RISK FACTORS ASSOCIATED WITH SUBSTANCE ADDICTION IN YOUTH CONSULTING MENTAL HEALTH SERVICE IN RWANDA: A CASE OF KIGALI UNIVERSITY TEACHING HOSPITAL

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Abstract: The purpose of this research is to assess the risk factors of substance addiction among young adult with a case of Kigali University teaching hospital, Rwanda. The study was guided with three specific objectives: to identify the proportion of drug addiction, to establish risk factors associated with drug addiction in youth drug abusers consulting and to explore barriers to substance cessation in youth drug abusers consulting mental health service. The cross-sectional research design with a qualitative and quantitative approach was used and data was collected using an interview guide and a questionnaire. The 121 Respondents of the study was selected from the target population of beneficiaries. The IBM SPSS 21.0 statistical software and Microsoft Office Excel 2016 software were used to analyze coded data. Descriptive and inferential statistics were computed to find answers to study questions. Descriptive statistics included frequencies and mean, and was run to describe participants' demographic and characteristics. Inferential statistics were computed to identify factors associated with substance addiction and they comprised bivariate and multiple logistic regression analysis. Adjusted odds ratios were computed to examine the strength of the association of every risk factor to substance addiction. A p-value of ≤0.05 was considered as statistical significance. Results indicate that 51% of the participants are addicted to drugs and 49% of them are not addicted. A statistically significant association between age and substance addiction was found (AOR 6.7, 95% CI 2.6-17.7, p<0.01). Youth substance users between 30-35 years old are 6.7 times more likely to be addicted to substance compared to those who are less than 30 years old. Marital status also has statistically significant association between being married and substance addiction observed (AOR 3.7, 95% CI 1.3-10.6, p<0.05).

Key words: Substance, Substance abuse, Substance abuser, Addiction, Risk factor, Youth.

1. INTRODUCTION

Background of the Study

Addiction is a chronic, relapsing brain disease defined by physical and psychological dependence on drugs, alcohol or a behavior. A person suffering from addiction will often continue their toxic habits, even if they are endangering themselves or others. Addiction is a serious problem that affects millions of people. It's important to know the facts about addiction to better understand how certain substances can impact your life. More importantly, addiction statistics show that, if you're struggling with addiction or know someone who is, you're certainly not alone (World drug report, 2019).

According to the report, some 284 million people aged between 15 and 64 will be using drugs worldwide in 2020, an increase of 26% on the previous decade. Young people are taking more drugs, and in many countries, consumption levels are now higher than those of the previous generation. In Africa and Latin America, people under 35 accounts for the majority of those treated for drug-related disorders. Globally, the report estimates that 11.2 million people worldwide inject drugs. Nearly half of them are living with hepatitis C, 1.4 million with HIV and 1.2 million with both. In America, nearly 21 million Americans suffer from at least one addiction, but only 10% of them receive treatment. Overdose deaths have more than tripled since 1990. Alcoholism and drug addiction cost the US economy more than $600 billion a year.

Around 20% of Americans suffering from depression or anxiety disorders also have a substance use disorder. Over 90% of people suffering from addiction started drinking alcohol or using drugs before the age of 18. Americans aged 18 to 25 are the most likely to use addictive drugs. In Europe, an estimated 83.4 million adults (aged 15-64) in the European Union, or 29%, have used an illicit drug, with more men (50.5 million) than women (33.0 million) reporting use. Cannabis remains the most widely used substance, with over 22 million European adults reporting having used it in the past year. Stimulants are the second most frequently reported category. In the past year, an estimated 3.5 million adults used cocaine, 2.6 million MDMA and 2 million amphetamines. Around 1 million Europeans have used heroin or other illicit opioids in the past year. (European drug report,2022). African countries need additional capacity within existing health programs to deal with this new problem, but they also need more educational programs to make young people aware of the dangers of drug use. There are also prevention programs, such as clean needle exchange, decriminalization of certain substances and universal access to modern contraception, which can help stem some of the pernicious effects of drug use.

