged between 14-35 found in selected households was systematically recruited. In the process of visiting sampled households, in some households there were no youth however this was compensated for by household that comprised of more than one youth.

2.2.2 Demographic profile of surveyed Youth

The final sample was 2479 and the description of the sample can be found from Table 2.1.

Table 2.1: *The demographic profile of participants*

	Percent		Percent
Gender		Rural or Urban	
Male	56.0%	Rural	83.30%
Female	44.0%	Urban	16.70%
Marital status		UBUDEHE classification	
Single	60.10%	Extremely poor	2.10%
Married	37.60%	Very poor	4.90%
Separated	1.00%	Poor	54.40%
Divorced	0.70%	Resourceful poor	35.10%
Widowed	0.70%	Food or money rich	3.40%
Are you still a student, finished studies, dropped school		Could do you be still having parents	
Still a student	23.20%	Yes, both	45.80%
Finished studies	12.00%	Yes, one	39.70%
Dropped school	51.10%	No	14.40%
Never had a chance of going to school	13.80%		

As indicated previously, the minimum age of the respondents in the sample was 14 years and the maximum was 35 years of age with a mean age of 23.2 years, a median of 23 years and a standard deviation (SD = 5.52). The mean of youth recruited per district is 124 youth (range 89-150). 61.4% of them resided in households classified by UBUDEHE as “poor”, while 35.1% was classified in the upper socio-economic class.

Concerning the marital status, 37.6% of the respondents reported their marital status as married, and the largest proportion of the total sample (60.1%) reported being single at the time the study was conducted. 56% (n=1388) of the total participants were males and 44% (n=1091) females. Students were 23.2%, (n=575) those who considered that they finished their studies were 12.0%, (n=297) those who dropped school at primary or secondary school level were 51.1% (n=1266) and 13.8% (n=342) never had chance to go to school.

2.3 Measures

- A structured questionnaire with thirty-one close-ended questions was used. This questionnaire was specifically designed to obtain socio-demographic information of participants, information about the use of alcohol, tobacco, cannabis and other drugs among youth in Rwanda. Lifetime use of a substance was defined as ever use of any of substances in a lifetime, while current use was defined as the use of any of the substances in the last 12 months with continuing use within the last 30 days preceding the survey.
- Misuse and Dependence to alcohol, marijuana and tobacco were operationally assessed by 3 instruments:
 - The Alcohol Use Disorders Identification Test (AUDIT): to date, more than 25 questionnaires screening for alcohol dependence were described in the literature and many studies have shown that their performances was at least equal to laboratory tests (paille, 2002). Among widely used questionnaire, there is AUDIT questionnaire. The AUDIT questionnaire developed by the World Health Organization for the early identification of misuse and dependence has been found to be valid for this study. It is a 10-item screening questionnaire with 3 subscales: 3 questions on the amount and frequency of drinking, 3 questions on alcohol dependence, and 4 on problems caused by alcohol. (Babor et al, 2001)
 - The Cannabis Abuse Screening Test (CAST): is a 6-item scale basically designed for adolescents and young adults to identify problematic forms of cannabis use leading to negative consequences on a social or health level for the user. The major advantage of this instrument is that it is brief and easy to administer. (Piontek, 2008; Legleye, Karila, Beck, Reynaud, 2007).

- The Hooked on Nicotine Checklist (HONC): is a 10-item instrument used to determine the strength of tobacco dependence. It is a reliable and valid measure of diminished autonomy over tobacco and it is used in smokers of all ages (Wellman et al, 2006; DiFranza JR, et al., 2011). The number of positive responses reflects the degree of dependence.

2.4 Procedure

2.4.1 Pilot study

The original tool of data collection is in English and was translated in Kinyarwanda by a professional translator and later back translated in English by a different professional translator, with comparison of the two versions. The questionnaire was pre-tested among youth from 4 *imidugudu* villages in Kigali that was not part of sampled villages in our study. This was important since some scales were used in the American, European and other African settings not in Rwanda so as to adapt it to the Rwanda context.

Results of the pilot study showed that there were some answer options that were missed out yet are of significant importance in the trend of substance use in Rwanda; questions 8, 14 and 27 therefore adapted to the Rwanda context. This pilot study also helped the research team to plan a head since it helped to estimate the time to interview a single respondent (average 27 minutes).

2.5 Data collection

Previously trained research assistants were given house hold lists with sampled household highlighted in yellow with attached sketch maps of the administrative cells showing the approximate location of the household on the sketch map. The questionnaire was administered during home visit by research assistants with a background in social, psychology and medical sciences who were trained in the use of the survey instrument. Data collection commenced after all required ethical approvals were obtained.

2.6 Ethical considerations

The present study was approved by the Ethical Review Board of Kigali Health Institute (KHI), the National Institute of Statistics of Rwanda (NISR) and the Ministry of youth Republic of Rwanda (MINIYOUTH). Verbal permission to interview the eligible Youth was sought and granted from the grass root/local authorities. Participants were explained that participation was voluntary and those who would participate their identification would remain anonymous and confidential; objectives and significance of the research were explained to the respondents, consent forms signed. The informed consent of adolescents aged below 18 years was obtained from respective parents or guardians. During the data collection, codes were used instead of names and those who were found to be abusers were referred to where they can be assisted in centers and hospitals near their location where possible. Raw data will be kept during 5 years in envelopes that will be kept in locked cupboards at the research unit of Kigali Health Institute (KHI). Only analysis of the data will be presented to the relevant authorities for appropriate decision. Results of this study will also be published for academic and policy purposes.

2.7 Data analysis

Primary data was coded and entered using Epi Info version 3.1 then STATA 11 software was used for statistical analysis. Descriptive Statistics and association were used to report the results. Chi-square test was used to evaluate the association between categorical variables. The level of significance was set at $\alpha = 0.05$ and p-value was considered significant if less than 0.05.

3

Results

3.1 Prevalence of drug/substance use among youth

3.1.1 Lifetime prevalence (experimentation)

Table 3.1: *Prevalence of drug/substance use, all substances combined (n=2479)*

	Drug use	[95% Conf. Interval]	
Yes	52.50%	50.60%	54.50%
No	47.50%	45.50%	49.40%

In the present study, youth were asked if they had ever used one or more psychoactive substances or drug. The results of this study showed that more than half 52.5% of the participants reported that they had used one or more substances at least once in their life time. Thus, the lifetime prevalence rate for drug / substance use among youth in Rwanda (n=2479) was 52.5% (50.6%-54.5%). Description of each substance use (experimentation) by youth can be found from Table 3.2. Note that one person can use more than one substance.

