

Research Article

# Epidemiology of Substance Abuse Among the Youths in Makueni County, Kenya

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## Abstract

**Introduction:** Majority of youths all over the world ignorantly rely on one or more types of drugs for their everyday activities, including Mandrax, Cocaine, Tobacco, Heroine, Khat, Morphine, Alcohol, Amphetamines, Ephedrine, and Glue among others. This study's purpose was to evaluate the epidemiology of substance abuse among the youths in Makueni County, Kenya. The broad objectives that guided the study was; to determine the epidemiology of substance abuse among the youths in Makueni County, Kenya. **Methodology:** -A Cross-sectional mixed-method study design was undertaken, with the target population consisting of all youths from Makueni County's eight main marketplaces. Purposive sampling was employed to obtain the 8 Major urban centres while simple random selection approach was employed to obtain respondents in each market. Qualitative data was collected using 8 key informants to supplement the quantitative data collected from the youths. A self-administered questionnaire was employed. Quantitative data was analysed using Descriptive as well as inferential statistics while qualitative narrative data was grouped into themes and was presented inform of texts with verbatim quotes used to amplify the voice of the informants. **Results:** The study sampled 384 respondents from Makueni County. Prevalence of Drug/Substance abuse stood at 62.3 % with alcohol (58.3%) being the most commonly abused drug/Substance. Hard Drugs were the least abused with 96.9% reporting they had never abused. Pearson correlation between gender, age and education level on prevalence of drug abuse in Makueni showed a weak positive relationship( $r=0.032$ ), weak negative relationship ( $r=-0.064$ ) and a significant negative relationship ( $r=-0.212$ ) respectively. High unemployment rates 62.3%, easy availability of drugs 34.3%, Peer pressure 72.3%, cheap cost of drugs 28.3% and poverty level 15.1% are main contributory factors to drug abuse. A chi-square run on the factors contributing to drug abuse also indicated a significant positive relationship between the local music, TV programs, friends, and social media with prevalence of drug abuse in Makueni County. The chi-square results also revealed a weak positive relationship between parents and prevalence of drug abuse in Makueni County. Faith-based organizations, local leaders, religious leaders, and non-governmental organizations had a strong negative relationship with prevalence of drug abuse in Makueni County. **Conclusion & Recommendations:** There is high prevalence of Drug/Substance abuse among the youths in Makueni County and both the County Government, national Government and the community in general must put stringent measures to curb the easy availability, sale and buying of abusive Drugs and other substances in the county.

## Keywords

Drug, Epidemiology, Market, Mitigation, Substance/ Drug abuse, Youth

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## 1. Introduction

Substance and drug abuse has risen dramatically and is now a worldwide issue exacerbated by complicated socioeconomic issues such as unemployment and poverty, among other things [1]. Self-administering substances for non-medical reasons in amounts and Frequency that may cause social, bodily or emotional damage is referred to as substance abuse [2]. In Europe and Asia, the primary narcotics that are still on the increase are cocaine and Heroin. In 2015, Heroin remained the most problematic drug, accounting for 62% of all treatment (U. N. Office on Drugs and Crime [3]. Reports from 95 countries throughout Europe and Asia, drug seizures climbed fourfold in 2015, with cannabis accounting for more than half of all seizures. Drugs are psychoactive substances permitted for use by the general population, either socially or for medical purposes [4].

According to the United Nations Office on Drugs and Crime's 2019 World Drug Report [1] on Pandemic Impacts, 278 million people used drugs in the preceding year, with more than 36 million experiencing drug-related difficulties [1]. In the same Report, Substance abuse is said to have spread across American homes, schools, and businesses, wreaking havoc on individuals of all ages and socioeconomic backgrounds [5]. Over 200 million people between the ages of 15 and 64, or roughly 6% in the world, abused drugs in the preceding three months, [1]. More than a fifth (31.9%) of adolescent students in Nova Scotia, Canada, reported using alcohol, nicotine, or cannabis in surveys conducted in 2016 and 2017 [3]. In Europe, 27 percent of students in grade ten were reported to participate in smoking cigarettes, while 61 percent had used illicit substances other than marijuana [6]. In a survey done by UNODC [3], it was reported that 31.9% of adolescent students in Nova Scotia, Canada, reported use of alcohol, nicotine, or cannabis in 2016 and 2017.