Two of Africa's five regions are likely to be particularly affected by the rapid increase in the number of drug users. With nearly six million users today, West Africa accounts for the majority of drug users in Africa. While the absolute number of users is set to rise to over 13 million, its share of the total number of drug users in Africa will remain relatively constant.

In Cameroon, the prevalence of multiple substance use was 29.9%. The most frequently used substances were tobacco (26.2%), alcohol (19.7%), tramadol (2.8%), and cannabis (2.0%).

Problem Statement

Drug abuse among youth is a major public health problem worldwide, and recent studies in African countries have shown that drug abuse has also become a big problem on this continent one of the most important health problems among youth. According to the Rwandan National Police, drug and alcohol abuse is considered the root cause of most violent crimes, especially crimes against humanity. Based on the study conducted by the Ministry of Youth in collaboration with Kigali Health institute shows that 52.5% of young people between the ages of 14 and 35 have used one or more drugs at least once in their lives, with the result of regular substance/drug use, one young man or woman is out of thirteen (7.46%) is addicted to alcohol, one young man or woman out of twenty is (4.88%) suffered from nicotine dependence, and one young man or woman in forty (2.54%) was dependent on cannabis (Kanyoni *et al*,2012), a research want to explore more about the risk factors of drug addiction among the Rwandan youth drug abusers, and the findings of this study will assist the law enforcement agencies, policy makers and other stakeholders in the fight against the problem of drug abuse and its consequences. The study is also intended to be a source of reference for academics and consultants, especially for mental health professionals in the management of drug abuse disorders as well as for law enforcement authorities involved in combating this menace in the community.

Objectives of Study

This study has general objectives and specific objectives as follow:

General Objective

To establish risk factors associated with drug addiction in youth drug abusers consulting mental health service in CHUK.

Specific Objectives

i) To estimate the proportion of substance addiction in substance abusers consulting mental health service at CHUK.

ii) To assess the individual, family and peer risk factors associated with substance addiction in young adult consulting mental health service at CHUK.

iii) To explore barriers to substance cessation in substance abusers consulting mental health service at CHUK.

Research Questions

The researcher wished to answer the following research questions:

i) What is the proportion of drug addiction in substance abusers consulting mental health service at CHUK?

ii) What are the risk factors associated with drug addiction in substance abusers consulting mental health service at CHUK?

iii) What are the barriers to substance cessation in substance abusers consulting mental health service at CHUK?

2. LITERATURE REVIEW

Theoretical Literature Review

Substance abuse is a global problem that typically affects youth and young adults, resulting in serious physical, social and health problems, there are many forms but cannabis remains the most commonly used drug. Most commonly abused. The social and economic problems associated with the ease of these substances are increasingly contributing to the threat of substance abuse. Particularly among adolescents and young adults.

Empirical Review

The proportion of substance addiction in youth substance abusers

Different studies were done about the proportion of substance addiction in youth who use substance in different countries. In Canada, a study was conducted to examine the risk protective factors for substance use among youth with mental health disorders who received community-based or residential care service between 2012 to 2020 in Ontario.

A number of gender differences have been noted in terms of drug and alcohol consumption. For both sexes, cannabis is the drug that causes the most problems or is the reason for being taken into care, even though the percentage of boys reporting it is significantly higher than that of girls. The opposite trend is observed for alcohol and other drugs. Girls start using their first drug slightly earlier than boys, and they also use this drug more often than boys. Gender differences are also reflected in alcohol consumption, where girls are much more likely to report risky drinking. Youth with high frequency of drug use (two-three days a week or more) were significantly more likely to report anxiety (OR = 1.719), difficulty concentrating (OR = 1.408) and difficulty controlling aggressive behavior (OR = 1.381), compared to youth with low frequency of drug use. Frequent users were also significantly more likely to be older (OR = 1.264). Young people who started using drugs very early were significantly more likely to report difficulty concentrating (OR = 1.555) and difficulty controlling aggressive behavior (OR = 1.576), compared with those who did not report starting drug use very early. Early-onset drug users were significantly less likely to be older (OR = 0.857). (Torkel *et al*,2020).

