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What is the impact of alcohol dependence on nutritional status of men living in Gesima village, Nyamira county, Kenya?

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Abstract
Background: Alcoholism is a disease that is gradual and often can cause mortality and disability. *Alcoholics usually suffer from Protein Energy Malnutrition but the most common deficiencies are for vitamins, particularly thiamine, pyridoxine, folate, and vitamin A, due to dietary deficiency, damaged intestinal absorption, impaired nutrient utilization and storage, increased metabolism, and a high rate of nutrient loss.* The study goal was to investigate adequacy of nutrients and factors influencing nutritional status and level of alcohol dependence among men living in Gesima village.
Methods: This was a cross sectional study with 126 households systematic randomly sampled. 254 consenting men aged16-45 years old were recruited into the study. Pretested interviewer administered questionnaire was used to obtain data. The Alcohol Use Disorder Identification Test (AUDIT) was used to test for alcohol dependence levels. Anthropometric measurements were also determined. Food frequency questionnaire was used to ascertain the dietary intake of the respondents. Statistical techniques including the chi-square, t-test and logistic regression were employed in the analysis. All the analysis was done using SPSS V.21. P<0.05 was considered significant.
Results: Among the study subjects, 118(46.5%) had primary level of education and 210(82.7%) were in informal employment. Their mean age (years) was 29.04(SD 6.7). Slightly more than half 134(52.8%) had a monthly household income of between Kshs 1000-5000. Based on BMI, 210 (82.7%) of the respondents were normal weight for nutrition status. Only 43(17%) were hazardous drinkers. zinc and folate intake were significantly below EAR (EAR 8.5mg for 16-18 years old and 9.4 for 19-45 years old for zinc and 330µg for 16-19 years old and 320µg for 19-45 years old for folate) (p<0.05). Alcohol dependence was a significant predictor of nutritional status (BMI) while marital status was a significant predictor of alcohol dependence (p<0.001) where by the married were more alcohol dependent than the single, separated or widowed.
Conclusion: Findings from this study indicate that alcohol dependence significantly affects nutritional status and marital status significantly influences the level of alcohol dependence whereby the married are more alcohol dependent than the single, separated or widowed and alcohol consumption in turn inversely affects nutritional status.

Keywords: Nutritional status, alcohol dependence, nutrients, adequacy, AUDIT

Introduction

Alcoholism is a disease that is gradual and often can cause mortality and disability. It is a primary disorder and is not associated or a symptom of other diseases, disorder or emotional challenges [1]. Even though there is a lot that need to be known about alcoholism and problems across the world, there is enough information to show that alcohol is a major threat to world health [2]

The severity of alcoholism disease is determined by factors including genetics, psychology, cultural attributes and need to address and respond to pain. Signs and symptoms of alcohol dependence are as follows: unpleasant physical feelings and responses due to withdrawal that result from even brief moments of abstinence, loss of control over the amount of alcohol the alcoholics consume or the period or frequency of alcohol use and that alcoholics get preoccupied with drinking the drug alcohol, deny that they ever get addicted and continue to drink with full knowledge of the dangers of alcohol abuse [3].

Alcohol dependents have raised chances of being malnourished given that alcohol contains empty calories that may replace those in nutritious foods [4]. Alcoholics gets blackouts following heavy drinking and miss work and fail to perform their regular duties due to hangovers. [5] Alcohol use has been associated with high risk sexual behaviour, it reduces to a large extend inhibitions and self-control hence making it possible for alcoholics to involve themselves in risky sexual behaviour, such as unprotected sex with multiple sexual partners [6]. Alcohol has profound effects on nutritional status [7]. Alcoholics often eat poorly, reducing the supply of essential nutrients and interfering with both energy supply and structure maintenance [8].