In Africa's developing nations, the usage of socially harmful drugs such as alcohol and miraa, among others, creates communal alienation of youths [7]. Despite the intentions and efforts of African states to eradicate drugs, Africa continues to be a major supply of illegal substances like cannabis, one of the most widely abused narcotics [8]. According to a survey report by Fatoye and Marakinyo [9] on teenage use of drugs in Nigeria, it was found that most of these teenagers began use drugs as early as fourteen years. In research on Zambian students conducted by Odejide and Olatuwara [2], it was shown that Students who took drugs were absent from school, significantly impacting their grades.

Substance addiction among teenagers and young people in Kenya has cost the government money yearly in all counties, including Makueni [10]. According to a study by NACADA [8], drug abuse is prevalent in post primary education institution.

In the tenth yearly Report on the Status of Drug and Alcohol Abuse submitted to the Kenyan National Assembly by NACADA (January 1st to June 30th, 2019), 1490 litres of

illegal alcohol were recovered, and 119 persons detained in Makueni County [11]. In a report by NACADA [7], Makueni County was rated sixth, with 726.1 kg of cannabis/bhang confiscated. This shows that the threat of substance and drug misuse in Makueni County is significant and still growing. This study is being carried out to determine the epidemiology of substance usage among youths in Makueni County to have a basis for solving the problem.

## 2. Methodology

The study area was major Urban Centres of Makueni County. Makueni County has Machakos on the north, on the east by Kitui, on the south by Taita Taveta, and the west by Kajiado. The County has 8 major markets namely: - Kikima, Mukuyuni, Kathonzweni, Wote, Makindu, Mbumbuni, Emali and Nunguni. The study respondents were youths conveniently accessed in these eight Major Urban Centres.

The County was selected because most youths have been increasingly engaging in substance abuse, for example, khat (Muguka), alcohol, cigarettes, and Bhang, among other used drugs. No documented study was conducted to assess the substance abuse status.

The participants in this research were both genders of female and male youths ranging from 18 years and 33 years and chairpersons of the urban centres where the study was conducted. The targeted population came from eight major Urban Centres of Makueni County. The County has a 275,028 youth population [12]. Although the exact population of targeted youths abusing drugs currently in the area is unclear and unrecorded, drug use is widespread [7].

Purposive sampling was used to select the urban centres where drug abuse is more rampant compared to rural centres, according to the reports obtained from the Police [11]. In this study, simple random sampling was used to select the 384 participants who were residents of the area for one year and were willing to participate. The random number method was used to select the participants in each Research centre. Purposive sampling was used to identify each urban centre's eight key informants (chairpersons).

For Quantitative data, the study used Fisher's formula to calculate the sample size, which represents the population (Fisher et al., 1998).

$$n = \frac{Z^2 Pq}{d^2}$$

In this case:

Z = level of confidence according to the standard normal distribution. It was 95%,

n = Sample size [for population >10,000]

P = Proportion of the population estimated to have a characteristic of interest.

Q = Proportion of the population without characteristics of interest.

$d^2$  = Tolerable margin of error; was at 5%

The z-Value at 95% is 1.96.

The percentage of the youths in Makueni County who abuse substances/Drugs is unknown; hence 50% of the population was included

$$n = \frac{Z^2 P(1-P)}{d^2}$$

$$n = \frac{1.96^2 \cdot 0.5 \cdot 0.5}{0.05^2} = 384$$

By virtue of their position in the Centres, eight (8) Key informants' interviews were conducted with eight chairpersons of the Centres to supplement the information that was provided by the youths.

In order to collect quantitative data, the research utilized a semi-structured questionnaire. This method was chosen for its ability to ensure confidentiality, cost-effectiveness, and ease of administration. Data was collected between 21<sup>st</sup> October 2022 and 30<sup>th</sup> October 2022. The questionnaire was designed in clear and simple language, consisting of both closed and open-ended structured and standardized questions. Closed questions gave respondents multiple options, enabling them to make decisions quickly. Open-ended questions, on the other hand, allowed respondents the freedom to answer in their own words and provide additional comments on aspects that the closed questions may not have fully covered. Both types of questions were used to complement each other. The Likert scale, which assigns values of 1-5 to items, was employed to gauge respondent opinions and agreement or disagreement with the measured variables [13]. Additionally, a dichotomous scale was used to elicit simple Yes or No responses, facilitating quick completion of the questionnaire, particularly in large groups.

The questionnaire structure followed a funnel approach, starting with general questions and gradually progressing to more specific and potentially challenging ones. Leading questions, double-barreled questions, and confusing inquiries were consciously avoided to ensure clarity. The conclusion of the questionnaire included open-ended questions to allow respondents to provide feedback on matters that may not have been addressed.

