

Assessing Demographic Factors Associated with Alcohol Use Disorder in Kenya

Danny Mungai¹, Isaac Okeyo¹, Ronnie Midigo^{2*} and Samuel Boaz Otieno¹

¹Great Lakes University of Kisumu, Kisumu, Kenya

²University of Nairobi, Nairobi, Kenya

***Corresponding Author:** Ronnie Midigo, Department of Public Health, University of Nairobi, Nairobi, Kenya.

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Abstract

Excessive alcohol use is a significant public health problem globally. Alcohol use typically begins in adolescence or early adult life, and effective prevention strategies focused on this age group are needed to avoid development of Alcohol Use Disorder (AUD). AUD is a worldwide problem resulting in millions of deaths, including hundreds of thousands of young lives lost. It is not only a causal factor in many diseases, but also a precursor to injury and violence. Furthermore, its' negative impacts can spread throughout a community or a country, and beyond, by influencing levels and patterns of alcohol consumption across borders [1]. This study assessed the demographic factors associated with AUD. The Study adopted a descriptive cross-sectional study design. Stratified random sampling techniques were used to sample alcohol users across the county. A pre-tested, close-ended questionnaire and Key Informant Interview guide was used to collect data. Both descriptive (frequencies and percentages) and inferential (Chi-square test) statistics were employed in data analysis. Content analysis was used to identify emerging themes in the interviews conducted. The study established that demographic factors including gender, religion, marital status, levels of education, employment status and age significantly influence Alcohol Use Disorder. Regression analysis revealed a significant relationship between demographic factors and Alcohol Use Disorder. The study recommends sensitizations and awareness drives on alcohol abuse by the Ministry of health and NACADA. Efforts towards implementation of sound policies aimed at curbing the growth of the Alcohol Use Disorder should also be organized.

Keywords: Alcohol Use Disorder; Demography; Alcohol; Non-Communicable Diseases

Introduction

Alcohol is the third most common cause of deaths in developing countries. In the limited number of developed countries where overall mortality is low, alcohol is the leading cause of illness and disease. Worldwide, Non-Communicable diseases (NCDs) represent over 60% of all deaths, now making it the leading cause of mortality globally (WHO, 2010). Alcohol use has been identified as one of the four most important risk factors of Non-Communicable diseases (NCDs), and it is the third largest global disease burden risk factor. Developing countries have the worst impact and many of these deaths could have been prevented. Every year, the harmful use of alcohol kills 2.5 million people, including 320,000 young people between 15 and 29 years of age. Despite this fact alcohol consumption is the least addressed of all four NCD risk factors (WHO, 2014). In Central Kenya region, alcohol use disorder appears to have a marked effect, creating dysfunctional and emotionally stunted families. Alcohol consumption reduces the total output and therefore inhibits the attainment of sustainable growth and poverty reduction. Irresponsible, excessive or abusive drinking patterns contribute to social costs through lost productivity, absenteeism and poor work place performance.

Four out of every 100 people who lost their lives in Kenya in 2016 did so as a result of alcohol abuse [2]. The report also revealed that use of illicit brews such as 'changaa' and 'kumi kumi' predictably high, at 37pc of all the alcohol consumed [2]. WHO report of 2014 also

stated that the overall burden of disease and injuries caused by harmful use of alcohol in Kenya is unacceptably high. Of all these deaths, more than three quarters were among men. Globally, an estimated 237 million men and 46 million women suffer from Alcohol-Use Disorders.

Despite the intensive interventions by the Government, Religious Organizations, Non state Actors and many other stakeholders to curb the problem of alcohol Use disorder in Kenya, the menace seems to be escalating by the day. Given this situation, it appears that there is no clear understanding of the contextual factors that continue to fuel the upsurge in alcohol use disorder in Kenya. This study thus sought to assess demographic factors influencing alcohol use disorders among adults aged between 18 - 65 years in Murang'a County in Kenya.

Methods

This study adopted descriptive cross-sectional study design and was conducted in Muranga county of Kenya. The target population comprised alcohol users residing within the County. For the purposes of this study, alcohol use is defined as a 'maladaptive pattern of use indicated by continued use despite knowledge of having a persistent or recurrent social, occupational, psychological or physical problem that is caused or exacerbated by the use of alcohol [3]. A total of 395 respondents were enrolled in the study. Data was collected from individual alcohol users through a researcher administered questionnaire.

