



Prevalence and Risk Factors Associated with Relapse of Drug Abuse among Youths at Huye Isange Rehabilitation Center, Rwanda

Faina Fota Uwera ¹, Dr Alphonse Habineza ², Onesmus Marete ³, Olivier Tuyishimire ⁴

ABSTRACT

Globally, in 2016, the number of people who used drugs rose by 30 per cent than it was reported in 2009 according to the UN Office on Drugs and Crime report. In Rwanda, a 2018 mental health survey revealed that about 1.6% of the youth suffer from drug and alcohol-related disorders, and that nearly 10% of rehabilitated drug users experience relapse. The objective of this study was to determine the prevalence of relapse on drug abuse and the risk factors associated with it among Rwandan youths at Huye Isange rehabilitation center. A logistic regression analysis showed that age group onset to drug abuse of ≤ 25 were 12.1 times higher risk of developing relapse with as strong association of a p-value (0.03), (OR=12.1), 95% CI [0.703-208.31]. As conclusion, the study found that at Huye Isange Rehabilitation Center the prevalence of relapse is high whereby factors such as group age onset, student by occupation, peer pressure and to cope with family/home problems were contributing to relapse of drug abuse and effort should be made while including drug abuse related courses in the curriculum for students of all levels, also enforcement in the clubs related occupation to prevent drug abuse in youth should be encouraged especially among younger people in order to decrease peer pressure that may result to drug abuse behaviors and relapse.

Keywords: Drug Abuse, Risk Factors, Relapse, Youths

I. INTRODUCTION

Youth can be defined as lifetime when one is young between childhood and adulthood means a period that a person is aged between 14 and 35 (Ministry of youth, National Youth Policy, 2015). This period characterized by physical and emotional changes, that may occur in a person as he/she is growing. Different types of personalities appear in this period with experience that may shape an individual's level of dependency according to different cultural perspectives. This process includes also drug use and abuse in youth to satisfy their needs or to serve function (UN, 2003). Licit and illicit substances among youth remains a major public health concern globally. Nowadays, a variety of drugs and drug markets are increasing and expanding the way it never used to be before. In 2017, The World Drug Report indicated an estimate of 271 million people among 15-64 years of the global population that had used drugs in the previous year (UN, 2019). Global statistics on relapse rate after 3 to 6 months of substance abuse treatment are high with an average of 75% (Appiah, 2017). Recent data demonstrated that drug abuse was seen more commonly among people who are 18 to 25 years old. Like in Kenya as the drugs have been available in Africa, the use/abuse of drugs such as heroin, cocaine, and prescription drugs was higher almost three times among people aged 18–24 compared to people aged 36 years and more (UN, 2018). Thus, the annual relapse rate

for all admitted cases in the country estimated by National Campaign against Substance Abuse (NACADA) in 2007 was 60% (Chepkwony, 2013). The goal of the current study was to determine prevalence and risk factors associated with relapse of drug abuse among youths, at Huye Isange rehabilitation center. The study was designed to provide relevant information that serves to guide further research in this area and for making the prevention and intervention aimed at reducing the number of drug abusers and drug abuse relapses among Rwandan youths.

The objectives of the paper are:

- i. To determine the prevalence of relapse of drug abuse among youth drug users at Huye Isange rehabilitation center, Rwanda.
- ii. To determine the factors associated with relapse of drug abuse among youth drug users at Huye Isange rehabilitation center, Rwanda.

II. LITERATURE REVIEW

As per World Health Organization (WHO), Drug abuse is defined as the way of using psychoactive substances such as alcohol and illegal drug in a harmful way (WHO, 2019). Among the major effects of using illegal drug on society, one is the negative health related impacts got by those who use it, for example short-term effects can be changes in usual appetite, being weak, heart rate change, change in blood pressure, heart attack, stroke, psychosis, overdose, and even death (NIDA, 2020). The longer-term effects can include heart or lung disease, cancer, mental illness, Human immunodeficiency virus/ Acquired immunodeficiency syndrome (HIV/AIDS), hepatitis and even addiction. Drug use and relapse also lead to poor economic state on individuals, families and society at large.