Alcohol affects the nutritional process by interfering with digestion, absorption, storage, utilization, and excretion of nutrients. [8] Alcohol depresses appetite and inhibits nutrients from being utilized fully by the body after absorption hence affecting their transportation, metabolism and storage [9]. Alcoholics usually suffer from Protein Energy Malnutrition but the most common deficiencies are for vitamins, particularly thiamine, pyridoxine, folate, and vitamin A, due to dietary deficiency, damaged intestinal absorption, impaired nutrient utilization and storage, increased metabolism, and a high rate of nutrient loss [10, 11].

Chronic alcohol abuse has been known to affect a person's nutritional status and has been reported to be linked with nutrient deficiencies and malnutrition [12]. Nutrition bulwark against alcohol dependency [13] has found evidence to guide researchers dealing with the problem of alcohol dependence to venture with weapons of nutrition, alcohol should be taken with food.

Rosalind [14], found that individuals who consumed the smallest amount of alcohol per drinking day frequently three to seven days in a week had the lowest Body Mass Index, while those who consumed alcohol irregularly but consumed the highest amount had the highest BMIs.

Materials and Methods

Study area

This study was carried out in Gesima village Nyamira County. The village is predominantly occupied by the Kisii community, and has a hilly topography lying at altitude 1800m above the sea level and with a population density of about 731 persons per square kilometre. The village covers approximately 3km square, and has a population projected at 1200 persons [15]. The village is served by one mission dispensary within the village and two others that are slightly outside the village, one of which is a government dispensary. The village and county as a whole produce a variety of food crops such as maize, beans sorghum and finger millet.

Study design

This study employed a cross sectional descriptive study design. That is, the study was carried out at a point in time. A descriptive study is concerned with determining the frequency with which something occurs or the relationship between variables [16].

Study population

The study population consisted of men of age 16-45 years currently residing in the village.

Sample size determination

The sample size was determined using the Yamane formula for finite population [17] as follows;

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

Where n = sample, N = population size (185) and e = accepted level of error taking alpha as 0.05.

By substitution in the formula, we have sample size as;

$$n = \frac{185}{\{1+185\,(0.05)^2\}}$$

Thus a minimum of 126 households participated in the present study. A total of 254 consenting respondents aged 16 to 45 years from the 126 households were recruited and therefore participated in the study.

Sampling procedures

Systematic random sampling method was employed to obtain a representative sample of the study population.

Data collection instruments

was collected using a semi-structured questionnaire.

Validity and reliability of the research instrument

Validity is an assessment of whether an instrument measures what it aims to measure.

Reliability is a measure of the questionnaire's consistency. It refers to the extent to which an instrument asks the right questions in terms of accuracy [18].

For this study, the face validity of the questionnaires was established by presenting it to the experts for their criticism and input which was used to refine the instrument. Reliability was ensured through pre-testing of the questionnaire at a neighboring village. At the same time training of assistants took place. The ambiguities, weaknesses and inconsistencies noted were corrected before the actual data collection.

Data collection procedure

Data was collected from the respondents through interviews, anthropometric measurements and dietary assessment using food frequency questionnaire as described below.

i. Anthropometric measurements

Data was collected, by taking, anthropometric measurements of Body Mass Index (BMI), Mid Upper Arm Circumference (MUAC) and also by taking the Skin Fold measurements of the male study population.

Body mass index (BMI) was calculated from each respondent's weight and height according to the following equation:

BMI = weight (kg)/height (m) ^{2}

WHO/FAO classification was used to define underweight, normal weight, overweight, and obesity classes measured as follows: Below 18.5 - underweight, 18.5-24.9normal weight, 25-29.9 over weight and 30 and above obese.

Weight for adults was using adult weighing scale with subjects having light clothing with no shoes. The measurements were recorded in Kilograms to the nearest 0.1 kilograms. Heights of the subjects were measured using adult height measurement board, and the measurements were taken in metres to the nearest 0.1 metres.

Age was determined by checking the date of birth from the national identity cards and where the cards were not available; the calendar of events was used and ages recorded in years and others were asked and trusted to have given the correct age. An insertion tape was used to measure Mid Upper Arm Circumference (MUAC). Skin fold thickness measurements were taken using the following sites:

Triceps skin fold- measured at the mid-point of the back of the upper left arm. Biceps skin fold- measured as the thickness of a vertical fold of the front of the upper left arm, directly above the center of the cubital fossa, at the same level as the triceps skin fold.