Results

Demographic characteristic of study population

Demographic factors considered included gender, religion, marital status, employment status, age and availability of parents. Table 1 below presents the demographic characteristics of the respondents.

		Frequency	Percent
Gender	Male	239	62.6
	Female	142	37.4
Religion	Christian Catholic	92	24.2
	Christian protestant	258	67.8
	Muslim	24	6.2
	No religion	7	1.8
Marital status	Married	174	45.6
	Single	90	23.6
	Divorced	62	16.4
	Widow/Widower	55	14.4
Highest level of education	No formal education	9	2.4
	Primary Incomplete	44	11.6
	Primary Complete	45	11.8
	Secondary	162	42.6
	College	81	21.2
	University	40	10.4
Employment status	Unemployed	80	21
	Civil servant	96	25.2
	Self-employed	82	21.5
	Casual labor	123	32.3
Age	<= 20	26	6.7
	21 - 30	99	25.9
	31 - 40	126	33
	41 - 50	87	22.9
	51+	44	11.5
Availability of parents	Both parents Living	181	47.4
	Mother deceased	68	17.9
	Father deceased	85	22.3
	Both parents deceased	47	12.4

Table 1: Demographic characteristics of the respondents.

Of the sampled respondents, about 62.6% were male while 37.4% were female. Christian protestants comprised 67.8% of the sampled population. Those who indicated that they professed Christian catholic religion were 24.2% while those of Islamic religion were 6.2%. About 41.6% of the respondents indicated that they were married, 23.6%, single and 16.4% divorced. Majority 42.6% indicated that they had secondary school levels of education. Those with secondary. Those with complete primary school education were 11.8% while those with incomplete primary school levels of education were 11.6%. Those with college and university levels of education were 21.2% and 10.4% respectively.

From table 4.1 above, about 32.3% of the sampled respondents indicated that they were employed as casual labourers. Those who were civil servants comprised 25.2% of the respondents while the self-employed were 21.5%. Along age, respondents who were aged between 21 - 30 years were 25.9%. Respondents aged 31 - 40 were 33% of the total population while those aged between 41 - 50 years were 22.9%. Only 6.7% of the respondents were aged 20 years and below. were casual labour. Also, 47.4% of the respondents indicated that both their parents were living, 17.9%, that their mothers were deceased and 22.3% that their fathers were deceased. Only 12.4% of the respondents indicated that both of their parents were deceased.

Prevalence of alcohol use disorder

Prevalence of Alcohol use disorder was investigated using The Alcohol Use Disorders Identification Test (AUDIT), developed in 1982 by the World Health Organization. Respondents were asked to indicate their responses to the AUDIT questions. The tool was administered to the sampled population as a representative of the study population. Table 2 below presents the findings.

		Frequency	Percent
How often do you have a drink containing alcohol?	Monthly or less	18	4.7
	2 to 4 times a month	64	16.8
	2 to 3 times a week	170	44.6
	4 or more times a week	129	33.9
How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	55	14.4
	3 or 4	147	38.6
	5 or 6	82	21.5
	7, 8, or 9	90	23.6
	10 or more	8	2.1
How often do you have six or more drinks on one occasion?	Never	53	13.9
	Less than monthly	177	46.5
	Monthly	94	24.7
	Weekly	30	7.9
	Daily or almost daily	26	6.8
How often during the last year have you found that you were not able to stop drinking once you had started?	Never	5	1.3
	Less than monthly	66	17.3
	Monthly	122	32.0
	Weekly	75	19.7
	Daily or almost daily	113	29.7
How often during the last year have you failed to do what was normally expected from you because of drinking?	Never	119	31.2
	Less than monthly	48	12.6
	Monthly	86	22.6
	Weekly	58	15.2
	Daily or almost daily	69	18.1
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	127	33.3
	Less than monthly	71	18.6
	Monthly	80	21.0
	Weekly	89	23.4
	Daily or almost daily	13	3.4