Different theories illustrated that deviant peer relationships contribute in youth drug use. Thus, there is probability that shared feelings on drug and alcohol use encourage deviant individual to form groups with motivation to substance use (Ramirez, 2012). Negative parent-child relationship also has leads to entry into deviant peer relationship which can certainly cause youth to seek for poor connections in their social relationship therefore, positive parent and child relationship is a protective factor (Luk, 2009). Drug abuse relapse on the other hand is known as drug addiction, it is characterized by continuous drug cravings and inability to control drug taken regardless of negative consequences. It is an ongoing process in which a person who is in recovery process returns to his or her drug abuse attitudes (Felman, 2018). Warning signs for relapse of drug abuse can be categorized into emotional, mental, and even physical signs.

According to Gallus detox centers (2019), Effects of drug on the body can vary depending on how it is taken like through injection, inhalation and ingestion. For drugs taken by injection, it goes directly into the bloodstream and cause a direct impact, this differ from taking drugs through ingestion where the effect delayed but in common all drug abuse affects the functioning of the brain. Drugs lead to change in the dopamine level and other neurotransmitters that contribute in emotions regulation, motivation and feelings by interfering how neurons process the sending and receiving signals through neurotransmitters (NIDA, 2018).

Conceptual framework
Independent variables

Dependent variables

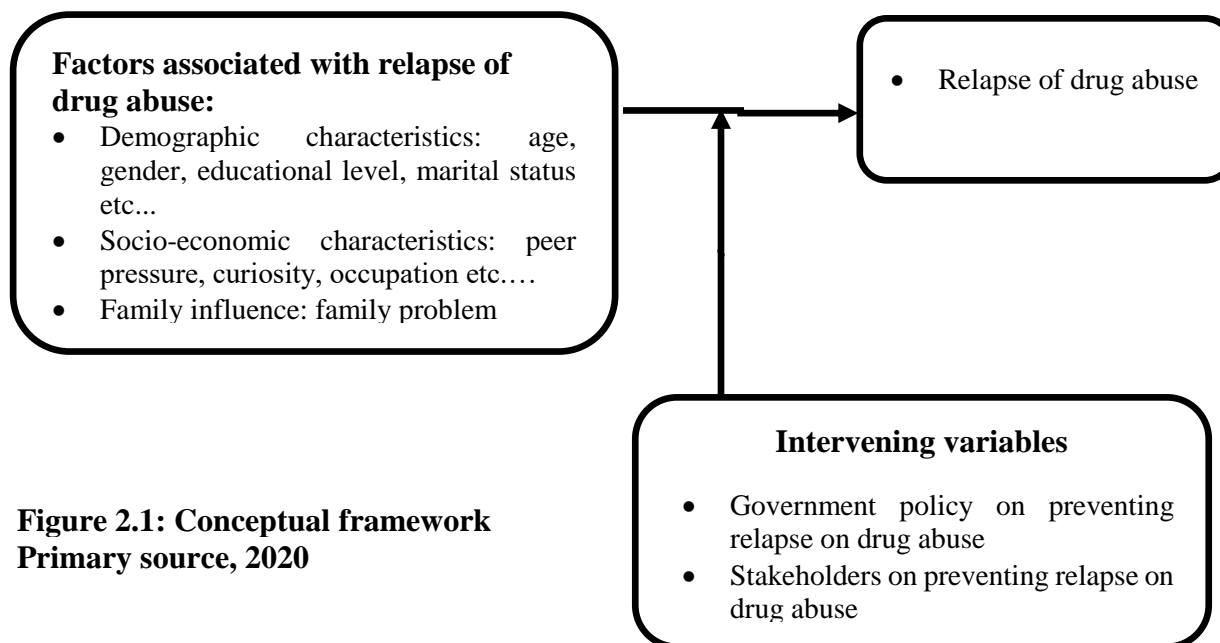


Figure 2.1: Conceptual framework
Primary source, 2020

As indicated in Figure 2.1, Different reasons may increase the youth risks to relapse on drug abuse. Sociodemographic characteristics such as peer pressure and economic factors like when people are easily able to afford drugs according to the price on the market then they are likely to use it in a harmful way. In addition, exposure to drug where it is easily available in a certain region could influence the abuse of drugs and relapse. Lack or less of education about drug abuse and its effect where youth who sometime do not understand the consequences may increase the risk for abusing drug or experience other related conditions. More to that, parental support and control to drug abuse contribute more on whether a person may involve in drug abuse or not. Stakeholders assistance and government policy can influence positively on the youth limit to expose themselves into drug abuse behaviors.

III. RESEACRH DESIGN AND METHODOLOGY

The researcher adopted the descriptive study design was used with quantitative approach because it's useful to obtain all needed data related to prevalence and risk factors associated with relapse of drug abuse. Slovenes formula (1967) involves in calculating the sample size from target population. When the population is 200, the possible sample was 133.

The formula is as follow:

$$n = \frac{N}{1 + N(e)^2}$$

Where,

n is the sample size

N is the population size

e is the margin error which is 0.05
In this study, N is 200 and e is 0.05
 $n=200/1+200(0.05)^2=133$