Table 3.2: *Trends of substance use by youth in Rwanda*

	N	Proportion	[95% Conf. Interval]	
Alcohol	2479	50.60%	48.70%	52.60%
Cigarettes	2479	10.60%	9.40%	11.80%
Marijuana/Hashish	2479	4.40%	3.60%	5.20%
Glue	2479	0.50%	0.20%	0.80%
Medicines like Diazepam	2479	0.10%	0.0%	0.30%
Others	2479	0.8%	0.50%	0.11%

50.6% of the respondents had consumed alcohol at least once in their life time, 10.6%

use tobacco, 4.4% use cannabis, 0.5% had used inhalants and other solvents and 1% had used other drugs like kanyanga, diazepam, or local brews prepared for instance from sorghum, sugar and cannabis, imanurajipo, etc....

Among those who had consumed one or more substances at least once in their life time, 69.91% are males and 30.09% of females reported drugs use at least once in their life.

3.1.2 Did youth try again after the first experimentation?

Table 3.3: *Maintenance of drug use after the first experimentation*

	Drug use	[95% Conf. Interval]	
Yes	92.70%	90.70%	94.70%
No	7,3 %	5,3%	9.30%

According to the findings shown in Table 3.3, cessation of substance or drug use after the first experimentation is not as abundant as it could be expected. Only 7.3% were able to stop substance use after the first experimentation. 92.7% of youth retried to use again substance and as it will be discussed below, some of them become social users and others regretfully misuse substance and developed moderate or serious problems with drugs.

3.1.3 Past 12 months Prevalence (current use) and Past-30-day prevalence rates (continuing use)

Lifetime prevalence of use (whether the person has ever used the drug) is a good measure of Youth experimentation. But past 12 months prevalence and past-30-day prevalence (whether the youth has used the drug within last year or the last month) are good measures of current and continuing use. (Rothenbach Research and Consulting, Florida Department of Children & Families Substance Abuse Program, 2006). The following Table 3.4 shows in three columns the lifetime prevalence, current and continuing use and allow to compare evolution and relationship between these 3 main measures of drug use prevalence.

- For the past 12 months and past 30 days, Alcohol was, by far, the most widely reported substance used, respectively 39% and 34%.

Table 3.4: Lifetime prevalence, current and continuing use

	Lifetime Prevalence (experimentation)	Past 12 months Prevalence (current use)	Past-30-day Prevalence (continuing use)
Alcohol	50.60%	39%	34%
Cigarettes	10.60%	9.50%	8.50%
Marijuana	4.40%	2.90%	2.70%
Glue	0.50%	0.20%	0.20%
Medicines like Diazepam	0.10%	0.10%	0.10%

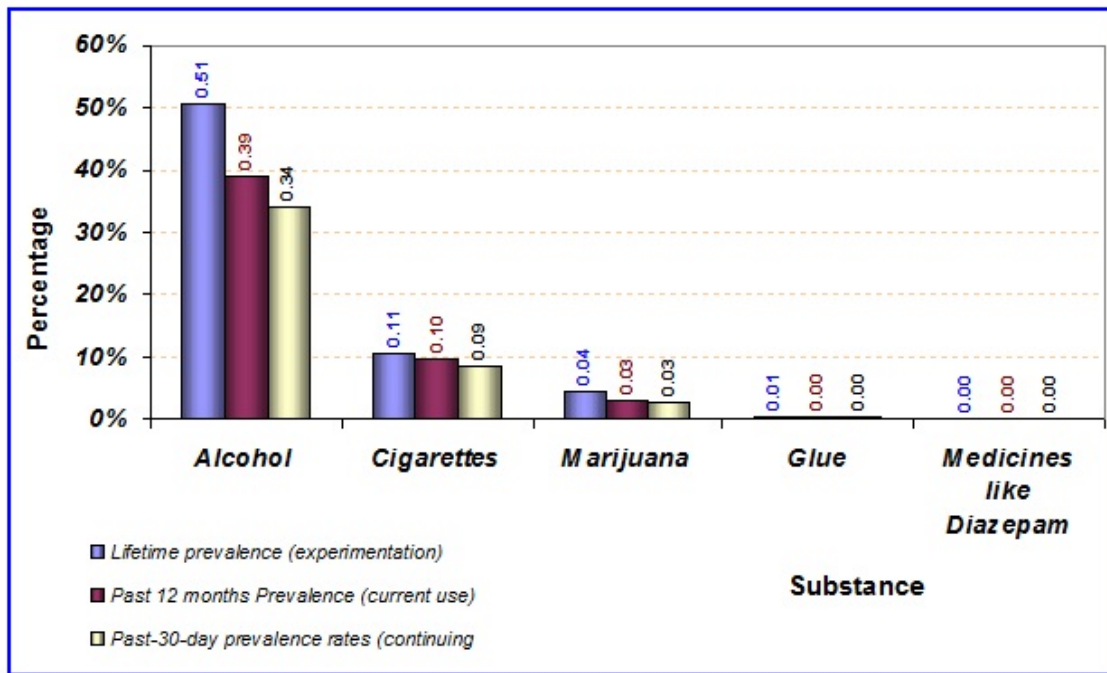


Figure 3.1: Lifetime prevalence, current and continuing use

- Next most used were cigarettes: 9.5% of youth reported to have use for the past 12 Months cigarettes and 8.5% continued to use it for the past 30 days.
- Only a small proportion of youth (0.2%) reported to have used glue for the past 12 months and the same proportion continued to use glue during past 30 days.

Even if rates tend generally to decrease from the lifetime prevalence to the current and continuing prevalence of drug use, the Table 3.4 shows that it still difficult to put an end to substance use after the first trial. Once youth experiment drug, it is easy for them to continue consumption until today, especially for tobacco, marijuana, glue and medicines like diazepam, where rates still quite identical for 12 months and past-30-day prevalence.

3.2 From Substance/drug use to the misuse and dependence phase

One of good news is that every youth who used one or more drug during past 30 days were not necessary under a strong addiction. To examine this particular aspect and track the level of addiction, we used in the present study additional indicator that assess the gravity of substance use.