How often during the last year have you needed an alcoholic drink first thing in the morning to get yourself going after a night of heavy drinking?	Never	64	16.8
	Less than monthly	42	11.0
	Monthly	54	14.2
	Weekly	149	39.1
	Daily or almost daily	72	18.9
How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	8	2.1
	Less than monthly	51	13.4
	Monthly	77	20.2
	Weekly	114	29.9
	Daily or almost daily	132	34.6
Have you or someone else been injured as a result of your drinking?	No	138	36.2
	Yes, but not in the last year	85	22.3
	Yes, during the last year	158	41.5
Has a relative, friend, doctor, or another health professional expressed concern about your drinking or suggested you cut down?	No	48	12.6
	Yes, but not in the last year	144	37.8
	Yes, during the last year	189	49.6

Table 2: Alcohol use disorder identification test.

The findings of the alcohol use disorder identification test as indicated in table 2 above indicates that about 44.6% of the respondents indicated that they took drinks containing alcohol 2 - 3 times a week. Another 33.9% indicated that their consumption of drinks containing alcohol was 4 or more times a week. On the number of drinks containing alcohol taken on a typical day when drinking, 38.6% and 23.6% of the respondents indicated that they took 3 or 4 and 7, 8 or 9 respectively drinks containing alcohol on typical days. Further, 46.5% of the respondents indicated that they took six or more drinks in one occasion less than monthly while 24.7% indicated that they took six or more drinks on one occasion on a monthly basis.

Asked to indicate occurrence of situations where they found that they were not able to stop drinking once they started drinking, 32% indicated that this occurred on a monthly basis. About 29.7% indicated that this occurred daily or almost daily. Another 19.7% indicated that this occurred on a weekly basis. About 22.6% and 18.1% respectively of the respondents indicated that they often failed to do what was normally expected from them because on drinking on monthly and daily or almost daily basis. However, 31.2% indicated that this never occurred to them. Further, 23.4% and 21% of the respondents indicated that they failed to remember what happened the night before because you they had been drinking on a weekly and monthly basis respectively. Another 33.3% however indicated that this never occurred.

On occasions when respondents needed alcoholic drinks first thing in the morning to get themselves going after a night of heavy drinking, 39.1% and 18.9% indicated that this occurred on a weekly and daily or almost daily occasions respectively. About 34.6% of the respondents indicated that they had a feeling of guilt or remorse after drinking on a daily or almost daily basis. Another 29.9% and 20.2% of the respondents indicated that this occurred on a weekly and monthly basis respectively.

About 41.5% of the respondents indicated that they or someone else had been injured as a result of their drinking during the last year, 22.3% not in the last year while 36.2% indicated that this never occurred. Further, about 49.6% of the respondents indicated that a relative, friend, doctor or another health professional expressed concern about their drinking or suggested they cut down during the last year. Another 37.8% indicated that this happened but not in the previous year. Only 12.6% indicated that this never occurred.

The Key Informant Interviews also reveal a possibility of high percentages of alcohol users with AUD. Most of the informants indicated that even though it was difficult to infer who had AUD, most alcohol users could be suffering from AUD. In an interview with a NACADA regional officer, it emerged that alcohol users in the region are habitual drinkers who seem to be dependent on alcohol. Below is an excerpt of the interview; Many people actually suffer from drug and alcohol abuse. Most people in this area have reached a point where they can't function without alcohol. They depend so much on alcohol and the net effect is that they become sick and weak to the extent that they are not able to perform their duties (KII, NACADA).

Demographic factors influencing alcohol use disorder

To investigate the demographic factors influencing alcohol use disorder, a cross tab of the AUDIT scores for every respondent and the demographic information was computed. Table 3 below present the findings.