The researcher used sampling technique to get all youth who came for rehabilitation center during the period of the study data collection for 4 months and who meet the criteria as well as sign the consent form. . The use of this technique was more effective as it gave an equal probability of respondents being selected. Both men and women were selected equally to collect views from both genders.

The researcher used different research instruments including questionnaires. A study questionnaire was developed according to the related study objectives. Questionnaire had the following parts: Part 1 was social demographic data, part 2 was risk factors associated with drug abuse, prevalence on relapse and then last part on factors associated with drug abuse relapse data. As well attached at the appendices, the research instrument used in this study was a questionnaire designed to use closed ended questions.

In addition, Descriptive statistics was used to obtain the frequencies, percentages, means and standard deviations including a frequency table to select socio-demographic and other factors. A bivariate logistic analysis regression model was used to identify factors associated with relapse. Multivariate analysis was used with adjusted odds ratios (AOR) of 95% confidence interval (CI) to determine the final model, which showed strength of the predictors.

IV. DATA ANALYSIS AND RESULTS

Characteristics that were considered in the study include; age of respondents, sex, location, education attainment, marital status, religion, employment and if live with parents.

Table 4. 1: Demographic characteristics of respondents

Demographic characteristics (n=133)	Frequency	Percentage %
Age (years)		
<=25	88	66.2
>25	45	33.8
Gender		
Male	99	74.4
Female	34	25.6
Location		
Rural	21	15.8
Urban	112	84.2
Education attainment		
Primary	5	3.8
Secondary	46	34.6

University	80	60.2
None	2	1.5
Marital status of the respondent		
Single	129	97
Married	3	2.3
Divorced	1	0.8
Religion of respondents		
None	14	10.5
Protestant	33	24.8
Muslim	8	6
Catholic	78	58.6
Employment		
Unemployed	24	18
Student	91	68.4
Cultivator	18	13.5
Live with parents		
All parents	84	63.2
Single parent	35	26.3

Source: Primary data from this study, September 2020

The study targeted population who were in age range between 14 to 35 years according to the ministry of youth as per the definition (Ministry of youth, National Youth Policy, 2015), but at the study area respondents involved 133 youths who were between 20-35 years during data collection. Age were grouped and 66.2% of the respondents had less or equal to 25 years old while 33.8% had above 25 years old. The mean age was 25 years old. As gender is an important indicator of the demographic characteristics of a certain population, the study also has considered it and the table above demonstrates the majority of the respondents that were male at 74.4% while female occupy 25.6%. Living location of respondents were asked too and about only 15.8% live in rural area while 84.2% live in urban area. Education attainment imitate what skills are available to society and the level of understanding. It is in this regard that this indicator was examined in this study. Several categories such as Primary, Secondary, University and no education has used to examine the indicator among the study respondents. According to the results of the research, the education of the respondents is high where 60.2% of the respondent have been able to attain university level.