Subscapular skin fold- measured just below and laterally to the angle of the left shoulder blade, with the shoulder and the left arm relaxed. Suprailiac skin fold- measured in the midaxillary line immediately superior to the iliac crest.

Skin fold thickness measurements were made using precision skin fold thickness calipers. Percentage body fat was computed from the skinfold measurements using a two step formula. First, body density (D) was calculated using formula developed by Durnin and Womersley, secondly body density (D) was substituted in Siri Equation to obtain

percentage body fat. Computing body density (D) involves using skinfold measurements from four areas of the body i.e. biceps, triceps, suprailiac and subscapular,
Percentage body fat is then calculated by substituting density (D) in the Siri (1961) equation as shown below.

$$\% \text{ Body Fat} = \frac{(4.95\text{-}4.5) \times 100}{\text{Density (D)}}$$ [20]

ii. Dietary assessment

A semi-quantitative food frequency questionnaire with a list of 70 foods was administered. A measuring unit, approximated by assistants served as a reference portion from which the enumerator determined the amount that the respondent stated he consumed, according to the frequency of intake specified. Portions were also recorded in grams, as required for foods that were recorded by weight.

iii. Estimation of a standard alcohol drink

According to Australian Standard Drink (2012), [21] a standard drink that contains 10 grams of alcohol. A standard drink has the same amount of alcohol irrespective of the size of the container used or type of alcohol type, whether beer, wine, or spirit. A standard drink is a unit of measurement. The following formula was used to calculate the number of standard drinks in alcohol consumed: [21]
Amount of drink in litres (Vol) x Percent by volume of alcohol (%) x Density of ethanol (ethyl alcohol) at room temperature (0.789)
According to Sidle (2010) a study conducted in Eldoret Kenya indicates that the average ethanol or pure alcohol content in chang'aa was 34% and 4% for busaa. These figures were used in this study to estimate the amount of alcohol consumed in the village given that the Kenyan government has not come up with its standard.
According to Babor *et al*. (2001) [22] pure alcohol estimation was done using the following alcohol percentages: 5% for beer, 12% for wine and 40% for spirits.

Data management and statistical analysis

Completed questionnaires were coded and then entered in statistical computer package SPSS version 21.0. The nutrient calculator computer program was used to determine the mean daily nutrient intake from the food frequency data. The probability approach was used to estimate the proportion of the population (%PINI) at risk of having inadequate intake of the selected nutrients. The nutrient intakes are classified into six classes as individual's intake in terms of percent estimated average requirement (EAR) for groups [14].
Data was summarized using Frequencies, means and standard deviations. Chi square test, was used to establish relationships. One sample t- test was used to compare mean daily nutrient intake against EAR. Logistic regression was used to identify significant predictors of under-nutrition and alcohol dependence controlling for confounders. In all cases, $p < 0.05$ was used as the cut-off for statistical significance.

Ethical consideration

The study proposal was presented to the Institutional Research Ethics Committee (IREC) of Moi University for approval. All ethical considerations including seeking informed consent were observed.

Results

Socio-demographic and economic characteristics

As in Table 1 majority of the respondents 111(43.7%) were aged 26-35 years and 172(67.7%) were married. Majority of the respondents 118(46.5%) had attained primary level of education and 210(82.7%) were in informal employment. Slightly more than half 134(52.8%) had an average monthly household income of between Kshs 1001-5000 per month