The questionnaire designed for this study consisted of four parts, each capturing unique data. Part A focused on gathering background information and demographic factors of the respondents—part B aimed to assess the prevalence of substance abuse among youth. Part C sought to obtain data on the factors contributing to substance abuse among youths. Finally, Part D collected information on youths' knowledge regarding the strategies to control substance abuse among their peers.

Interviews were conducted with key informants using an interview guide containing open-ended questions to collect

qualitative data. Eight key informants, who were chairmen of the Centres, provided their perceptions and opinions on the issue of substance abuse among youth. The interview guide helped structure the discussion by providing a predetermined list of questions.

The pilot test was carried out in Machakos County's Masii market. A small representative sample that was comparable to the study group but not exactly the same as it was used to evaluate the research tool. A total of 38 young people were chosen at random, contacted, and interrogated. The pilot study gave the researcher the opportunity to determine if the items were valid and trustworthy, to address any small problems, misconceptions, and language barriers, and to remove ambiguity as necessary. Respondents' quick input throughout the piloting process improved the instruments by modifying and clarifying the offered instructions to reduce misunderstandings during data collection.

The quantitative data was gathered through a self-administered questionnaire. Those conversant with the language did not need assistance completing the questions on their own. The researcher aided anyone who needed assistance. After that, the questionnaires were collected after being filled out for analysis. Discussions with Key Informant interviews were taken in terms of notes by recording the answers, autotype, and transcribing, then stored on a hard disk with password protection. Essential information about the time, day and place of the interview was recorded in the interview guide.

Quantitative data were analysed using descriptive and inferential statistics and presented through means, percentages, frequencies and standard deviations. Bar charts, graphs and pie charts with the help of Statistical Package for Social Scientists (IBM SSPS) Software Version 26. The researcher also conducted a correlation between the age, sex and education level of the youth and the prevalence of substance abuse. In order to check the association between factors contributing to the prevalence of drug abuse and the prevalence of drug abuse among the youth in Makueni County, a Chi-Square test was conducted. Qualitative data from the notes narrated by Key Informants were typed into a computer and then stored on a hard disk with password protection. Data were analysed through a thematic approach, a commonly used method for qualitative research by going through the data, and common themes were identified. These common themes were used to supplement the quantitative data obtained from the questionnaires.

Permission from the Graduate School, K. U. Ethics Committee and National Commission for Science, Technology and Innovation were required. Second, the Makueni County Public Health Department was consulted. Participants were educated about the study so they may make an informed choice about whether or not to join. Participants' privacy was protected by assuring them that their information was only used for academic purposes and was not shared with anyone else. As a result, the researcher acknowledged all sources of information.

### 3. Results

#### Social and Demographic Information.

Three hundred and Eighty four respondents made up the study's target population, each one of them was given a questionnaire to fill. Out of the 384 questionnaires that were given out, 350 of them were filled and returned, representing a response rate of 91.1%,

which is regarded as being extremely good.

The study participants were residents of Makueni County, representing various categories based on their gender, age, marital status, academic achievement, religion, type of occupation, and place of residence. The distribution of respondents according to their social and demographic information is summarized in [Table 1](#).

**Table 1.** *Distribution of Social and Demographic Information.*

		Frequency	Percentage
Gender	Male	226	64.6
	Female	124	35.4
Age	From 18 years to 21 years	125	35.7
	From 22 years to 25 years	103	29.4
	From 26 years to 29 years	87	24.9
	From 30 years to 33 years	35	10.0
Level of Education	Primary	135	38.6
	Secondary	101	28.9
	Tertiary	70	20.0
	University	44	12.6
Occupation	Unemployed	147	42.0
	Self-Employed	96	27.43
	Employed	69	19.71
Religion	Student	38	10.86
	Christian	140	40.0
	Muslim	106	30.3
	Hindu	32	9.1
Residence	Non-Religious	72	20.6
	Rural	162	46.3
	semi-Urban	122	34.8
	Urban	66	18.9

According to the information in [Table 1](#), of the 350 young people who took part in the study, 35.4% were female and 64.6% were male. This shows that more men than women participated in the research, which points to a gender gap in the young population of Makueni County.

According to the data' analysis of age distribution, the bulk of the young participants (35.7%) belonged to the 18–21 year age group, followed by the 22–25 year (29.4%), the 26–29 year (24.9%), and the 30–33 year (10%) age groups. This shows that the majority of young people in Makueni County are between the ages of 18 and 21.