Marital state of respondents were identified and about 97% respondents are currently single while 2.3% married. Respondent's religion were also identified and the majority of them at 58.6% are catholic with few of them who belong to Muslim at 6%. Employment of the respondents was equally important in this study. It was examined in categories such as unemployed, student and cultivator. As per the table above, 18% of youth interviewed are not employed and 68.4% of the respondents are involved in studies. Based on the table of demographic, the findings on living parents from the respondents demonstrates that about 63.2% of the respondents live with their all parents while 26.3% live with a single parent.

Table 4. 2: Drug abuse characteristics among participants

Reason for drug abuse n=133	Frequency	Percentage %
Age group onset		
< ,=25	131	98.5
>25	2	1.5
Type of drug used		
Alcohol	6	4.5
Tobacco	3	2.3
Cannabis	39	29.3
Heroin	10	7.5
Marijuana	2	1.5
More than one drug	73	54.9
Reason for drug abuse		
Peer Pressure	85	63.9
Curiosity	5	3.8
To cope with family/home problem	29	21.8
To relieve stress	3	2.3
More than one	11	8.3
Accessibility of drug		
Free	42	31.6
Buying	4	3
Both	87	65.4

Source: Primary data from this study, September 2020

A large percentage at 98.5% have started drug abuse in their age that are less or equal to 25 years old with the mean age of drug abuse onset of 15 years old where the minimum age to start drug abuse is 10 years while the maximum age is 29 years. Types of drug abused were identified and 29.3% of the respondents abuse cannabis while 54.9% of the respondents have mentioned that they have used more than one type of drugs among Alcohol, tobacco, cannabis, heroin and marijuana

but the study didn't assess what are those drugs abused in combination. According to the question asked about reason for drug abuse, the majority of the respondents at 63.9% mentioned that peer pressure influenced them more to start drug abuse followed by to cope with family/home problem 21.8% as per the respondents. Accessibility of drug was also assessed where by 65.4% of the respondent accessed drugs from buying them either to dealers or to the market and also from their friends as free access.

Table 4. 3: Risk factors to relapse of drug abuse

n=122	Frequency	Percentage %
Stress	2	1.5
None compliance on treatment	46	34.6
Stigma	2	1.5
Exposure to old friend that use drug	61	45.9
More than one	22	16.5

Source: Primary data from this study, September 2020

Exposure to old friend that use drug was one of the reasons highlighted to contribute to relapse on drug abuse according to 45.9% of the respondents. 34.6% of them reported noncompliance on treatment but it doesn't mean that more than one factors among stress, none compliance on treatment, stigma and exposure to old friend that use drug can't contribute to relapse according to 16.5% that have revealed it.

Table 4.4: Multivariate analysis of risk factors associated with relapse of drug abuse

	Relapse risk factors		OR	95%CI	P-value
	No n=11 N (%)	Yes n=122 N (%)			
Age group					
<=25	7(8)	81(92)	1.129	0.312-4.07	0.853
>25	4(8.9)	41(91)	1.0 (Ref)		
Gender					
Male	10(10.1)	89(89)	1.0(Ref)		
Female	2(2.9)	33(97.1)	3.708	0.45-30.10	0.220