Conceptual Framework
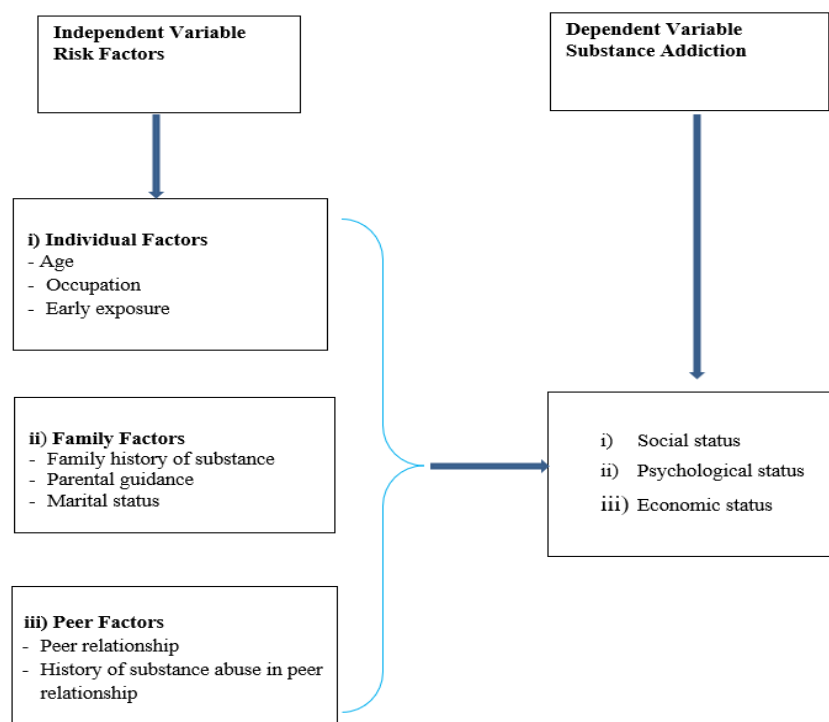
Source: Researcher (2023)

Figure 2.1: Conceptual Framework

3. RESEARCH METHODOLOGY

Research design

This study was conceived as a cross-sectional design with a mixed approach, qualitative approach and quantitative approach.

Target population

The target population of this study was youth using substance and consulting mental health department at CHUK from January 2021 to May 2023. Thus, the total population was 174 youth substance users.

Sample design

This study used the purposive sampling where the research used his or her judgement to choose the study participants.

Inclusion criteria

The participants of this study had the following criteria:

Being a youth with 18 to 35 years old.

Being followed at CHUK in mental health department from January 2021 to May 2023.

Being consuming/utilizing drug at the time of the study

Being stable, not in health crisis

Exclusion criteria

Youth with substance addiction and not consulting Mental health department at CHUK.

Being under 18 years and over 35 years.

Being in crisis, not stable

Determination of sample size

To determine the size of the sample, the researcher used the formula developed by Yamane (Kasunic, 2005). The sample size was determined based on the formula as follows:

$n = N/1 + N(e)^2$

With

N= Population size

n= sample size

e= Margin error,

In this study,

$n = 174/1 + 174(0.05)^2$

n= 121 participants

Sampling techniques

The researcher consulted patient registries and identified all youth who consulted for drug use effects, then took note of their names and Identification Number (ID). The researcher distributed the list to psychiatrists, and when the youth came into psychiatric consultation, the psychiatrist checked all inclusion and exclusion criteria, and then asked if the subject consents to participate in the study.