Table 1: Socio-demographic and economic characteristics of respondents

Characteristic	Frequency (%)
Age (years)	
16-25	84(33.1)
26-35	111(43.7)
36-45	59(23.2)
Marital status	
Single	78(30.7)
Married	172(67.7)
Separated	2(0.8)
Widowed	2(0.8)
Level of education	
Primary	118(46.5)
Secondary	106(41.7)
Tertiary	30(11.8)
Employment status	
Formal	24(9.4)
Informal	210(82.7)
Unemployed	20(7.9)
Average monthly income (Kshs)	
None	20(7.9)
≤1000	52(20.5)
1001-5000	134(52.8)
5001-10000	18(7.1)
10001-20000	23(9.0)
>20000	7(2.7)

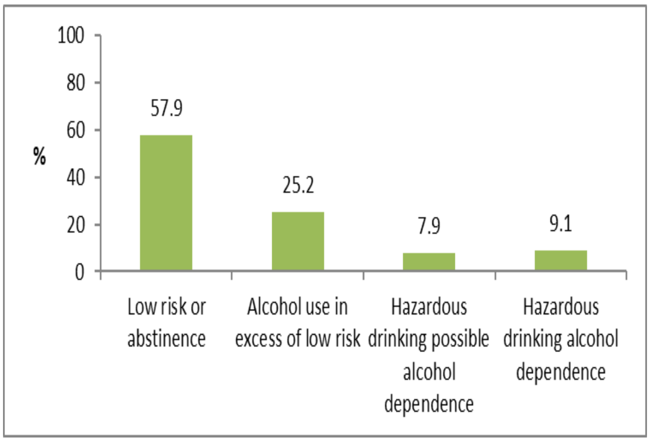

Fig 1: Distribution of respondents by level of alcohol dependence

Figure 1 show that more than half of the respondents 147(57.9%) were low risk or abstinence alcohol dependents while 43(17%) were hazardous drinkers.

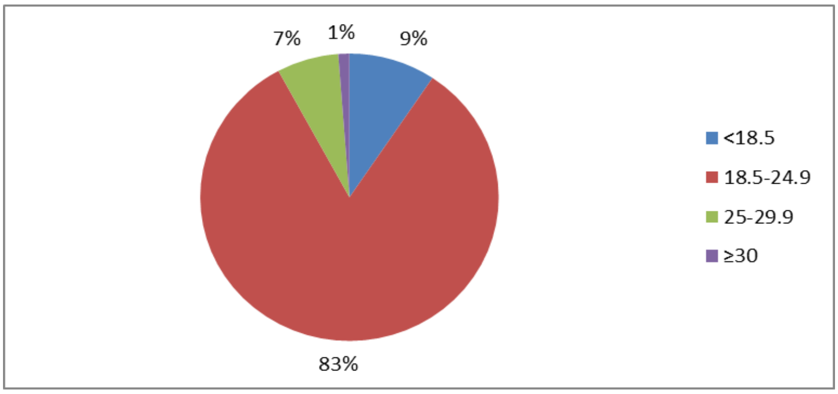

Fig 2: Respondents distribution of body composition based on the BMI (<18.5)

Figure 2 shows the body composition of the respondents measured using Body Mass Index (BMI). Majority of the respondents 210(82.7%) were classified as normal weight (18.5-24.9) while 24(9.4%) as underweight (<18.5 BMI) and 7.9% were overweight and obese.

Table 2: Respondents' Body composition and level of alcohol dependence

Body composition	Level of alcohol dependence	Mean±SD	F-value	p-value
BMI	Abstinence or low risk drinking	22.08±2.7	40.503	<0.001
	Alcohol use in excess of low risk	21.6±1.5		
	Hazardous drinking possible alcohol dependence	18.7±0.9		
	Hazardous drinking alcohol dependence	17.5±1.4		
MUAC	Abstinence or low risk drinking	27.1±2.1	36.723	<0.001
	Alcohol use in excess of low risk	26.9±2.1		
	Hazardous drinking possible alcohol dependence	24.4±1.9		
	Hazardous drinking - alcohol dependence	23.0±1.3		
%BF	Abstinence or low risk drinking	20.4±4.2	5.211	<0.002
	Alcohol use in excess of low risk	18.9±2.9		
	Hazardous drinking possible alcohol dependence	18.1±1.4		
	Hazardous drinking alcohol dependence	16.5±2.2		