Location					
Rural	2(9.5)	19(90.5)	1.0(Ref)		
Urban	9(8)	103(92)	1.20	0.241-6.017	0.820
Education Level					
Primary	1(14.3)	6(85.7)	1.0(Ref)		
Secondary	2(4.3)	45(95.7)	3.750	0.29-47.88	0.309
University	8(10.1)	71(89.9)	1.479	0.15-13.88	0.732
Marital status					
Single	10(7.8)	119(92.2)	3.967	0.377-41.73	0.251
Married	1(25)	2(75)	1.0(Ref)		
Religion					
None	1(7.1)	13(92.9)	1.0(Ref)		
Protestant	2(6.1)	31(93.9)	1.19	0.09-14.32	0.89
Muslim	1(12.5)	7(87.5)	0.53	0.02-9.98	0.67
Catholic	7(9.0)	71(91)	0.78	0.88-6.88	0.82
Employment					
Unemployed	2(8.3)	22(91.7)	1.0(Ref)		
Student	5(5.5)	86(94.5)	1.56	0.284-8.605	0.607
Cultivator	4(22.2)	14(77.8)	0.31	0.051-1.973	0.219
Live with parents					
All parent	6(7.1)	78(92.9)	1.47	0.426-5.12	0.538
Single parent	5(10.2)	44(89.8)	1.0(Ref)		
Reason to drug abuse					
Peer pressure	8(8.9)	82(91.1)	1.025	0.116-9.068	0.98
To cope with family and home problem	2(6.3)	30(93.8)	1.5	0.123-18.363	0.75

More than one	1(9.1)	10(90.9)	1.0(Ref)		
Age group onset					
<=25	10(7.6)	121(92.4)	12.1	0.703-208.31	0.03
>25	1(50)	1(50)	1.0(Ref)		

Source: Primary data from this study, September 2020

The majority of participant who developed relapse are in age group of <=25 with 92% (n=81) and are at 1.12 times high risk of developing relapse of drug abuse with reference to the group age above 25 years (OR=1.12), 95% CI [0.312-4.07]. Based on the location of the respondents, the majority of the participants who developed relapse were living in urban area with 92% (n=103) and are at 1.2 times higher risk of developing relapse of drug abuse with reference to living in rural area (OR=1.2), 95% CI [0.241-6.017]. According to education level, participants who were in primary level were represented by 85.7% (n=6). Secondary and university level were represented by 95.7% (n=45) and 89.9% (n=71) with respectively 3.75 and 1.47 times higher risk of developing relapse of drug abuse with reference to primary level of education [(OR=3.75), (OR=1.47)], 95% CI [0.29-47.88], [0.15-13.88]. Based on the marital status, participants who were single were the most to develop relapse at 92.2% (n=119) and were at 3.96 times higher risk to develop relapse of drug abuse with reference to married (OR=3.96), 95% CI [0.377-41.73]. As per the religion, the majority who developed relapse were catholic as well represented by 91% (n=71) followed by protestant at 93.9% (n=31). Few of the participants were Muslim and represented by 87.5% (n=7). Muslim and Catholic were respectively 0.53 and 0.78 less time to be at risk of developing relapse of drug abuse with reference to no religion [(OR=0.53), (OR=0.78)], 95% CI [0.02-9.98], [0.88-6.88]. Differently, Protestants were at 1.19 time higher risk to develop relapse of drug abuse with reference to no religion (OR=1.19), 95% CI [0.09-14.32]. Based on occupation, Student were the most to develop relapse of drug abuse represent by 94.5% (n=86). Unemployed and cultivators developed relapse at 91.7% (n=22) and 77.8% (n=14). Cultivator were found to be at 0.31 timeless to develop relapse of drug abuse in reference to unemployed 95% CI [0.051-1.973] and differently student were at 1.56 times high risk to develop relapse of drug abuse in reference to unemployed, 95% CI [0.284-8.605]. The majority of the respondent who live with their all parents have developed relapse of drug abuse at 92.9% (n=78) and are at 1.47 times high risk of developing relapse of drug abuse with reference to living with single parent (OR=1.47), 95% CI [0.426-5.12]. On the reason to drug abuse, those who have started drug abuse due to peer pressure and due to coping with family/home problems were most developed relapse of drug abuse as well represented by 91.1% (n=82) and 93.8% (n=30). In reference to youth who start drug abuse due to more than one factors among peer pressure, curiosity, to cope with family/home problem and to relieve stress; Peer pressure and to cope with family/home problem were respectively 1.025 and 1.5 times high risk of developing relapse of drug abuse [(OR=1.025), (OR=1.5)], 95% CI [0.116-9.068], [0.123-18.363]. The majority of the respondent who developed relapse on drug abuse have started drug abuse when less or equal to 25 years old with 92.46% (n=121) and are at 12.1 times high risk of developing relapse with reference to those who started when above 25 years old (OR=12.1), 95% CI [0.703-208.31].