3.2.1 Frequency of use as first indicator

Table 3.5: *Frequency of substance use among youth in Rwanda (during last 12 Months)*

Drug/substance	N	Every day	Once a week	Once a month	Once a year
Alcohol	967	23.70%	51.00%	22.40%	2.90%
Cigarettes	235	87.20%	9.40%	3.00%	0.40%
Marijuana/Hashish	67	58.20%	29.90%	7.50%	4.50%
Medicines like Diazepam	4	50%	25%	25%	0%
Glue	5	60%	2%	20%	0%

We asked the youth who had used one or more substance / drug in the past year how often they use it. About 23.7% reported that they used alcohol on a regular basis (every day). The proportion was a little bit higher for tobacco (87.2%), cannabis (58.2%), medicine like diazepam (50%), glue (60%). The regular use indicates that risk of being addicted should be real but to confirm it we need additional information.

3.2.2 Alcohol Misuse

Table 3.6: *Alcohol Misuse for the last 12 months (n = 967)*

Score alcohol (AUDIT)	Frequency	Percent
0-7 = No problems related to alcohol use	493	50.98
8-15 = hazardous and harmful alcohol use	289	29.88
16 and above =Alcohol problems and dependence	185	19.13
Total	967	100

Using the Alcohol Use Disorders Identification Test (AUDIT) developed by the World Health Organization for the early identification of misuse and dependence on our sample of alcohol users, it was found that 50.98% among them had a total score in the

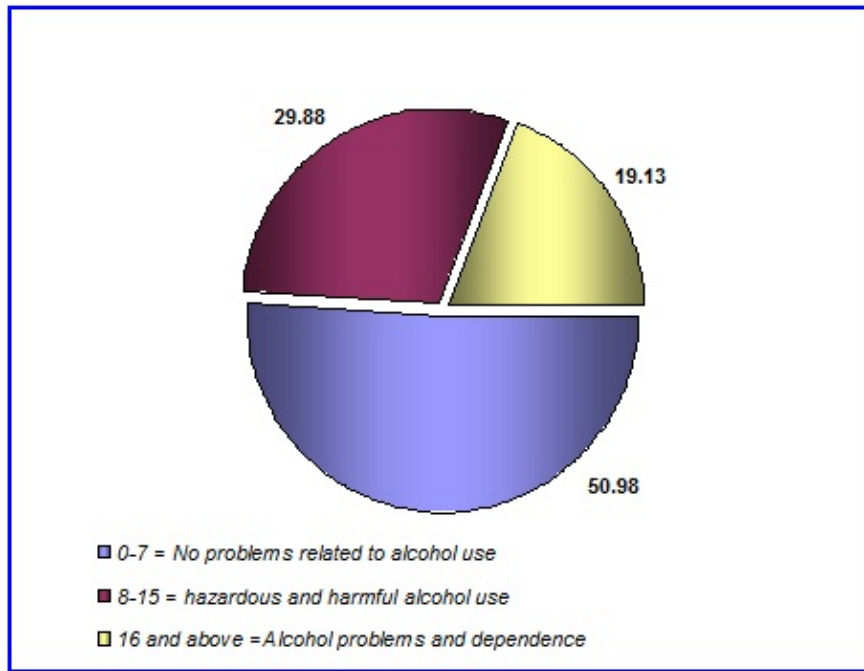


Figure 3.2: Alcohol Misuse for the last 12 months (n = 967)

range of 0-7, which means absence or low risk of alcohol related problems. AUDIT scores in the range of 8-15 represent a medium level of alcohol problems called by some authors "hazardous and harmful alcohol use" and 29.88% of alcohol users in our sample fall in this range. Scores of 16 and above represent a high level of alcohol problems. We found that among those who took alcohol during last 12 months (n = 967), near 20% of them (n=185) is already alcohol dependant. In other words, 7.46% of our total sample (185 / 2479) is alcohol dependent and according to the WHO, they might be suggested sessions of counseling and continued monitoring.

3.2.3 Tobacco Misuse

Table 3.7: Tobacco Misuse among those who ever smokes/life prevalence (n=263)

Score Tobacco (HONK)	Frequency	Percent
0 = No problems related to tobacco use	53	20.15
1 = loss of autonomy in tobacco use	11	4.18
2-6 = risk of nicotine dependence	78	29.66
7 and above = nicotine dependence	121	46
Total	263	100

The misuse of cigarettes was assessed using the Hooked on Nicotine Checklist (HONC)

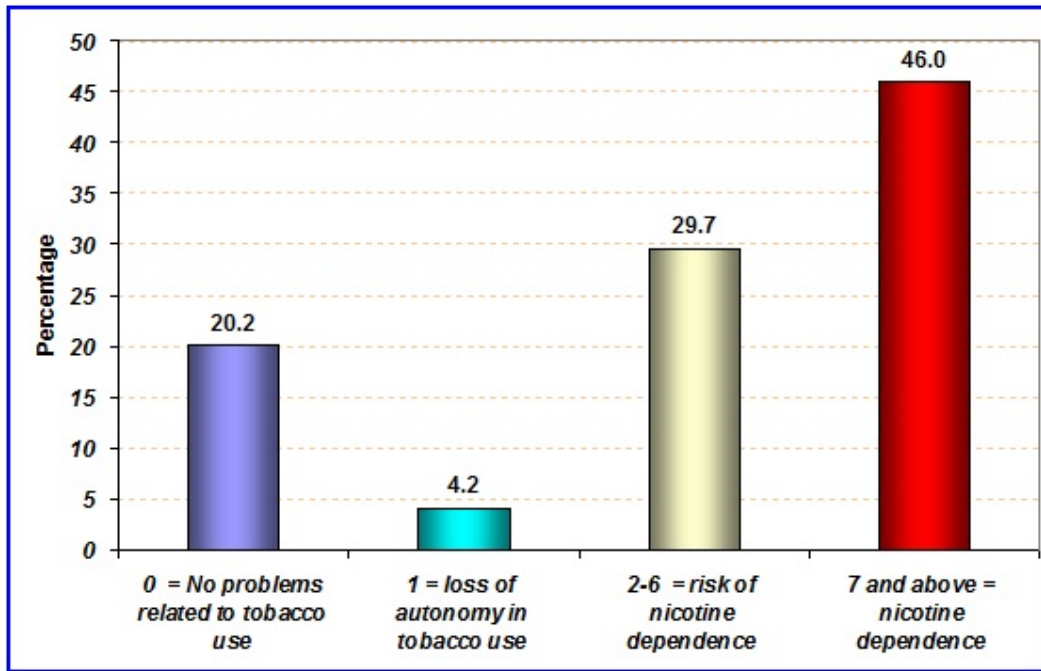


Figure 3.3: Tobacco Misuse among those who ever smokes/life prevalence (n=263)

and results show that 29.66% were at risk of becoming dependant while 46% were already dependant on nicotine. On this basis, we can conclude that 4.88% of our total sample (121/2479) has problems of dependence on nicotine.