Reliability and validity of instruments

Validity

For the validity of the questionnaire, a pilot study was carried out on 16 youth substance abusers which constitutes 10% of the total sample size at CHUK. In addition, the questionnaire, was distributed to a psychiatrist expert in substance addiction

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to verify its validity and to ensure that all instructions and statements are clear and understandable. After making some changes, adjustments and modifications, the researcher produced a final form of the questionnaire.

Reliability

The questionnaire was pilot-tested on 16 youth substance abusers; which constitutes 10% of the total sample size at CHUK. The researcher administered the questionnaire the same youth substance abusers at two different points in time (interval of one week). Finally, the Cronbach's alpha coefficient of the questionnaire was computed using SPSS 21.0. The Cronbach Alpha coefficient ≥ 0.7 was considered as acceptable for the internal consistency of the questionnaire (Taber, 2018).

Data analysis procedure

The IBM SPSS 21.0 statistical software and Microsoft Office Excel 2016 software were used to analyze coded data. Descriptive and inferential statistics were computed to find answers to study questions. Descriptive statistics included frequencies and mean, and was run to describe participants' demographic and characteristics. Inferential statistics were computed to identify factors associated with substance addition and they comprised bivariate and multiple logistic regression analysis. Adjusted odds ratios were computed to examine the strength of the association of every risk factor to substance addiction. A p-value of ≤0.05 was considered as statistical significance.

Ethical considerations

The implementation of this research was completed within the norms stipulated by both the academic and administrative legal frameworks. A research clearance certificate was released by the department of Social Science of the Mount Kenya University. The data collection process was started only after the approval and issuance of authorization letters from academic and administrative representatives of concerned Centers. It was underlined in the research clearance documents that collected data and related information are for academic use only. Additionally, to this, a consent form was provided and signed during data collection as a security policy in terms of information disclosure and privacy.

4. RESEARCH FINDINGS AND DISCUSSION

Names of drug being used or taken by participants

Table 4.1: Names of drug being used or taken participants

Drug	Frequency	Percentage
Alcohol	89	93.7
Cannabis	55	57.9
Cocaine	13	13.7
Heroine	10	10.5
Benzodiazepine	1	1.1
Tobacco	35	36.8

Source: Primary data

Results in Table 4.1 indicate that 93.7% of the respondents take alcohol, 57.9% of them take cannabis, 13.7% of them are take cocaine, 10.5% of them are take heroine, 1.1% of them takes benzodiazepine and 36.8% of them take tobacco.

Table 4.2: Drug used or taken most

Drug	Frequency	Percentage
Alcohol	58	61.1
Cannabis	23	24.2
Cocaine	7	7.4
Heroine	4	4.2
Tobacco	2	2.1
Benzodiazepine	1	1.1

Source: Primary data

Results in Table 4.2 indicate that alcohol is the most used by 93.7% of the respondents, followed by cannabis by 24.2% of the respondents. Cocaine is at the third place, it is used by 7.4% of the respondents, heroine occupies the fourth place; it is used by 4.2% of the respondents. Tobacco and benzodiazepine come last; they are used by 2.1% and 1.1% of the respondents respectively.

Table 4.3: Participant's age when he/she started using drugs

	Frequency	Percentage
Less than 12 years old	3	3.2
Between 12 and 17 years old	18	18.3
Between 18 and 23 years old	47	49.5
Between 24 and 29 years old	27	28.4

Source: Primary data

Results in Table 4.3 show that, when starting using drug, 3.2% of the participants were below 12 years of age, 18.3% of them were between 12 and 17 years old, 49.5% of them were between 18 and 23 years old, 28.4% of them were between 24 and 29 years old.

Table 4.4: Person with whom the participant is currently living

Living with person		Frequency	Percentages
Yes		81	85.3
No		14	14.7
	Parent (s)	5	5.3
	Husband/wife	7	7.4
	Sibling (s)	10	10.5
	Friends	58	61.1
	Sexual partner	1	1.1

Source: Primary data

Results in table 4.4 show that 5.3 % of the participants live with their parent (s), 7.4% of them live with their husband/wife, 10.5% of them live with their sibling(s), 61.1% of them live with their friend(s), 1.1% of them lives with her/his sexual partner and 14% of them live alone.