V. DISCUSSION

Relapse is a major challenge of being successfully free of drug abuse behaviors. When conducting a study on risk factors associated with relapse of drug abuse among youth at Huye Isange rehabilitation center, a cross sectional study for four months evident that prevalence of relapse of drug abuse among the study participants was 91.7%. With comparison to the study conducted in Iran with objective of doing estimation on relapse rate and determine its predictors have found that the relapse prevalence was 64.0% which is also significant (Mohammadpoorasl, 2012) When reviewing a similar study done exploring substance use disorders and relapse in Mauritian male addicts, 92% of the participants confirmed relapsing after a period of drug abuse cessation. Twenty nine percent relapsed after less than 3 months while only 17% were able to extend the cessation for a period of 1–3 years. Cumulatively, 59% were not able to maintain a ‘sober’ state for more than one year and the most cited justifications provided for relapsing among the male addicts related to their social group still abusing drugs (44.2%) and dealing with life stresses (45.9%) (Ramsewak, 2020). From these evidence, the study finds present result to be high prevalence compare to other studies where by it can be explained by the fact that improvement in practice to prevent relapse of drug abuse in youth is still needed and it implies that relapse prevention strategies should be targeted.

The second objective of this study was to establish factors associated with relapse of drug abuse. Among the sociodemographic factors, the key risk factors to relapse of drug abuse identified were age group onset, student by occupation, peer pressure and to cope with family/home problems with respectively strong association of a p- value (0.03) for age group onset and OR 12.1 at 95% CI [0.703-208.31], 1.56 at 95% CI [0.284-8.605], 1.025 at 95% CI [0.116-9.068] and 1.5 at 95% CI [0.123-18.363]. As per the association of the variables, younger age less or equal to 25 years old was identified as a mostly dominant associated with relapse of drug abuse and according to the study of University of Southern California, younger age was identified as a major risk factor for both men and women relapsing (Jenesse, 2021). Similarly a study conducted in Norway regarding relapse after inpatient substance use treatment: A prospective cohort study among users of illicit substances, the result of multivariable analysis showed that younger age were associated with an elevated relapse risk. Thus, identifying the treatment needs of young patients during and following inpatient substance treatment may contribute to reduced post-treatment relapse rates (Andersson, 2018). Having these evidences supporting the current study about the risk of group age less or equal to 25 years may be due to the fact that it is a period when youth are particularly susceptible to involvement in drug abuse due to the underdeveloped state of their brain, which can lead to reduced decision-making ability and increased long-term effects of drugs abuse in association with temptation of reusing drug. Student by occupation has been found to be a risk contributing to relapse of drug abuse. When compared to other study of the Recovery Research Institute in United States Colleges, for young adults in recovery from a substance use disorder who wish to start or return to school, such settings can present a formidable relapse risk and threat to recovery (Laudet, 2015). This is related to the fact that school is a transitional period in a young adult’s life marked by decreased supervision and an expansion of freedoms including a greater opportunity to engage in alcohol and other recreational drug use.