3.2.4 Cannabis Misuse

Table 3.8: Misuse and dependence on marijuana (life prevalence n=108)

Score cannabis (CAST)	Freq.	Percent
0-1= Low risk of dependence	34	31.48
2-3 = Problematic use of cannabis	11	10.18
	63	58.33
4 and above = dependence		
Total	108	100

The misuse of cannabis was assessed using the Cannabis Abuse Screening Test (CAST), CAST assesses problematic use and dependence of cannabis. The results show that 10.18% had a mid risk of becoming dependant while 58.33% were already dependant on cannabis. On this basis, we can conclude that 2.54% of our total sample (63/2479) has problems of dependence on cannabis.

Even if drug use rates are decreasing from lifetime prevalence to the past 30-day

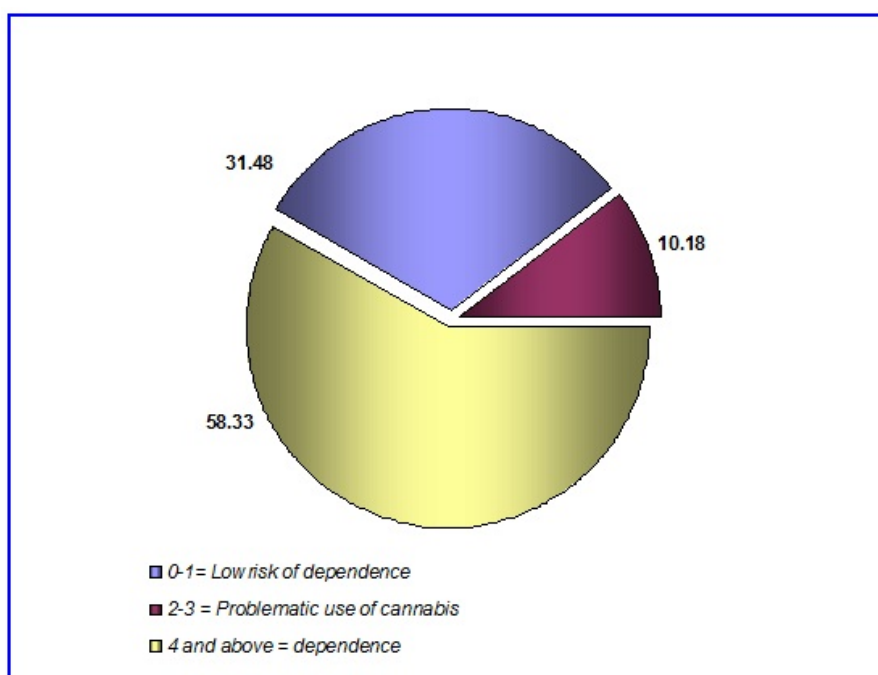


Figure 3.4: Misuse and dependence on marijuana (life prevalence n=108)

Table 3.9: Overview of drug use and dependence rates

	Lifetime Prevalence (experimentation)	Past 12 months (Prevalence) (current use)	Past-30-day Prevalence (continuing use)	Dependence
Alcohol	50.60%	39%	34%	7.46 % (based on AUDIT score)
Cigarettes	10.60%	9,5 %	8,5 %	4.88 % (based on HONC score)
Cannabis	4.40%	2.90%	2.70%	2.54 (Based on CAST score)
Glue	0.50%	0.20%	0.20%	Not assessed
Medicines like Di-azepam	0.10%	0.10%	0.10%	Not assessed

prevalence rates, it important to note that when using tools assessing misuse and dependence (AUDIT, HONC, CAST) on our sample (n=2479), the rate of confirmed dependence among youth in Rwanda became 7.46% (alcohol), 4.88% (Nicotine), 2.54% (cannabis).

Table 3.10: Drug Combination Rates

	Freq.	Percent
Alcohol only	996	77.03
Marijuana only	16	1.23
Cigarette only	18	1.39
Tobacco and Marijuana	4	0.31
Tobacco and alcohol	171	13.22
Marijuana and alcohol	18	1.39
All the 3 drugs	70	5.41
Total	1293	100

Regarding patterns of multiple drug use of alcohol, tobacco and cannabis, it was found that the prevalence of the 3 drugs at the same time to increase effect is 5.41%. The prevalence of the use of alcohol associated to tobacco was 13.22%.

3.3 Social demographic distribution of substance use among youth in Rwanda

3.3.1 Age of onset

Table 3.11: Age of onset

Age groups	Frequency	Percent
0-5	332	25.46
6-10	309	23.7
11-15	306	23.47
16-20	280	21.47
21-25	56	4.29
26-30	19	1.46
31+	2	0.15
Total	1,304	100

Substance use among youth in Rwanda has been found to be as low as 11.4 year of age, median 11 years, standard deviation 6.43, minimum 1 year and 35 years.