Variable	Responses	Scores		Total	CL (95%)	P-value
		Less than 8	8 and more			
Gender	Male	93 (38.9%)	146 (61.1%)	239 (62.6%)	1	0.047
	Female	41 (28.9%)	101 (71.1%)	142 (37.4%)	1.57 (1.00-2.45)	
Religion	Christian Catholic	11 (12.0%)	81 (88.0%)	92 (24.2%)	1	< 0.001
	Christian protestant	107 (41.5%)	151 (58.5%)	258 (67.8%)	0.19 (0.10-0.38)	
	Muslim	14 (58.3%)	10 (41.7%)	24 (6.2%)	0.10 (0.03-0.27)	
	No religion	2 (28.6%)	5 (71.4%)	7 (1.8%)	0.34 (0.06-1.97)	
Marital status	Married	79 (45.4%)	95 (54.6%)	174 (45.6%)	1	0.0003
	Single	20 (22.2%)	70 (77.8%)	90 (23.6%)	2.91 (1.63-5.20)	
	Divorced	14 (22.6%)	48 (77.4%)	62 (16.4%)	2.85 (1.46-5.55)	
	Widow/Widower	21 (38.2%)	34 (61.8%)	55 (14.4%)	1.35 (0.72-2.50)	
Highest level of education	No formal education	1 (11.1%)	8 (88.9%)	9 (2.4%)	1	0.0004
	Primary	23 (23.2%)	76 (76.8%)	99 (23.4%)	0.41 (0.05-3.48)	
	Secondary	51 (33.6%)	101 (66.4%)	152 (42.6%)	0.25 (0.03-2.03)	
	College/University	59 (48.8%)	62 (51.2%)	121 (31.6%)	0.13 (0.02-1.08)	
Employment status	Unemployed	23 (28.8%)	57 (71.3%)	80 (21.0%)	1	0.0008
	Civil servant	26 (27.1%)	70 (72.9%)	96 (25.2%)	1.09 (0.56-2.10)	
	Self-employed	44 (53.7%)	38 (46.3%)	82 (21.5%)	0.35 (0.18-0.67)	
	Casual labor	41 (33.3%)	82 (66.7%)	123 (32.3%)	0.81 (0.44-1.49)	
Age	<= 20	11 (42.3%)	15 (57.7%)	26 (6.7%)	1	<0.001
	21 – 30	23 (23.2%)	76 (76.8%)	99 (25.9%)	2.42 (0.98-6.00)	
	31-40	33 (26.2%)	93 (73.8%)	126 (33.0%)	0.48 (0.20-1.14)	
	41-50	41 (47.1%)	46 (52.9%)	87 (22.9%)	0.54 (0.23-1.23)	
	51+	26 (60.5%)	17 (39.5%)	43 (11.5%)	0.31 (0.12-0.80)	
Availability of parents	Both parents Living	60 (33.1%)	121 (66.9%)	181 (47.4%)	1	0.171874
	Mother deceased	31 (45.6%)	37 (54.4%)	68 (17.9%)	0.59 (0.34-1.05)	
	Father deceased	25 (29.4%)	60 (70.6%)	85 (22.3%)	1.19 (0.68-2.08)	
	Both parents deceased	18 (38.3%)	29 (61.7%)	47 (12.4%)	0.80 (0.41-1.55)	

Table 3: Demographic factors influencing alcohol use disorder.

The findings of the study indicate that there was statistically significant relationship between gender, religion marital status, level of education employment status, and age and alcohol use disorder ($p < 0.05$). About 61.1% of the men as compared to 71.1% of the women had AUD. Women who consumed alcohol were 1.57 time more likely to develop AUD (CL = 1.00 - 2.45). Also, up to 88.0% of the Christian Catholics, as compared to 58.5% of the Christian protestants, 41.7% of the Muslims and 71.4% of those with no religion who consumed alcohol had AUD.

Those who professed no religion, were Christian protestants and Muslims were 0.34, 0.19 and 0.10 times respectively more likely to develop AUD. Similarly, respondents with no formal education (88.9%), those with primary school education (66.4%) as well as those with college/university education (51.2%) had AUD. The odds for those with primary, secondary and college/university education against respondents with no formal education developing AUD were 0.41, 0.25 and 0.13 respectively.

In a Key Informant Interview with a medical officer at the county hospital, it emerged that education played a key role in control of alcoholism. The officer indicated that people with no or low level of education face several challenges which predispose them to AUD. Below is an excerpt of the interview; Most young people likely to be diagnosed with AUD are also not educated. As a result of their low levels of education, they are not able to take control of their drinking. They are also more likely to face other challenges beyond their control which then predispose them to AUD (KII, Medical Officer).