As per analysis peer pressure and to cope with family/home problem contribute to relapse of drug abuse. According to the study conducted in Pakistan the three main reasons of relapse were in association with having history of peer pressure, social rejection and lack of assertiveness (Mughal, 2018). Another supporting study conducted to examine the contributory factors of drug relapse among drug addicts and the treatment effectiveness of a center in Malaysia, indicated that peer influence and curiosity were the top two significant factors contributing to relapse of drug abuse. But based on the effectiveness of the treatment provided in the center the majority of the participants had a very low intention to relapse after recovered (Lian, 2008). Similarly, an exploratory research conducted on the role of family in youth's drug addiction

in Pakistan revealed that among their participants, 65% of them had received treatments 1–5 times, 30% were being treated for the first time and 5% had received treatments 19 times, indicating a high rate of relapse which can be linked to dysfunction within the family (Masood, 2014). By reviewing the study conducted among the clients of Journey of recovery rehabilitation Center of Chitawan district and Nirnaya rehabilitation center of Lalitpur district, the average of relapse on drug among the respondents were mainly caused by peer pressure and the family relations (Bhandari, 2019). Implication of these risk factors among youth at Huye Isange center may be linked with how youth turns to peers looking for comfort and reassurance in order to obtain approval and further acceptance from peers. Without proper guidance from a trusted adult, the individual has high probability to follow whatever required by the peers even if it is illegal or unreasonable.

VI. CONCLUSION

This study was conducted to achieve the requirement of a degree in master's Public health, Global health option. Its purpose was to determine the prevalence and risk factors associated with relapse of drug abuse among youths at Huye Isange Rehabilitation Center, Rwanda. The study had two specific objective, to determine the prevalence of relapse of drug abuse among youth drug users at Huye Isange rehabilitation center and to determine risk factors associated with relapse of drug abuse. The study show that prevalence of relapse of drug abuse was 91% among followed youth at the center for four months. The study indicated that age group onset less or equal to 25 years, student by occupation, peer pressure and to cope with family/home problem were factors leading to develop relapse of drug abuse among youth. In general the findings shows that more efforts in practice improvement to prevent relapse of drug abuse in youth is still needed and relapse prevention strategies should be enforced.

VII. FUTURE RESEARCH

Further studies are needed to evaluate the long-term effectiveness of relapse prevention strategies with youth in reducing factors associated with relapse of drug abuse.

ACKNOWLEDGEMENTS

I want to thank my supervisor Dr Alphonse Habineza for his expert advice and encouragement through this difficult research process, as well as Onesmus Marete for good feedback he provided for me to keep improving my thesis. I would also like to thank the staff of Mount Kenya University especially in the department of Public Health for their extraordinary support in this thesis process. In addition, I want to thank all my classmates for the wonderful collaboration and inspiration.

REFERENCES

1. Afkar, A. (2017). *Measurement of Factors Influencing the Relapse of Addiction: A Factor Analysis*. doi: 10.5812/ijhrba.32141 Last accessed on 20/03/2021.
2. Andersson, H. W. (2018). *Relapse after inpatient substance use treatment: A prospective cohort study among users of illicit substances*. Doi:10.1016/j.addbeh.2018.11.008 Last accessed on 25/05/2021.
3. Appiah, R. (2017). An exploration of relapse prevention strategies among patients recovering from poly-substance use disorders in Ghana. *Retrieved from https://doi.org/10.1080/09687637.2017.1337080* Last accessed on 20/03/2021, 467-474.
4. Arora, S. K. (2020). *What is Data Analysis? Methods, Techniques & Tools*. Retrieved from <https://hackr.io/blog/what-is-data-analysis-methods-techniques-tools> Last accessed on 21/03/2021.
5. Bah, Y. M. (2018). Drug Abuse Among Street Children. *Mathews Journal of case reports*, Volume 3, Issue 1 - 2018.
6. Bhandari, S. (2019). *Factors associated with drug abuse relapse: A study on the clients of rehabilitation centers*. Retrieved from <https://www.researchgate.net/publication/331863488> Last accessed on 24/05/2021.
7. Carroll, M. &. (2017). *The Influence of Social Factors in Drug Addiction*. doi: 10.4172/2329-6488.1000272 Last accessed on 20/03/2021.
8. Caster, J. M. (2009). *Are adolescents more vulnerable to drug addiction than adults? Evidence from animal models*. doi: 10.1007/s00213-009-1585-5 Last accessed on 20/03/2021.
9. Chakravarthy, B. (2013). Adolescent drug abuse - Awareness & prevention. *Indian journal of medical research* , 137(6): 1021–1023.
10. Chepkwony, S. J. (2013). An investigation into prevalence and factors contributing to relapse among alcoholics in selected rehabilitation centres. *international journal of innovative research & development last accessed on 20/03/2021*, vol 2 issue 8.
11. Ellen, S. (2020). *Slovin's Formula Sampling Techniques*. Retrieved from <https://sciencing.com/slovins-formula-sampling-techniques-5475547.html> Last accessed on 20/03/2021.
12. Felman, A. (2018). *What is addiction?* Retrieved from <https://www.medicalnewstoday.com/articles/323465> Last accessed on 20/03/2021.
13. Geyer, S. (2014). A content analysis of A content analysis of the South African national drug master plan: lessons for aligning policy with social development. *Retrieved from http://dx., doi.org/10.15270/50-2-403* Last accessed on 20/03/2021.