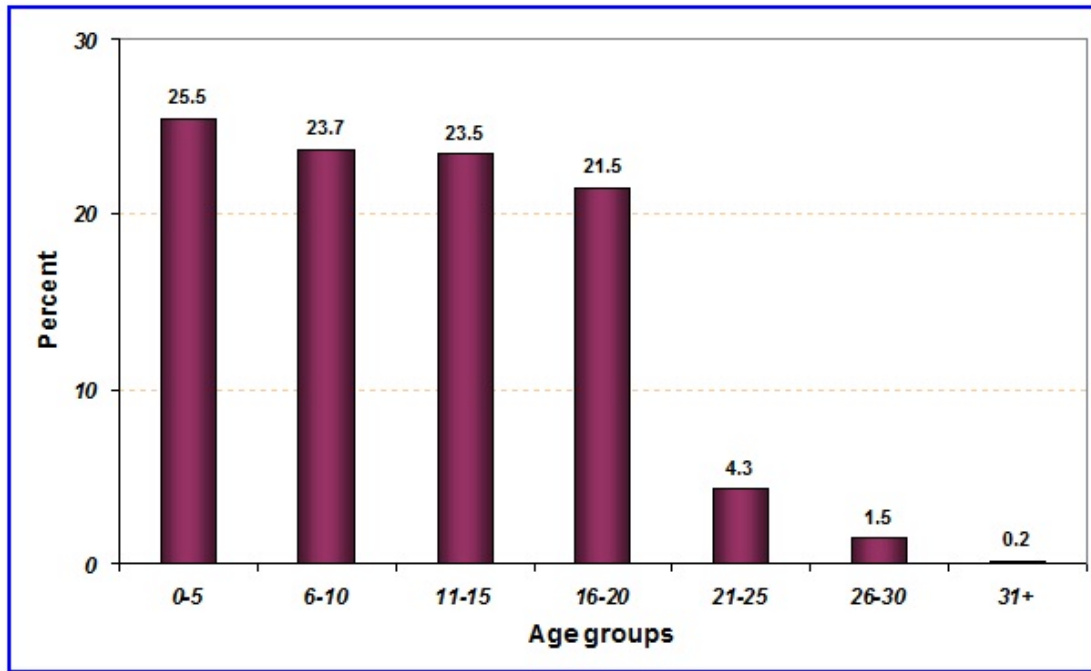


Figure 3.5: Age of onset

3.3.2 Gender and substance/ drug use

Table 3.12: Gender and substance/ drug use

Sex	Male	Female
Cigarettes	95.04%	4.96%
Marijuana/Hashish	97.22%	2.78%
Alcohol	69.73%	30.27%
Glue	100.0%	0.00%

It was established that substances/drugs are used by both male and female youth however it is more prevalent among male youth than female youth. Among all the participants who reported using cannabis/marijuana (97.22% were males, while slightly more than 95% reported using cigarettes and all those who reported using glue were males (100%). Females prefer alcohol to other substances/drugs (30.27%).

3.3.3 Residence area and substance/drug use

Drug use was also found in both rural and urban areas. In general, rural areas seems to be the most affected by the problem of substance/drug use.

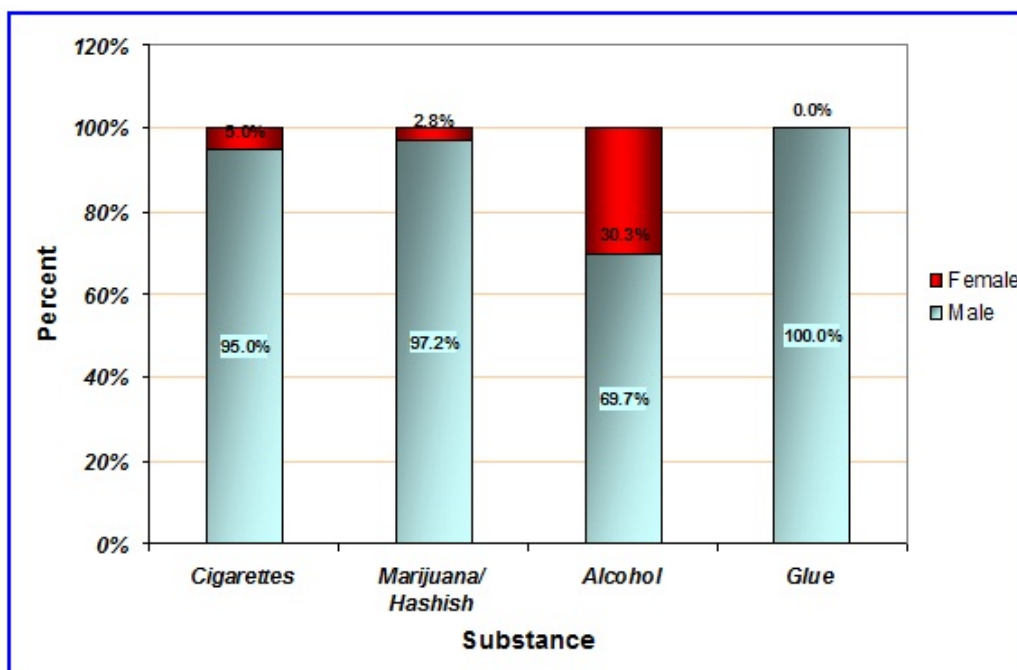


Figure 3.6: Gender and substance/ drug use

Table 3.13: Residence setting and substances used

	Rural	Urban
Cigarettes	80.99%	19.01%
Marijuana/Hashish	66.67%	33.33%
Alcohol	86.60%	13.40%
Glue	83.33%	16.67%

3.3.4 Distribution of Substance/ drug among different Provinces in the Country

Table 3.14: Substance/ drug users per Province

	East	Kigali	North	West	South
Cigarettes	21.67%	9.89%	12.55%	23.57%	32.32%
Marijuana/Hashish	25.00%	21.30%	6.48%	20.37%	26.85%
Alcohol	22.55%	8.13%	17.61%	24.06%	27.65%

Generally Southern Province is the most affected Province by all drugs. Cannabis is the most used drug in Kigali city (21.30%), eastern (25%) and southern (26.85%) provinces while Northern Province (6.48%) is the least affected by cannabis. To our surprise, Kigali city has the smallest proportion of alcohol users (8.13%). Alcohol use is widely used by youth in the Southern (27.65%) western (24.06%) eastern (22.55%),