The findings also indicate that 54.6% of the respondents who were married had Alcohol Use Disorder characteristics. Further 77.8% of the singles, 77.4% of the divorced and 61.8% of the widows/widowers had alcohol use disorder. Those who were single, divorced and widowed/widowers were 2.91, 2.85 and 1.35 times more likely to develop alcohol use disorder as compared to their counterparts who were married. Along employment status, civil servants had the highest percentage of those with AUD (72.9%), followed by then unemployed (71.3%), casual laborers (66.7%) and lastly the self-employed (46.3%). The odds of developing alcohol use disorder when one is a civil servant and not unemployed was 1.09 (CL = 0.56 - 2.1) while those of the casual laborer developing AUD was found to be 0.81 (CL = 0.44 - 1.49). Those who were self-employed were only 0.35 times likely to develop AUD as compared to their counterparts who were unemployed. This finding was echoed by a public health officer in one of the health facilities in the study area who posed that; Most civil servants in this area has money to drink. Some of them own a lot of wealth. They are the landlords in this region. These people are today drinking a lot of alcohol (KII, PHO).

About 57.7% of the respondents aged 20 and below years, 76.8% aged 21 - 30 years and 73.8% aged 31 - 40 years had AUD. Those aged 41 - 50 had 52.9% of them with AUD while age group 51 and above years had only 39.5% of the indicating presence of alcohol use disorder. The findings show that age group 21 - 30 were 2.42 times more likely to develop AUD as compared to those aged 20 years and below. The risks of developing AUD when one is aged 31 - 40 years and 41-50 years were established to be 0.48 and 0.54 times those of ages 20 years and below respectively. This finding was echoed by a public health officer who posed that; Young people and especially in their late 20s take a lot of alcohol. Most of them are in colleges and universities. They face a lot of frustrations beginning from economic to social... (KII, PHO).

The study also established that 66.9% of the respondents with both parents living had AUD. About 54.4% of those whose mothers were deceased and 70.6% of those whose fathers were deceased had AUD. 61.7% of those whose both parents were deceased also had AUD. Those whose fathers were deceased were 1.19 times more likely to develop AUD as compared to those who had both parents living. Respondents whose mothers were deceased and those whose both parents were deceased were 0.59 and 0.80 times more likely to develop AUD as compared with those whose both parents were living.

The study however established that availability of parents did not significantly influence AUD. However, the odds of developing AUD from the study findings were skewed towards presence of both parents. This finding implies that presence of parents was not a determinant of AUD. To determine influence of demographic factors on AUD, regression analysis was conducted to compare AUD and Non-AUD alongside their demographic characteristics. Table 4 below presents the findings.

ANOVA	df	SS	MS	F	Significance F	t Stat	P-value	Adjusted R Square
Regression	1	26190.26	26190.26	43.11378	7.04E-07	2.74995	0.010915	0.618286
Residual	25	15186.71	607.4683			6.566109	7.04E-07	
Total	26	41376.96						

Table 4: Regression analysis on the influence of demographic factors on AUD.

As indicated in table 4 above, there was a significant relationship between demographic factors and AUD (p = 0.010915) indicating that demographic factors influence AUD. With an F value of 43.11378, there was a 61.8% perfect fit in the regression equation.

Discussion and Conclusion

Prevalence extent of alcohol use disorder

The study established that about 65% of alcohol users in Murang’a county have symptoms of alcohol Use Disorder. had scores of 8 or more. Most users of alcohol in the county took drinks containing alcohol 2 - 3 times a week. They also took 3 or 4 drinks containing alcohol on a typical day when drinking. Such individuals took six or more drinks in one occasion less than. A majority of them on a monthly basis found that they were not able to stop drinking once they started drinking within the previous year. Most of them could remember what happened the night before because you they had been drinking. On a weekly basis, such alcohol users needed alcoholic drinks first thing in the morning to get themselves going after a night of heavy drinking. Also, most of them had a feeling of guilt or remorse after drinking on a daily or almost daily basis. Further, most of the alcohol users in Murang’a county indicated that they or someone else had been injured as a result of their drinking during the last year. Finally, most alcohol users in Murang’a county had a relative, friend, doctor, or another health professional expressing concern about their drinking or suggesting they cut down during the last year.

These findings lead to an understanding that about 7 out of 10 users of alcohol in Murang’a county are suffering from AUD.