Regarding education, it is evident from the data that a significant proportion of the youth participants (38.6%) had completed primary education. In comparison, 28.9% had completed secondary education, 20.0% had completed tertiary education, and 12.6% had completed university education. These findings indicate a low level of education among the youth in Makueni County, with a majority having only primary education.

Regarding occupation, the results show that most youth participants (42.0%) were unemployed, 27.4% were self-employed, 19.7% were employed, and 10.9% were

students. This suggests that many youths in Makueni County are seeking employment, resulting in a high unemployment rate among the youth population.

Concerning religion, the findings indicate that the majority of the youth participants in Makueni County (40.0%) identified as Christians, followed by Muslims (30.3%), non-religious individuals (20.6%), and Hindus (9.1%). This implies that Christianity is the dominant religion among the youth population in the County.

Lastly, the results reveal that the majority of the youth participants (46.3%) resided in rural areas within Makueni County, while 34.8% lived in semi-urban areas and 18.9% lived in urban areas. This suggests that a significant proportion of the youth resides in rural areas, possibly in their family or matrimonial homes.

*Prevalence of substance abuse among the youths in Makueni County.*

Respondents were asked whether they had ever abused drugs, and 218 (62.3%) of the youths accepted to have ever abused drugs, while only 132 (37.7%) responded that they had never abused drugs. This indicates that most youths in Makueni County engage in Substance abuse.

Findings from the interviews with community leaders corroborated these results. Most community leaders agreed that drug and substance abuse among the youths is rampant in Makueni County. One of them supported this view, who said: KII 1 "..... there is a very high rate of substance abuse in this area, approximately 40% of the youths abuse drug."

The youths involved in the abuse of drugs were found to be cutting across both genders, and very young people were abusing drugs or substances. One of the community leaders said this during the interview: KII 2 ".....we found a group of young girls as young as 20 years taking alcohol and smoking cigarettes....."

The findings of the study show that 41.7% of the youths abused drugs and substances 7 or more times a week, 26.9% abused 5-6 times a week, 17.4% abused 3 - 4 times a week, 4.6% abused 1-2 times a week and the 9.4% do not abuse drugs. The responses obtained from participants of the study indicated that youths in Makueni County abuse drugs to a very large extent, and the problem is rampant across the County.

The majority of Respondents, 46.2% (162), indicated that they easily accessed abusive substances, and 30.9% (108) indicated that they do not always get those substances. only 22.9% (80) admitted difficulty in accessing drugs.

Interviews with community leaders also established that the increased rate was attributed to the easy availability of abusive substances and the low cost of the drugs. This was confirmed by one community leader who said that:

KII 6 "...the drugs are readily available...the cost is so cheap that even with sh.50 you can purchase alcohol."

The study established that the most prevalent substance was alcohol, with 204 youths (58%) abusing alcohol at least daily per week; Tobacco was used by 101 youths (28.9), while Bhang and Miraa were used by 96 youths (27.4%). Cocaine

and Heroin were the least abused drugs, with 339 youths (96.9%) and 339 youths (96.9), respectively who indicated that they have never abused the drugs. This was complemented by assertions from key informants who said that hard drugs like Cocaine and Heroin were not commonly abused in Makueni County.

The study's findings showed that drug usage is very common in Makueni County. Alcohol, tobacco, bhang, and miraa were the drugs that were most often abused. The community leaders also believed that the commonly used drugs by youths in Makueni county included: Miraa (Muguka), Alcohol, Bhang, and Tobacco.

KII 4: "..... we found a group of young girls as young as 20 years taking alcohol and smoking cigarettes. That is how I knew that most youths in this area use different varieties of drugs and substances."

The majority of the respondents, 176(50.3%), strongly agree that Youths in Makueni County use illegal drugs because of their availability. 73(20.9%) respondents disagreed that drug substances are cheaply sold within the County. Respondents also agreed 159(45.4%) that Individuals who sell drugs are locals in Makueni County. The majority of respondents, 159 (45.4%), concurred that manufacturing, purchasing, and reselling alcohol and other drugs by families in Makueni County increases access to these substances. In contrast, 123 respondents (35.1%) strongly disagreed that drug sales are a source of income for low-income households. From the results, it can be deduced that the availability of drugs within the County is the key indicator for the high prevalence of substance abuse.