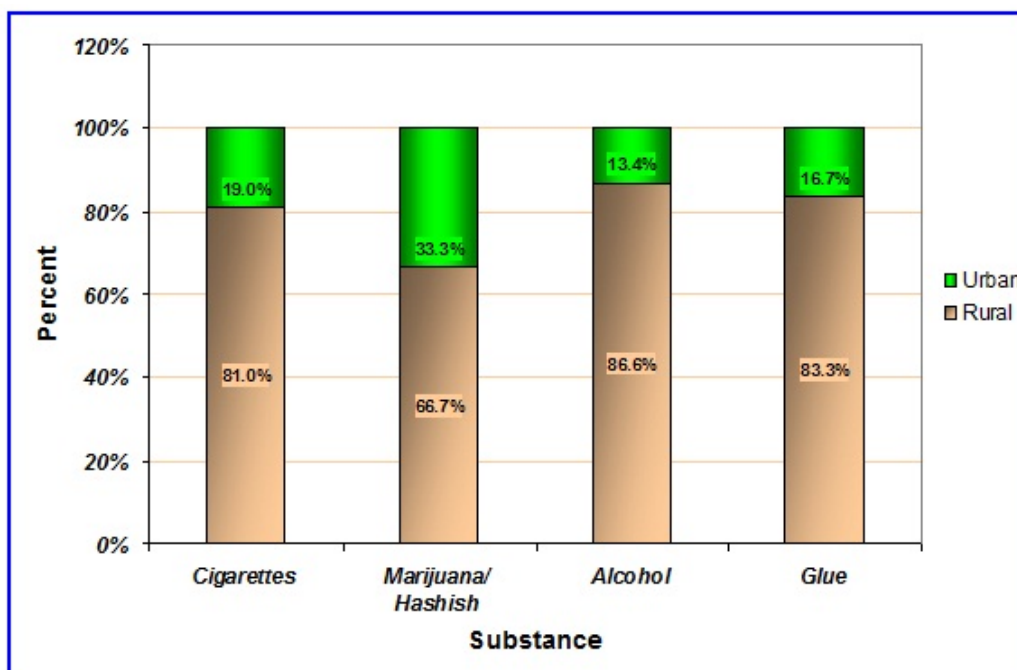


Figure 3.7: Gender and substance/ drug use

Nothern Provinces and least used in Kigali city respectively. were most alcohol consumers.

3.4 Motivation and risk factors leading to substance use among youth in Rwanda

3.4.1 Motivation

Table 3.15: Reported motivations to substance/drug use

Motivation	Yes	No
I wanted to feel high	96.0%	4.0%
I wanted to increase strength and mind	98.6%	1.4%
I wanted to fit in the group	87.9%	12.1%
I was curious	81.2%	18.8%
I was in sad moments	97.7%	2.3%
I wanted to forget my problems	95.5%	4.5%

Most of the youth who used drugs reported more than one motivational factor for their drug use: 96% of the youth wanted to feel high, 98.6% wanted to increase strength and 87.9% of surveyed youth wanted to fit in the group. Nearly 98% used drugs as

"they were in sad mood" and 95.5% identified clearly the motivation for their drug use was "helps to forget their problems". All these responses are indicative of the fact that motivation to drug use is a combination of many factors such as a) youth emotional problems, b) peer group effect and, c) the exploration or search of positive feelings in adolescence and young adult period.

3.4.2 Potential risk factors for substance use among youth in Rwanda

Table 3.16: *Potential risk factors to substance use (1)*

	Have you ever used any drug/substance		p
	Yes (%)	No (%)	
Gender			
Male	67.03	32.97	0.000
Female	36.92	63.08	
Residence area			
Rural	55.61	44.39	0.000
Urban	45.12	54.88	
Do you be still having parents			
Yes, both	50.22	49.78	0.000
Yes, one	54.97	45.03	
No	62.61	37.39	
Age groups			
10-15	30.77	69.23	0.000
16-20	39.95	60.05	
21-25	59.03	40.97	
26-30	65.55	34.45	
31-35	68.54	31.46	
Are you still a student, finished studies, School dropout			
Still a student	32.63	67.37	0.000
Finished studies	57.29	42.71	
School dropout	59.12	40.88	
Never went to school	66.96	33.04	

Gender, Age and area of residence:

In Table 3.16 the relationship between drug use and gender is shown. The results show that the proportion of male youth using drugs (67.03%) was near double that of females (36.92%) and this difference was statistically significant ($p = 0.000$). Table 3.16 also demonstrates that the rate of substance use increases as youth gets older: 30.77% of Youth aged between 10-15 reported to use one or more drug com-

Table 3.17: Potential risk factors to substance use (2)

	Have you ever used any drug/substance		p
	Yes (%)	No (%)	
Marital Status			
Single	48	52	0.000
Married	60	40	
Separated	50	50	
Divorced	55.6	44.4	
Widowed	52.9	47.1	
Ubudehe category			
Extremely poor	48.1	51.9	0.266
Very poor	58.7	41.3	
Poor	52.8	47.2	
Resourceful poor	53.3	46.8	
Food rich	42.6	57.4	
Money rich	40	60	
Province			
East	46.1	53.9	0.000
Kigali	44.5	55.5	
North	59.4	40.6	
West	49.3	50.7	
South	61.8	38.2	

pared to 69.23% who have never tried. Contrary, 68.54% of youth aged between 31 -34 and 65.55% of those aged 26-30 reported using drugs when correspondingly 31.46% (31-35) and 34.45% (26 -30) have never used it. Undoubtedly, the proportion of youth using drugs is gradually increasing with the progression in age ($p = 0.000$). Again, as indicated in Table 3.16, youth from rural areas were more likely to be involved in drug use than those from urban area ($p= 0.000$). This was for us quite surprising because we were expecting before the data collection to have more drug use in town areas but never the less this is a reflection of the minor differences in life style between these two settings in Rwanda. Other health related studies e.g HIV/AIDS shows a similar trend.

The effect of school and family on drug use:

Having parents or not and being or not student has also been found to have an influence on drug use. Youth without parents were more likely to use drugs than those with one or both parents ($p = 0.000$). We also found that many youth who used alcohol, tobacco and marijuana came from families where other family members use drugs ($p = 0.000$). These included parents, spouse, brothers and sisters and other

members of the extended family staying with them. According to the findings shown in Table 3.16, being student were associated to low rates of drug consumption while dropping school and never had chance to go to school were associated high prevalence rates of drug use.

Socio-economic classes of the family to which the youth belongs was found not to affect significantly substance/drug use among the youth population on ($p= 0.226$). The results of this study consistently show that substance/drug use is influenced by the geographical setting into which the participant lives. The Southern Province showed higher rate than other Provinces.