The high percentage of individuals with alcohol use disorder symptoms in the study area is not unique since WHO (2004) had indicated that about 76.3 million are diagnosed with AUD. Growing number of alcohol users could also be a factor contributing to the high number of persons with Alcohol Use Disorder symptoms. These findings could also be understood in the context of a study by Morris [4] which documented that central region in Kenya (Including Murang’a County) has a history of excessive alcohol consumption and idleness due the high unemployment rate that hits the area. This has been coupled with several protest demonstrations and especially by women in the area in a bid to stop brewers from selling alcoholic drinks to their husbands and sons who have become economically and socially unproductive because of spending most of their valuable time drinking alcohol instead of engaging in other productive activities.

Demographic factors influencing alcohol use disorder

The reveals that demographic factors influencing AUD include gender, religion marital status, level of education employment status, and age and alcohol use disorder. Women who consumed alcohol were found to be more likely to develop alcohol use disorder symptoms. While this was the case, a study conducted by De Haan, Egberts and Heerdink [5] found out that men were more likely to develop Alcohol Use Disorder as compared to women. A possible explanation for the contrast could be based on the fact that the study was conducted among alcohol users as opposed to the general population. It is also possible to reason that women are not able to control drinking as men. It is thus possible to reason that most women who confess alcohol use are those with Alcohol Use Disorder symptoms.

Within the religious divide, the current study establishes that individuals professing no religion and Christian catholic alcohol users were more likely to develop Alcohol Use Disorder. It is possible to deduce from this finding that religious beliefs exert some levels of

control on alcohol use. The study also established that alcohol users with no formal education were more likely to develop Alcohol Use Disorder symptoms. The finding leads to an understanding that the level of education influence development of Alcohol Use Disorder. In a study conducted by Dantzer, Wardle, Fuller, Pampalone and Steptoe [6] AUD were associated with higher levels of education. However, their study was conducted in a learning institution set up. This study however contrasts such findings since AUD were found to be associated with lower levels of education. This disparity can be explained by the differences in the study set ups.

Findings of the current study indicates that alcohol users who are married are less likely to develop Alcohol Use Disorder symptoms. This is in contrast with those who are single, divorced or widowed/ widower. This leads to a conclusion that when one is married, their chances of developing AUD are reduced. It is possible to reason that marital set up excerpts some form of control on alcohol use. On the contrary, lack of marital partners could indicate lack of social control with regards to alcohol use.

The study also reveals that AUD was common among civil servants and the unemployed. Those who were self-employed were less likely to develop AUD. This finding leads to an understanding that being employed as a civil servant as well as being unemployed could be a risk factor to developing AUD. Others studies conducted across the world have linked AUD to Poverty [7]. Findings of this study reveals that such findings are partly true. It could thus be reasoned that other factors even among the economically stable could lead to development of Alcohol Use Disorder Symptoms.

Finally, the study established that Alcohol Use Disorder was common among individual aged between 21 - 30 years and reduced with elderly ages. This finding may lead to an understanding that AUD are common among age cohort 21 - 30. Other studies conducted on global scales also associate this age group with alcohol abuse (higher possibility of developing Alcohol Use Disorder symptoms). For instance, a survey conducted by WHO in 2011 found out that youths below the age of 29 commonly abused alcohol.

The findings of the study however revealed that presence of parents did not determine AUD. In a study conducted by Harford Yi and Grant [8] AUD was highly associated with respondents considered as orphans. This researcher attributed to the level of stress and lack of social control in the absence of the parents. In another study conducted by Hagman [9] also affirm the same. The apparent difference in the findings of the present study could be understood from the point of the study design. It could be reasoned that since the study was not household based, and as a limitation, accurate response by fact of the presence of parents could have been missed.

The study established that demographic factors influence AUD. In a study conducted by Slobodin and Crunelle (2019), acculturation which could be defined as shared norms, values and practices were found to influence AUD. The scholars argue that certain socio-cultural factors respective of certain environments predispose individuals to AUD. With the evidence of high prevalence of AUD, it could thus be reasoned that presence of certain socio-cultural factors in the region contribute to AUD. Going by that reasoning therefore, socio-cultural factors determining AUD in the study area include gender, religion marital status, level of education employment status, and age.

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