The researcher also conducted a Pearson correction to check the relationship between gender, age and education level with the prevalence of drug abuse among the youth in Makueni County. The results showed a weak positive correlation between gender and the extent of drug abuse in Makueni County ( $r=0.032$ ). The significance level of 0.556 is greater than 0.05, indicating that the relationship is insignificant. The correlation between age and the extent of drug abuse indicates a weak negative correlation ( $r= -0.064$ ), which was also insignificant (Sig. 0.235>0.05). The correlation between religion and the extent of drug abuse in Makueni County indicated a weak, insignificant negative correlation ( $r= -0.076$ ; sig. 0.153>0.05). The correlation between occupation and the extent of drug abuse in Makueni County indicated a weak but significant negative correlation ( $r= -0.184$ ; sig. 0.001<0.05). The correlation between education level and the extent of drug abuse in Makueni County indicated a significant negative correlation ( $r= -0.212$ ; sig. 0.000<0.05). From the interviews with community leaders, the wrong company, fear of rejection, Home environment, peer pressure, unemployment, lack of punishment and poverty contributed to substance use in Makueni County.

KII 3 "Some home environments influence drug and substance abuse....."

KII 4 "....." Most innocent individuals join these



groups out of fear of rejection, which may frustrate them more.”

KII 5 *"The problem with the youths nowadays is the lack of jobs. Most youths are looking forward to securing white collar jobs, which are not available in the current world.*

*Contributing factors to substance abuse among the youths in Makueni County.*

In this section, the Study aimed to investigate the factors contributing to substance use among youth in Makueni County. The findings related to these factors are presented in the following subsections.

Availability of drugs within the County was highly rated as the main contributing factor, with a percentage of 34.3%, while influence by friends was rated second, with a percentage of 26.6%. Influence from relatives was 11.7%, those who took drugs due to curiosity 12.3% and 15.1% abused drugs to relieve stress.

The respondents also indicated that youths use drugs to relieve stress with a percentage of 15.1%, while curiosity to use drugs was rated at 12.3%. Influence by relatives was rated least at 11.7%, indicating that most drug abusers are not very close with relatives.

The findings of a study conducted by Hali (2018) in metropolitan Kano, Nigeria, align well with the current study. Hali's study identified several factors that contribute to substance abuse among teenagers, which are consistent with the present study's findings. These factors include the tension, availability of drugs, early marriage, peer pressure, frustration, the influence of Western media, rivalry among co-wives, and depression. These shared findings highlight the universality of these factors and their impact on substance abuse among youth.

The majority, 64.6% of the respondents, indicated that their parents talked to them about the dangers of consuming abusive substances stating their guidance was helpful. In comparison, 35.4% indicated that parental guidance was not helpful.

Bars and muguka bases were the main sources of abusive drugs at a percentage of 33.4%, followed by Bodaboda riders, shoe cobblers, friends at home and family members with 18.3%, 17.4%, 14.9 and 12.3%, respectively. Respondents also indicated that the Pharmacy was the least contributor of addictive substances at a percentage of 3.7%, implying that the youths in Makueni county were not more prone to addictive Over-The-Counter drugs compared to other addictive substances such as alcohol, tobacco, khat, Heroin, cocaine and Marijuana which are accessible from such places like bars and Muguka bases.

Study results further showed that, 72% and 62% of the respondents agreed that peer pressure and the rise in the unemployment rate, respectively, contribute to 81-100% of drug abuse in Makueni County. 142 (40.6%) of the respondents opined that the cost of drugs being cheap contributes to 61-80% of the drug abuse cases in Makueni, while 94 (26.8%) of the youths also indicated that 21-40% of the substance used is

contributed by poverty level.

On the source of information, the respondents agreed that social media, T. V. programs and local music are the main sources of information about drugs at 93%, 75.4% and 74.6%, respectively, to a great extent (81-100%). They also strongly indicated that faith-based organizations, parents, Local leaders, non-governmental organizations and religious leaders are not sources of information about drug abuse at 97.1%, 96.9%, 93.4%, 90.0% and 82.9%, respectively (0-20%). From the results, social media stands out as the main information source. A chi-square run on the factors contributing to drug abuse also indicated a significant relationship between the local music ( $\chi^2 = 6.846$ ,  $p < 0.000$ ), TV programs ( $\chi^2 = 5.351$ ,  $p = 0.001$ ), friends ( $\chi^2 = 2.189$ ,  $p < 0.002$ ), and social media ( $\chi^2 = 6.846$ ,  $p < 0.001$ ) with prevalence of drug abuse in Makueni County. The chi-square results also revealed that there was no relationship between parents and prevalence of drug abuse in Makueni County ( $\chi^2 = 1.5190$ ,  $p < 0.115$ ). Faith-based organizations ( $\chi^2 = 2.250$ ,  $p < 0.652$ ), local leaders ( $\chi^2 = 22.267$ ,  $p < 0.746$ ), religious leaders ( $\chi^2 = 23.152$ ,  $p < 0.861$ ), and non-governmental organizations ( $\chi^2 = 22.113$ ,  $p < 0.574$ ) also had no relationship with prevalence of drug abuse in Makueni County. Therefore, the researcher concluded that the factors examined in this study have contributed to the high prevalence of drug abuse in Makueni County.