3.4.3 The trend of misuse and dependence among youth in Rwanda

Table 3.18: Alcohol misuse

	Alcohol misuse			p
	Social users (%)	On risk (%)	Dependence (%)	
Gender				
Male	68.33	18.66	13.02	0.000
Female	96.69	2.85	0.46	
Residence area				
Rural	80.86	11.95	7.19	0.343
Urban	80.63	10.41	8.96	
Could you be still having parents				
Yes, both	83.36	9.56	7.08	0.000
Yes, one	80.82	12.14	7.04	
No	72.75	17.13	10.11	
Age groups				
10-15	96.15	3.85	0	0.000
16-20	90.18	7.12	2.7	
21-25	77.19	13.16	9.65	
26-30	73.33	15.74	10.93	
31-35	71.05	16.45	12.5	
Are you still a student, finished studies, dropped school				
Still a student	94.58	4.37	1.05	0.000
Finished studies	77.1	13.13	9.76	
School dropout	76.21	14.2	9.6	
Never had a chance of going to school	78.53	13.24	8.24	

The Table 3.18 shows the factors influencing alcohol, tobacco and cannabis mis-

use and dependence, the results show that misuse and dependence follow the same trend as substance/drug use in the previous tables.

Dependence and misuse on alcohol was found to be significantly associated with gender, age, having parents and being a student or not ($p = 0.000$) however it was established that misuse and dependence were not significantly associated with where the youth lives/residence setting ($p = 0.343$).

Table 3.19: Marijuana misuse

	Marijuana misuse			p
	Social users (%)	On risk (%)	Dependence (%)	
Sex				
Male	94.65	0.8	4.56	0.000
Female	100	0	0	
Residence area				
Rural	97.72	0.29	1.99	0.000
Urban	93.46	1.21	5.33	
Do you be still having parents				
Yes, both	98.14	0.09	1.77	0.009
Yes, one	96.33	0.82	2.86	
No	95.22	0.56	4.21	
Age groups				
10-15	100	0	0	0.032
16-20	98.04	0.37	1.6	
21-25	96.2	0.88	2.92	
26-30	96.67	0	3.33	
31-35	95.39	0.66	3.95	
Are you still a student, finished studies, dropped school				
Still a student	98.25	0.35	1.4	0.133
Finished studies	97.31	0	2.69	
Dropped school	96.59	0.4	3.01	
Never had a chance of going to school	96.18	1.18	2.65	

Dependence and misuse on cannabis was also found to be significantly associated with gender, age, residence setting and having parents however it was established that misuse and dependence were not significantly associated with being a student or not ($p = 0.133$).

Table 3.20: Tobacco misuse

	Tobacco misuse			p
	Social users (%)	On risk (%)	Dependence (%)	
Sex				
Male	85.47	6.07	8.46	0.000
Female	99.26	0.37	0.37	
Residence area				
Rural	92.08	3.5	4.42	0.039
Urban	88.62	4.12	7.26	
Do you be still having parents				
Yes, both	94.6	1.77	3.63	0.000
Yes, one	89.69	4.69	5.61	
No	86.52	6.46	7.02	
Age groups				
10-15	99.23	0.77	0	0.000
16-20	96.69	1.72	1.6	
21-25	90.94	4.24	4.82	
26-30	86.3	4.81	8.89	
31-35	84.87	6.25	8.88	
Are you still a student, finished studies, dropped school				
Still a student	97.38	1.4	1.22	0.000
Finished studies	91.58	5.39	3.03	
Dropped school	89.77	3.73	6.5	
Never had a chance of going to school	87.94	5.29	6.76	

As shown in the Table 3.20 all the demographic factors were statistically significant (p=0.000) implying that these factors influence tobacco misuse and dependence to a greater extent.

3.5 Substance abuse and involvement in risk behaviors by Youth in Rwanda

Table 3.21: *Reported effects of Substance/drug use*

Reported effect	Among those who took alcohol (n=1255)		Among those who smokes (n=263)		Among those who took marijuana (n=108)	
	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)
Been involved in a fight	89.8	10.2	76.05	23.95	66.67	33.33
Had unprotected sex	94.42	5.58	84.79	15.21	74.07	25.93
Physically injured other person	98.49	1.51	97.72	2.28	94.44	5.56
Did something you regretted	81.91	18.09	71.1	28.9	64.81	35.19
Other effects	65.74	34.26	78.33	21.67	79.63	20.37

Substance use and involvement in risk behaviors by youth in Rwanda was surveyed by the question, *"If you used drugs/substance during the past 12 months, did you experienced any of the following consequence as effects of drug/ substance use? (Select all that apply)"*. 33.33% of those who used cannabis, 23.95% of tobacco smokers, and 10.20% of alcohol consumer reported having been involved in a fight as a consequence of drug use. Surveyed youth reported also having had unprotected sex and occurrence rates are more elevated in cannabis users (25.93%).

3.6 Summary

Prevalence: The results of this study showed that more than half (54%) of the participants (n=2479) had used one or more substances at least once in their life time, thus the lifetime prevalence rate for drug/ substance use among youth in Rwanda.

Frequency: This study found that among Youth who reported substance/drug use, 87.2%, 58.2%, half (50%), 60% and 23.7% use tobacco, marijuana/cannabis, diazepam, sniffers and other solvents, and alcohol every day.

Demographic distribution: It was established that both Boys and Girls abuse drugs/ substances however more boys (67.03%) abuse substance more than Girls (36.92%). Rural dwellers abuse substance more than those in urban areas.

Geographically Southern region is more affected than other regions followed by East and West while Northern region is less affected.

Factors reported leading to substance use consequently leading to abuse were; substance use is thought to:

- Increase physical strength and mind,
- Wanted to feel high
- Sad mood
- Wanted fit in the group
- Helps to forget our problems
- youth wanted to feel high.

All these responses are indicative of the fact that motivation to drug use is a combination of many factors such as:

- a) Youth emotional problems,
- b) Peer group effect and,
- c) The exploration or search of positive feelings in adolescence and young adult period.

Substance use and involvement in other risk behaviors:

Substance use and involvement in risk behaviors by youth in Rwanda was surveyed by the question, *"If you used drugs/substance during the past 12 months, did you experienced any of the following consequence as effects of drug/ substance use?"*

Substance users/consumers reported having been involved in a fight as a consequence. Surveyed youth also reported having had unprotected sex as a consequence of substance use and occurrence rates are more elevated in cannabis users.