The association between level of alcohol dependence and body composition measured using Body Mass Index (BMI), percentage body fat (%BF) and Mid Upper Arm Circumference (MUAC). The F-test (ANOVA) indicated that there was a significant difference in mean BMI (F= 40.503; p<0.001), MUAC (F=36.723; p<0.001) and %BF (F= 5.211; p=0.002) by level of alcohol dependence. The mean levels decreased with an increase in level of alcohol dependence though post-hoc analysis indicated that there was no significant difference in mean BMI, %BF and MUAC between low risk or abstinence and alcohol use in excess of low risk and also between Hazardous drinking possible alcohol dependence and Hazardous drinking alcohol dependence (all p>0.05)(Table 2).

Respondents Adequacy of Nutrient Intake

Mean daily intake was significantly below EAR (p<0.001). The mean intake of all other nutrients was significantly above the EAR. Using the probability approach, 39.6%, 63.9% and 0.28% of the target population were at risk of having inadequate intake of zinc, folate and vitamin B_2 respectively (Table 3).

Table 3: Mean daily nutrient intake in comparison to EAR

Nutrient	Mean±SD	EAR	P-value	%PINI
Carbohydrate (g)				
14-18	769.6±115.4	100	<0.001	0
19-45	691.4±187.0	100		0
Protein (g)				
14-18	133.43±23.9	44	<0.001	0
19-45	125.8±37.0	46		0
Zinc (mg)	8.1±0.6	8.5		
14-18	9.0±4.2	9.4	<0.001	39.6
19-45				
Iron (mg)				
14-18	81.1±12.7	7.7	<0.001	0
19-45	76.8±16.3	6		0
Phosphorus (mg)				
14-18	4483.6±236.9	1055	<0.001	0
19-45	4157.0±1109.0	580		0

Vitamin A (μg) 14-18 19-45	1684.9±415.2 1706.6±997.2	630 625	<0.001	0 0
14 Vitamin B_1(mg)-18 19-45	8.1±1.0 7.2±2.2	1.0 1.0	<0.001	0 0
Vitamin B_2(mg) 14-18 19-45	2.5±0.3 2.6±1.0	1.1 1.1	<0.001	0.28
Vitamin B_3(mg) 14-18 19-45	44.2±4.6 38.8±9.6	12 12	<0.001	0
Folate (μg) 14-18 19-45	255.1±53.7 226.1±93.0	330 320	<0.001	63.9
Vitamin C (mg) 14-18 19-45	386.4±52.4 346.5±125.3	63 75	<0.001	0 0

Table 4: Factors determine level of alcohol dependence

Factor	Level of alcohol dependence				χ2-value	p-value
	Low risk	Excessive of low risk	Hazardous possible dependence	Alcohol dependence		
Age-group (years) 16-25 26-35 36-45	 59(70.2) 58(52.3) 30(50.8)	 23(27.4) 38(34.2) 3(5.1)	 2(2.4) 9(8.1) 9(15.3)	 0(0) 6(5.4) 17(28.8)	56.785	<0.001*
Marital status Married Single Separated /widowed	 79(45.9) 64(82.1) 4(100)	 52(30.2) 12(15.4) 0(0)	 18(10.5) 2(2.6) 0(0)	 23(13.4) 0(0) 0(0)	37.548	<0.001*
Education level Primary Secondary Tertiary	 63(53.4) 65(61.3) 19(63.3)	 35(29.7) 22(20.8) 7(23.3)	 6(5.1) 10(9.4) 4(13.3)	 14(11.9) 9(8.5) 0(0)	9.319	0.142*
Income level (kshs) ≤1000 1001-5000 >5000	 53(73.6) 65(48.5) 29(60.4)	 11(15.3) 46(34.3) 7(14.6)	 6(8.3) 8(6.0) 6(12.5)	 2(2.8) 15(11.2) 6(12.5)	21.318	0.001*
Sickness 3 months prior to study	23(54.8)	7(16.7)	8(19)	4(9.5)	8.221	0.035