The study aimed to assess the knowledge and awareness of strategies implemented to prevent substance abuse among youth in Makueni County. The respondents reported that drug abuse is a huge problem in Makueni County at 90.9%, while only 9.1% indicated that drug abuse is not a problem in the County. This is a clear indication that most youths are burdened with substance abuse; therefore, there is a need for the youths to be aware of strategies put in place to prevent substance abuse among the youths in the County.

Majority (55%) of the respondents indicated that youths trapped with drug abuse should be referred to rehabilitation centres, while 28% preferred religious leaders. Similarly, 16.3% of the respondents indicated that youths who abuse drugs should be referred to Youth Centres for guidance. Rehabilitation centres were the most preferred for guidance in Makueni County. From the study, a good number of respondents (17.7%) indicated that establishing rehabilitation centres was a remedy for controlling drug misuse. In comparison, 14.3% of the respondents preferred forming youth organizations and clubs. The results also indicate that 13.4% of the respondents preferred enacting tougher drug legislation, while 11.1% preferred a ban on Muguka bases. Participants further indicated that More parental/tutor direction, Public Barazas, Substance/ Drug abuse Seminars and Rallies, heavy Penalties and fines for drug offenders and the construction of recreational facilities at 10.9%, 10.0%, 9.1%, 8.9% and 4.65 respectively as strategies that can mitigate the problem of drug abuse in Makueni county.

On whether Makueni County uses Life Skills Training as a preventative educational strategy, the majority of the re-

spondents, only 10 (2.9%), strongly agreed, while 18 (5.1%) agreed, 13 (3.7%) were neutral, 15 (4.3%) disagreed. The majority, 294 (84.0%), strongly disagreed. On whether Makueni County has implemented a plan to improve community preparedness and participation in preventative activities and initiatives to limit youth usage of abusive drugs, 255 (72.9%) of the respondents strongly agreed, 14 (4.0%) agreed, 19 (5.4%) were neutral, 42 (12.0%) disagreed. In comparison, 20 (5.7%) strongly disagreed. On whether Makueni County has established youth groups and clubs in attempts to prevent and reduce the use of harmful legal products among youth, 28 (8.0%) of the respondents strongly agreed, 20 (5.7%) agreed, 54 (15.4%) neutral, 13 (3.7%) disagreed. The majority, 235 (67.1%), strongly disagreed. On whether Makueni County employs a strategy that aims to change a community's larger physical, social, economic and physical environment in order to reduce youth substance abuse, 96 (27.4%) of the respondents strongly agreed, 47 (13.4%) agreed, 42 (12.0%) were neutral, 92 (26.3%) disagreed. In contrast, 73 (20.9) strongly disagreed.

The results of the study established that the County was facilitating creating awareness within the study area by; implementing a plan to improve community preparedness and participation in preventative activities and initiatives to limit youth usage of abusive drugs, also employing a strategy that aims to change a community's larger physical, social, economic and physical environment in order to reduce youth substance abuse. However, the study established that the County does not provide life skills training for the youths, and no organized youth groups and clubs to promote the prevention of substance/Drug use in the County.

Community leaders felt that establishing rehabilitation centres, alternative employment and heavy fines for drug users were the initiatives proposed to be put in place to curb the rising problem of substance use in Makueni County.

KII 5 "..... They need a change of mindset to embrace technical skills that will bring some earnings at the end of the day."

KII 5 "..... These youths should be taken to legal institutions like courts and fined or even arrested.

KII 3 "..... We need rehab centres in our area for those addicted to drugs to get good treatment.

## 4. Discussion

The results of this study were compared with other similar studies. The study was contrasted in terms of response rate, demographic data, and results that matched the study's goals. 350 of the 384 participants in the research completed and returned their questionnaires, yielding a response rate of 91.1%. The response rate of 91.1% is classified as excellent, as per Mugenda and Mugenda [14]. These results were similar to Njoki [15], who achieved a 100% response rate in her study, and Abur [16], who also achieved an 88 percent response rate.