4.2.1. Objective One: Proportion of substance addiction in substance abusers consulting mental health service at CHUK.

Table 4.5: Descriptive results of substance addiction

No	Question	Yes	Percentage	Mean	SD
1	During the time you use substance, do you end up taking more than you planned when you started?	91	95.8	0.95	0.20
2	Have you ever repeatedly want to reduce or control your substance use?	84	88.4	0.88	0.32
3	Have you ever try to cut down or control your substance use, but failed?	76	80	0.80	0.40
4	On the days you take the substance, do you spend substantial time in obtaining the substance, using it, or in recovering from the effects of it?	62	65.3	0.65	0.47
5	Have you ever craved or have a strong desire or urge to use the substance?	71	74.7	0.74	0.43

| 6 | Do you spend less time meeting your responsibilities at work, at school, or at home because of your repeated substance use? | 54 | 56.8 | 0.56 | 0.49 |
7	Have you still kept using substance even though the use of it has caused problems to your family or other people?	88	92.6	0.92	0.26
8	Have you been intoxicated more than once in any situation where you or others were physically at risk, for example, driving a car, riding a motorbike/ bicycle, using machinery, boating, etc."	19	20	0.20	0.40
9	Have you continued using substance even though it is clear that the substance has caused or worsened psychological or physical problems?	87	91.6	0.91	0.47
10	Have you reduced or given up an important work, social or recreational activities because of your substance use?	44	46.3	0.46	0.50
11	Do you need to use much more substance in order to get the same effect that you get when you first started taking it?	39	41.1	0.41	0.49
12	Have you got much less effect with continued use of the same amount of the substance?	48	50.5	0.50	0.50

Source: Primary data

Results in Table 4.5 indicate that 95.8% of the participants, during the time they use substance, they end up taking more than they planned when they started, 88.4% of them have ever repeatedly want to reduce or control their substance use, 80% of them have ever try to cut down or control their substance use, but failed, 65.3% of them, on the days they take the substance, they spend substantial time in obtaining the substance, using it, or in recovering from the effects of it, 74.7% of them have ever craved or have a strong desire or urge to use the substance, 56.8% of them spend less time meeting their responsibilities at work, at school, or at home because of their repeated substance use, 92.6% of them have still kept using substance even though the use of it has caused problems to them family or other people, 20% of them have been intoxicated more than once in any situation where they or others were physically at risk, for example, driving a car, riding a motorbike/ bicycle, using machinery, boating, etc., 91.6% of them have continued using substance even though it is clear that the substance has caused or worsened psychological or physical problems, 46.3% of them have reduced or given up an important work, social or recreational activities because of their substance use, 41.1% of them need to use much more substance in order to get the same effect that their get when you first started taking it and 50.5% of them have got much less effect with continued use of the same amount of the substance.

Table 4.6 Participants' scores on addiction questionnaire

Overall addiction score ……./12	Frequency	Percentage
3	1	1.1
4	3	3.2
5	7	7.4
6	11	11.6
7	25	26.3
8	11	11.6
9	11	11.6
10	11	11.6
11	5	5.3
12	10	10.5

Source: Primary data

Results in Table 4.6 show that 1.1 % of the participants scored 3/12, 3.2% of them scored 4/12, 7.4% of them scored 5/12, 11.6% of them scored 6/12, 26.3% of them scored 7/12, 11.6% of them scored 8/12, 11.6% of them scored 9/12, 11.6% of them scored 10/12, 5.3% of them scored 11/12 and 10.5 % of them scored 12/12.