***Fishers exact chi-square**

As indicated in Table 4, there was a significant relationship between age ($p<0.001$), marital status ($p<0.001$), income level ($p=0.001$), sickness 3 months prior to study ($p=0.035$) and level of alcohol dependence. The proportion of alcohol dependence increased with an increase in age and income level. Those who are married tended to be more alcohol dependent than the single. Among the married category, 13.4% were alcohol dependents as compared to none in the other categories. A higher percentage 25% of those earning more than Kshs 5000 were alcohol dependent compared to 17% earning between 1000-5000 and 8% earning kshs 1000 or less. A higher percentage 12(28.5%) of those who were sick 3 months prior to the study were alcohol dependent compared to 31(14.7%) of those that were not sick.

Factors that determine the nutritional status (based on BMI)

As in table 5, the Pearson chi square test indicated that there was a significant relationship between respondents' nutritional status (BMI) and age (χ=39.663; $p<0.001$), marital status (χ=25.916; $p=0.002$) and level of alcohol dependence (χ=100.886; $p<0.001$. None of those aged 16-25 years was underweight compared to 5.4% and 30.5% of those aged 26-35 years and 36-45 years respectively. Among the married, 14% were underweight compared to none in the single, divorced and separated groups (Table 5).

Table 5: Factors associated with nutritional status (based on BMI<18.5)

Factor	Nutritional status based on BMI				χ2	p-value
	<18.5	18.5-24.9	25-29.9	≥30		
Age-group 16-25 26-35 36-45	 0(0) 6(5.4) 18(30.5)	 79(94) 92(82.9) 39(66.1)	 5(6) 10(9) 2(3.4)	 0(0) 3(2.7) 0(0)	39.663	<0.001*
Marital status						

Married	24(14.0)	139(80.8)	8(4.7)	1(0.6)	25.916	0.002*
Single	0(0)	67(85.9)	9(11.5)	2(2.6)		
Separated/widowed	0(0)	4(100)	0(0)	0(0)		
Education level						
Primary	14(11.9)	98(83.1)	5(4.2)	1(0.8)	6.873	0.285*
Secondary	8(7.5)	89(84)	7(6.6)	2(1.9)		
Tertiary	2(6.7)	23(76.7)	5(16.7)	0(0)		
Employment status						
Formal	2(8.3)	19(79.2)	3(12.5)	0(0)	6.526	0.286*
Informal	22(10.5)	174(82.9)	11(5.2)	3(1.4)		
unemployed	0(0)	17(85)	3(15)	0(0)		
Level of alcohol dependence						
Abstinence or low risk drinking	0(0)	129(87.8)	16(10.9)	2(1.4)	100.886	<0.001*
Alcohol use in excess of low risk	9(45)	62(96.9)	1(1.6)	1(1.6)		
Hazardous drinking possible alcohol dependence	24(9.4)	11(55)	0(0)	0(0)		
Hazardous drinking alcohol dependence	15(65.2)	(34.8)	0(0)	0(0)		

*Fishers exact chi-square

The ANOVA was significant as indicated in table 6 ($p<0.001$). This implies that age of the respondents' marital status and level of alcohol dependence significantly affects the nutritional status. Adjusting (standardizing) for respondents age and marital status, the level of alcohol dependence significantly negatively impacts on the nutritional status of the respondents ($t=-5.193$; $p<0.000$). This implies that the higher the level of alcohol dependence the lower the BMI and vice versa.

Table 6: Multiple Linear regression model of factors affecting nutritional status (BMI)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	22.599	.734		30.798	.000
Respondent's age	-.008	.023	-.021	-.349	.727
Marital status	-.530	.350	-.095	-1.514	.131
Alcohol level	-1.720	.331	-.326	-5.193	.000

Controlling for confounding factors (income level, age-bracket and sickness three months prior to study), marital status was a significant predictor of alcohol dependence in the study population ($p<0.001$). Those married were more likely to be alcohol dependent compared to singles, separated and widowed (OR; 95%CI: 7.174; 2.995-17.180) (Table 7).