4

Discussion

Tobacco, alcohol, marijuana and other drug use are prevalent in Rwandan youth. The present research evidenced this by providing some data on prevalence and risk factors associated to drug use and abuse among youth in Rwanda. Therefore the findings of the present study revealed that the past-30 day prevalence (whether the youth has used the drug within last month) was 34% for alcohol, 8.5% for tobacco smoking, 2.7% for cannabis, 0.2% for glue and 0.1% for medicines like diazepam. Other similar research studies have shown that Adolescence and young adult period are particular moments of vulnerability whereby it is easy to experiment and to abuse drug /substance. It is, therefore, significant in terms of the development of health related behaviours since it is a time when many new behaviours are explored, some of which may become established and continue through to adulthood (Niaz et al, 2005; Flanagan et al 2003).

Beyond the stage of experimentation or usage, some youth were found, after the screening obtaining scores that put them into categories of misuse and dependence. The study revealed that 7.46% of our total sample was alcohol dependent, while 4.88% and 2.54% had respectively problem of being dependant on nicotine and cannabis. Various factors leading to drug and a set of risk factors associated with drug use, including age, gender, residence area, have been discussed.

Several studies on prevalence of drinking, smoking and other illicit drug use among youth have been conducted and it is not easy to compare results when we know that age group considered and other characteristics (young students versus rural youth) are so different. However, the following table can give an idea of how important are rates found in our study, compared to results from other countries.

In general, the prevalence of alcohol, tobacco and cannabis use in our study was relatively low compared to rates from American and European studies (Poulin, 1997, Janes et al, 2006; Lila et al, 1997) or in African countries like Kenya, Uganda, Nigeria, south Africa (Otieno & Ofulla, 2009; Oshodi et al, 2010; Parry, 1998) but the rate of drug use in Rwandan youth remain high, especially when we consider the level of dependence on different substances.

Table 4.1: *Prevalence rates in different countries*

	USA (Florida Youth Survey, 2006)	Europe (from Flanagan et al, 2003)	Canada (Poulin, 1997)	Africa Kenya (Otieno & Ofulla, 2009) Nigeria (Oshodi, Aina, Onajole, 2010)	Rwanda
Lifetime prevalence					
Alcohol	56.10%	Ireland (92%), Denmark (59%) The average rate (89%)	54.20%	Kenya (57.9%) Nigeria (9.2%)	50.60%
Tobacco	30.60%	Highest in Greenland and the Faroe Islands, Ireland (75%-85%)	34.90%	Kenya (34.7%) Nigeria (5.2%)	10.60%
Cannabis	22.50%	Highest rates in France, the Czech Republic and the UK and Ireland, (32% to 35%) Lowest rates in Cyprus and Romania (1%-2%)	32.10%	Kenya (18.3%) Nigeria (4.4%)	4.40%
Past 30 days prevalence					
Alcohol	32%	Highest rates in Ireland (57%) and Denmark (64%)	-	Nigeria (8.9%)	34%
Tobacco	10.60%	Highest rates in Greenland and Ireland (25% - 57%)	-	Nigeria (3.0%)	8.5%
Cannabis	11.40%	Highest rate in France (22%) and Ireland (15%)	-	Nigeria (3.3%)	2.70%

5

Conclusion and Recommendations

This study established that more than half of the youth use substance/drug (52.4%), though use and abuse increase with age, the age of onset is as low as 11 years of age and this is almost secondary school age-going this implies that prevention programs should start as early as primary school level and continue to Secondary School.

Most participants who reported using and/or abusing drugs reported that the reasons were "wanted to feel high", "wanted to increase strength and mind", "wanted to fit in the group", "was curious", " was in sad moments" all these responses are indicative of the fact that motivation to drug use is a combination of many factors such as a) youth emotional problems, b) peer group effect and, c) the exploration or search of positive feelings in adolescence which lie in the psychosocial domain therefore the strategies should fall under social influence model – the most promising of the substance-use prevention models to date. The basic premise is that youths who use substances do so because of social pressures from peers, the family, and the media, as well as internal pressures (e.g., stress, the desire to be cool and popular). Along with an information component on health and social consequences, these programs should seek to teach methods to counter those pressures, and, more importantly, attempt to motivate youth to resist them. One way this is done is through normative education which seeks to undermine popular beliefs that drug use is prevalent and acceptable. Highlighting antidrug social norms and attempting to form non-use norms by discussing alternative ways to achieve the perceived benefits of substance use/abuse.

A number of youth who are drug/substance users reported coming from families in which there are other family or parent(s) using/abusing drugs therefore need for intervention programs to start as early as pre-school age and include the family. This

study has established that certain sections of the youth are more vulnerable than others example geographically the Southern Province has the highest prevalence rates therefore counteracting programs needs to target youth in this Province, youth who did not have a chance to go to school were highlighted to be using/abusing drugs more than others therefore prevention programs should take account of this section.

NB: Targeting is preferred rather than generalization approach as most successful programs recommend.

Youth, parents, teachers, civil society and public institutions concerned with prevention and treatment of drug related-problem should be informed of the this rising epidemic of drug abuse among the Rwandan youth. The study recommends that early intervention should target school and non school youth, urban and rural area with the aim of preventing drug use at early age and continue with their development.

6

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Institutional Review Board

3rd November 2010

KHI/IRB/. 27/2010

Mr. Maurice KANYONI
Kigali Health Institute

RE: ETHICS CLEARANCE

Dear Mr Kanyoni,

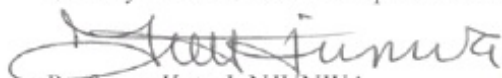
Reference is made to your application for ethics clearance for the study entitled *"Psychoactive Substances Abuse Among the Youth in Rwanda."*

You will be pleased to learn that the ethics clearance has been granted by the Institutional Review Board (IRB) to your study. Nevertheless, you shall be obliged to take into consideration the following main issue raised by the reviewers:

- To should submit the study instrument (i. e. questionnaire) to the reviewers
- The procedure for conducting the study not included in proposal
- Need to state the strategies to be used in obtaining consent for those aged 15 years and less
- Need to elaborate the definition of youth as per the ministry of youth
- Need to indicate whether or not there shall be interventions for participants in need.

You shall, be required to submit the progress report and any other major changes made in the proposal during the implementation stage. Also, at the end of the study the Institutional Review Board shall also require to be given a final report of the study.

I wish you success in this important study.


Professor Kato J. NJUNWA

Chairperson, KHI Institutional Review Board



CC:

- Rector, KHI
- Vice Rector, Academics and Research, KHI
- Chairperson, Rwanda Ethics Committee
- Members of IRB

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Questionnaire