This study was conducted among the youth from Makueni

County. Among the respondents, the majority of them were males (64.6%), and 35.4% were females. Most youths (35.7%) were aged between 18-21 years. The bulk of youths (38.6%) have finished their primary education; 28.9% have finished their secondary education; 20.0% have finished their tertiary education; and 12.6% have finished their university studies. The majority of youths in Makueni County are unemployed (42.0%), 27.4% are self-employed, and only 19.7 % are employed. Regarding religion, among the % of youths in Makueni County, 40.0% are Christians, 30.3% are Muslims, and 20.6% are non-religious. The majority of the youths (46.3%) live in rural areas within Makueni County, 34.8% of the respondents live in semi-urban areas, whereas 18.9% live in urban areas. These results on demographic characteristics are in tandem with findings by Njoki [15], Abur [16], Oshodi, Aina, and Onajole [17] and Osman et al. [18].

The results indicated that most youths in Makueni County engage in Substance abuse. The findings of this study support research by Mwangi [19] that found drug and substance misuse to be a widespread issue with an upward tendency in most developed nations. The findings of this study contrast slightly with those of a study by Musyoka, Mbwaiyo, Donovan, and Mathai [20], which found that only 20% of first-year students at one university now use alcohol or other drugs. The prevalence of the current study varies from Osman et al. [18], with a prevalence of 31%.

The majority of Respondents (46.2%) indicated that they easily accessed abusive substances, and 30.9% indicated that they do not always get those substances. Only 22.9% admitted difficulty in accessing drugs. The current study's findings align with those of Bachand [21], who analyzed drug and substance addiction among Gambia's street kids. According to the findings of Bachand's study, which examined the prevalence and ease of access to drug and substance misuse among these kids, there was a significant level of accessibility to dangerous drugs among them.

Alcohol, cigarettes, Bhang (cannabis), and miraa were found to be the most widely misused substances in Makueni County, according to the present study, which also showed a high incidence of drug usage there. These results are in line with other research, which identified alcohol, marijuana, methamphetamine, and tranquilizers as the main substances of misuse among young people [22, 23]. Other studies have reported similar drug abuse patterns, with a significant proportion of adolescents admitting to regular alcohol consumption, smoking cigarettes, and using other drugs to achieve a "high" [24]. Miraa abuse has also been observed among youth, particularly during examination periods [25].

The findings imply that a significant contributing factor to the high incidence of substance misuse in the County is the accessibility of drugs. A research by Olutende et al. [26] that especially targeted college students and discovered that the accessibility of drugs was a prevalent cause for their usage lends weight to this conclusion. The current study further identified other contributing factors, such as influence from

friends, relatives, curiosity, and stress relief. These results are consistent with a study conducted by Hali [27] in metropolitan Kano, Nigeria, which identified a number of factors that predispose teenagers to substance abuse, including tension, drug availability, peer pressure, the influence of Western media, early marriage, depression, frustration, and co-wives' rivalry.

The majority of participants in the current study also stated that their parents had discussed the risks of abusing drugs with them and that they had considered their parental supervision to be beneficial. This result is in line with the findings of the Olutende et al. study [26], which revealed that subpar parenting contributed to drug misuse among college students. Another study by Misango Mwaura & Naftali [28] also highlighted the significant influence of parents on substance use among adolescents.

These consistent findings from different studies emphasize the importance of addressing drug availability, peer influence, parental guidance, and other contributing factors in efforts to prevent and reduce substance abuse among youth in Makueni County.

Another study by Musyoka, Ndiga, & Waithima [29] found that failure to guide adolescents on substance use negatively influenced them to abuse substances.

Bars and Muguka bases are the main sources of abusive drugs at a percentage. The youths in Makueni county were not more prone to addictive over-the-counter drugs than other addictive substances such as alcohol, tobacco, khat, Heroin, cocaine and Marijuana accessible from such places as bars and Muguka bases. Kurui and Ogoncho [30] affirmed the current study results that youth who live near premises that sell alcohol was a reason for alcohol use among KMTC students, with a percentage of 46.6%. In the same study, most respondents reported having been introduced to taking alcohol by friends. The findings of this study also concur with Musyoka, Ndiga and Waithima [29], that established that the family members who abuse drugs introduce them to their youths. In her Study, Katy [31] records that one source of drugs for teenage youths is fellow friends and their close associates in the markets close to schools where Bars and Muguka Dens are found. Although Pharmacy as a source of substances abused by the youth in Makueni County takes the lowest score at 3.7%, a study done by Odhiambo [32] among secondary school youth in Nakuru County pharmacy was found to be the major source of abused substances.