Proportion of drug addiction among youth drug users
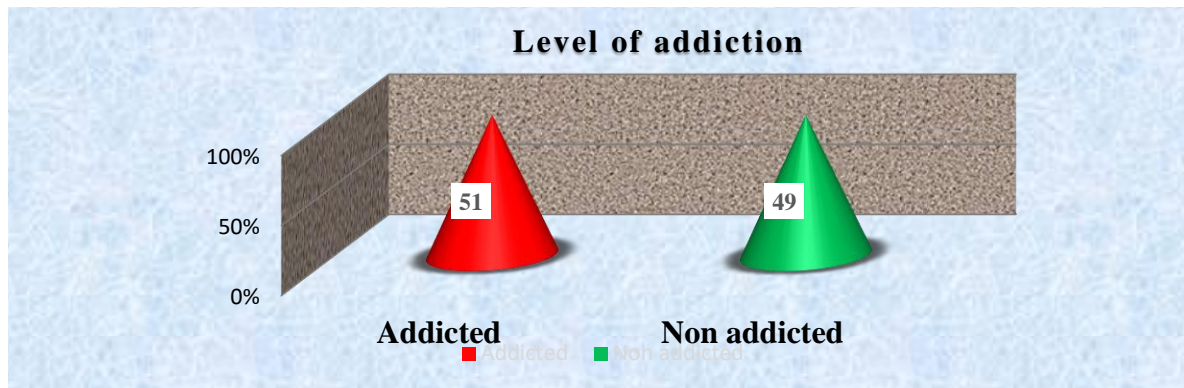
Figure 4. 1: Proportion of drug addiction among youth drug users

The total score of addiction questionnaire was 12, the low score was 3/12 and the high score was 12/12 and respondents with score ≤7/12 were classified as not addicted, respondents with score 8/12 were classified as addicted. Results in Figure 4.2 indicate that 51% of the participants are addicted to drugs and 49% of them are not.

Objective Two: Risk factors associated with substance addiction in substance users consulting mental health service at CHUK.

To identify risk factors associated with substance addiction, the researcher performed bivariate and multivariate logisitic regression. Bivariate logistic regression was run for pre-selection of variables to include in multivariate analysis. Variables which showed a significant p-value (p≤0.05) at bivariate analysis were selected to include in multivariate model.

Table 4.7: Bivariate analysis of variables and substance addiction

Variables		Addiction		OR	95% CI	P-value
		Addicted, number (%)	Non addicted, number (%)			
Individual factors						
Age	30-35 years old	29(60 .4)	9(19.1)	6.5	2.5-16.3	0.000*
	<30 years old	19(39.6)	38(80.9)	Ref		
Sex	Female	12(25)	19(40.4)	.5	0.20-1.17	0.11
	Male	36(75)	28(59.6)	Ref		
Residence	Rural	7(4.5)	10(21.3)	1.6	0.54-4.9	0.4
	Urban	41(85.5)	37(78.7)	Ref		
Marital status	Married	20(41.7)	8(17)	3.5	1.34-9	0.010*
	Unmarried	28(58.3)	39(83)	Ref		
Level of education	High level	18(37.5)	9(19.1)	2.53	0.99-6.4	0.051
	Low level	30(62.5)	38(80.9)	Ref		
Employment	Employed	19(39.6)	19(40.4)	.97	0.43-2.20	0.93
	Unemployed	29(60.4)	28(59.6)	Ref		
Family factors						
Having parent(s)	Yes	34(49.3)	36(50.7)	0.83	0.33-2	0.69
	No	14(53.8)	12(46.2)			
Living with parent(s)	Yes	14(38.9)	22(61.1)	2.13	0.9-4	0.8
	No	34(57.6)	25{42.4)	Ref		
Living with own children	Yes	15(62.5)	9(37.5)	0.5		0.18
	No	33(46.5)	38(5.5)	Ref		