14. Gonzales, M. (2020). *Why Do Addicts Relapse?* Retrieved from <https://www.drugrehab.com> Last accessed on 20/03/2021.
15. Ishtiaq, M. (2019). *Research design : qualitative, quantitative, and mixed methods approaches (4th ed.)*. doi: 10.5539/elt.v12n5p40 Last accessed on 20/03/2021.
16. Isirabahenda, G. G. (2018). *Illicit drugs use among youth: A hindrance to socio-economic development in RWANDA*. Retrieved from <https://ubbcluj.academia.edu/> Last accessed on 20/03/2021.
17. Jenesse, M. (2021). *Risk factors for opioid relapse differ between men and women*. Retrieved from <https://news.usc.edu/182665/risk-factors-opioid-relapse-men-women-usc-research/> last accessed on 06/05/2021.
18. Khalsa, J. H. (2008). *Medical Consequences of Drug Abuse and Co-occurring Infections*. doi: 10.1080/08897070802218661 Last accessed on 20/03/2021.
19. Khoury, L. (2010). *Substance use, childhood traumatic experience, and Posttraumatic Stress Disorder in an urban civilian population*. doi: 10.1002/da.20751 Last accessed on 20/03/2021.
20. Laudet, A. B. (2015). *College settings can trigger relapse*. Retrieved from <https://www.recoveryanswers.org/research-post/collegiate-recovery-programs-recovery-support-for-college-students/> Last accessed on 06/05/2021.
21. Legg, T. J. (2018). *What are the risk factors for addiction?* Retrieved from <https://www.medicalnewstoday.com/articles/323467> Last accessed on 20/03/2021. Retrieved from Risk Factors for Addiction.
22. Li, Y. (2016). *How to Determine the Validity and Reliability of an Instrument*. Retrieved from <https://blogs.miamioh.edu/discovery-center/2016/11/how-to-determine-the-validity-and-reliability-of-an-instrument> Last accessed on 21/03/2021.
23. Lian, T. C. (2008). *A Qualitative Study on Drug Abuse Relapse in*. Retrieved from <https://www.iomcworld.org/articles/a-qualitative-study-on-drug-abuse-relapse-inmalaysia-contributory-factors-and-treatmenteffectiveness>. Last accessed on 25/05/2021.
24. Luk, J. W. (2009). *Parent-child communication and substance use among adolescents: Do father and mother communication play a different role for sons and daughters?* doi: 10.1016/j.addbeh.2009.12.009 Last accessed on 20/03/2021.
25. Martínez-Mesa, J. (2016). *Sampling: how to select participants in my research study?* doi: 10.1590/abd1806-4841.20165254 Last accessed on 20/03/2021.
26. Masood, S. (2014). *An exploratory research on the role of family in youth's drug addiction*. Doi.org/10.1080/21642850.2014.939088 Last accessed on 06/05/2021.