Most respondents agreed that peer pressure and the rise in the unemployment rate contribute to 81-100% of drug abuse in Makueni County, while the poverty level was the least contributor to drug abuse, contributing to only 21-40% of the substance used. The study in South Africa that you reference in your statement lends credence to the idea that different individual, peer, family, community, and societal variables have an impact on drug misuse [33]. The study of Jessor also emphasizes other elements that influence

substance misuse, such as the social environment, perceived environment, personality traits, behavior, and biological and genetic elements [33]. According to NACADA [7], a number of variables, including as lax parental supervision, peer pressure, mimicry, child maltreatment, truancy, emotional stress, the availability of cheap drugs, poverty levels, and unemployment, affect substance misuse among Kenyan children.

The study's Chi-square analysis revealed a substantial correlation between the incidence of drug usage in Makueni County and the variables that contribute to substance abuse. The Sargent and Babor [34] identified links between media exposure to alcohol use and outcomes including alcohol expectations and use, and our finding is consistent with those findings. According to a different research, prominent characters in movies and soap operas who use drugs or alcohol get more social acceptance and encourage other young people to do the same [35]. The influence of media, particularly television and the internet, on substance use among young people has also been observed in other studies [36, 37].

Regarding intervention strategies, the results of your study indicate that referral to rehabilitation centers and involvement of religious leaders and youth centers are preferred approaches for addressing substance abuse among youth in Makueni County. These findings align with the belief that rehabilitation centers are crucial in mitigating substance abuse [38]. Suggestions such as the enactment of stricter drug legislation, parental guidance, public forums, substance abuse seminars and rallies, penalties for drug offenders, construction of recreational facilities, and the formation of youth organizations and clubs are consistent with strategies proposed in other studies for preventing and reducing drug abuse among adolescents [39].

While the County is seen to be involved in creating awareness and implementing initiatives to limit youth substance abuse, the study reveals a lack of life skills training, organized youth groups, and clubs that promote the prevention of substance abuse in Makueni County. This finding contrasts with the protective effect of awareness programs highlighted in a systematic review of intervention prevention programs [40]. Mentorship programs and peer education are also identified as effective prevention strategies [40], which are currently unavailable according to the participants of your study.

## 5. Conclusions

Adolescence and early adulthood are crucial human growth and development stages characterized by brain maturation. During this period, the harmful effects of drugs and substances on the brain and personality development are particularly impactful. The findings of this study, which indicate a high prevalence of drug use in Makueni County, should garner the attention of key stakeholders in society.



The study identified alcohol, tobacco, marijuana, and miraa as the most commonly used drugs and substances among youths in Makueni County. While hard drugs like cocaine and Heroin were not widely used, the accessibility of drugs to youths was noted as a significant issue. The study revealed that youths use drugs due to peer influence, curiosity, easy availability and affordability of drugs, unemployment, poverty, and influence from local music, television programs, and social media.

The study emphasizes that the factors identified in the research contribute significantly to the high prevalence of drug abuse in Makueni County. The study concludes that establishing rehabilitation centres and implementing plans to enhance community preparedness and participation in preventative activities are the most effective approaches to mitigate drug use in the County.

The study highlights the urgent need to address the high prevalence of drug abuse among youths in Makueni County. It suggests that comprehensive strategies, including rehabilitation centres and community-focused preventative measures, are crucial in minimizing drug use and its detrimental effects on the youth population.

## Abbreviations

KII: Key Informant Interview

KNBS: Kenya National Bureau of Statistics

KU: Kenyatta University

NACADA: National Authority for Campaigns Against Drugs Abuse

UNDCP: United Nations Drug Control Program

UNODC: United Nations Office on Drugs and Crime

UN: United Nations

WDR: Word Drug Report

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## Author Contributions

**Vincent Kavita:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Writing – original draft, Writing – review & editing

**Jacob Masika:** Conceptualization, Formal Analysis, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing

**Priscilla Kabue:** Conceptualization, Data curation, Investigation, Methodology, Supervision, Writing – original draft, Writing – review & editing

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## Conflicts of Interest

The authors declare no conflicts of interest.

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## Research Field

**Dr. Jacob Masika:** Cardiovascular Physiology Research

**Dr. Priscilla Kabue:** Reproductive health, Community Programs on Disease Control and Health Promotion