Living with sibling(s)	Yes	10(50)	10(50)	1	0.38-2	0.95
	No	38(50.7)	37(49.3)	Ref		
Peer factors						
Living with friend(s)	Yes	10(47.6)	11(52.4)	1	0.44-3	0.76
	No	38(51.4)	36(48.6)			
Living with other(s)	Yes	3(42.9)	4(57.1)	1.4	0.29-6	067
	No	45 (51.1)	43(48.9)	Ref		
Living with a person who uses substances	Yes	32(66.7)	33(70.2)	.85	0.36-2	0.71
	No	16(33.3)	14(29.8)	Ref		
Number of people by living with	1 to 6 people	41(52.6)	37(74.4)	1.6	0.54-4	0.39
	More than 6 people	7(50.5)	10(49.5)	Ref		

*: Variables meeting the criterion (p≤0.05) to be included in a multivariate model.

Results in Table 4.7 indicate that the following variables are associated with substance addiction; age ((p≤0.001) and marital status (p≤0.05).

After testing variables at bivariate analysis, the researcher performed multivariate logistic regression analysis. Variables which showed a statistically significant P-value (≤0.05) at bivariate analysis (age and marital status) were included in multiple logistic regression model.

5. SUMMARY, CONCLUSIONS AND RECOMMANDATIONS

Summary of Findings

Proportion of drug addiction in substance abusers consulting mental health service at CHUK

Results indicate that 51% of the participants are addicted to drugs and 49% of them are not.

Risk factors associated with drug addiction in substance abusers consulting mental health service at CHUK

The following variables were found to be associated with addiction to substance;

Age

A statistically significant association between age and substance addiction was found (AOR 6.7, 95% CI 2.6-17.7, p<0.01). Youth substance users between 30-35 years old are 6.7 times more likely to be addicted to substances compared to those who are less than 30 years old.

Marital status

A statistically significant association between being married and substance addiction observed (AOR 3.7, 95% CI 1.3-10.6, p<0.05). Youth substance users who are married are 3.7 times more likely to be addicted to substance compared to those who are not married.

Barriers to substance cessation in substance abusers consulting mental health service at CHUK

Results indicate that the most common perceived barriers to drug cessation are believing that quitting substance use would lead to the loss of their friends, believing that costs of substance abuse treatment are expensive, not having any model who used to use substance and withdrew successfully, believing that the treatment of substance abuse is not successful, believing that quitting substance would make life difficult and not stable.

Conclusion

The purpose of this study was to establish risk factors associated with drug addiction in youth drug abusers consulting mental health service in CHUK. The problem identified was the high proportion of drug addiction and major barriers to drug cessation.

This work provides reasonable evidence that could be of significant benefit for policy makers in drug rehabilitation programs, to prioritize interventions aiming at decreasing the proportion of drug addiction and alleviating major barriers to drug cessation.

For the design, the population, the sample of the study and the study setting, the findings of this study cannot be generalized to the Rwandan community of youth drug users, and the researcher cannot assume any causal relationship between age, marital status and substance addiction. Notwithstanding these concerns, the present study should be seen as a step towards estimating the proportion of drug addiction and exploration of barriers to drug cessation among youth drug users.

Recommendations

Based on the high proportion of substance addiction among youth users consulting mental health services at CHUK, the researcher formulated the following recommendations:

University Teaching Hospital of Kigali

Maximize psychoeducaton about the integration of drug abusers in the community, by focusing on the peer pressure after being discharged in rehabilitation centers.

The Ministry of Health:

The Ministry of Health should decentralize the rehabilitation centers across the country in order to ease accessibility and employ enough staff to improve the quality of health service. It should also do sensitization in the community countrywide that the substance abuse is treated and the health facilities are ready to treat them.

Suggestion for further study

This study is not exhaustive. The researcher would like to formulate some suggestions to future researchers to further build on this work and explore other related themes. Future research is needed to address the following topics:

Knowledge and attitudes towards effectiveness of substance addiction treatment among youth drug users.

Factors associated with effective substance addiction treatment among youth drug users.

Exploring barriers to substance addiction treatment among youth drug users in health institutions of Rwanda.

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