Table 7: Predictors of alcohol dependence

Factor	OR	95.0% C.I.		P-value
		Lower	Upper	
Marital status(Unmarried)	.139	.058	.334	.000
Income level(ref>5000)				.125
≤1000	1.195	.460	3.109	.715
1001-5000	1.913	.945	3.875	.072
Age-group (ref=36-45)				.570
16-25	1.643	.631	4.278	.309
26-35	1.067	.552	2.063	.847
Sickness(yes)	1.215	.582	2.533	.604

Discussion

Demographic and socio-economic characteristics

The study shows that the level of education of the respondents is low with the majority of the men having attained a maximum of primary level of education. This can be attributed to poverty and lack of information to appreciate the value of education given that majority of the respondents earn very little to support studies to the higher levels where a lot more money is needed to pay for better education. This also explains why majority of the respondents are in informal employment.

Nutritional status characteristics

The high percentage of the respondents with normal weight is as a result of the availability and consumption of Proteins and Carbohydrates which are in adequate supply as the study found out. This can be attributed to agricultural productivity of this region which has adequate rainfall patterns throughout the year and therefore people are able to access adequate food especially proteins and carbohydrates from the food grown locally.

The level of alcohol dependence significantly negatively impacts on the nutritional status. Poor nutritional status results from long term alcohol use and abuse. Long term heavy drinkers eventually fail to eat adequate amounts of food and this prevents them from obtaining the necessary nutrients like vitamins and also minerals for proper maintenance health and general well-being. In addition digestion of nutrients is affected when a person consumes large quantities of alcohol as it reduces the amount of pancreatic digestive enzymes secreted. Absorption of nutrients into the bloodstream is also hindered by alcoholism. This reduced digestion and absorption of nutrients over a long period of time leads to malnutrition (Nutrition and well-being A to Z, n.d.). [23]

This study is in agreement with Liangpunsakul (2010) [24] who found that alcohol intake has an inverse relationship with body mass index and body weight. Carbohydrate intake is usually the first to decrease with increasing alcohol use among all the macronutrients. The level of alcohol dependence is therefore associated with lower consumption of macronutrients.

Respondents extent of alcohol dependence

The study found that the level of alcohol dependence is significantly determined by marital status whereby the married were more likely to be alcohol dependent than the single, separated and/or widowed. This study is in agreement with a study done in Central province Kenya that found that marital status and poverty are some of the key factors that lead people to indulge in alcohol consumption and alcoholism. [25] Most married people indulge in alcohol use and alcoholism because of family problems and conflicts which would be as a result of poverty and/or other factors.

Abstinence was significantly inversely associated with educational level. Men involved in excessive drinking, and notably very excessive alcohol consumption, were predominantly in the lowest level of education. [25] This contravenes this study findings which indicates that there is no association between the level of education attained and level of alcohol dependence.

Alcohol consumption is a significant predictor of morbidity, mortality and poverty. [27] This agrees with this study which found a significantly positive association between sickness three months prior to the study and the level of alcohol dependence.

Adequacy of nutrient intake

The study shows that percentage prevalence for inadequate nutrient intake was zero for most of the nutrients. Therefore the respondents have adequate supply of most of the nutrients except for folate with percentage nutrient inadequacy of 63.9%, zinc at 39.6%and vitamin B2 (riboflavin) at 0.28%. The inadequate supply for these nutrients can be attributed to the shortage of the foods that supply especially folate and zinc like spinach, beef liver, eggs, kidney, liver, poultry, heart, pumpkin, melon seeds and simsim. This can also be attributed to poverty as shown by the low average incomes and lack of adequate information on the need for a balanced diet because of the low level of education among the study population.

Risk factors for alcohol dependence and nutritional status

The study shows that there is a significant relationship between alcohol dependence and age, marital status, average income per month and sickness three months prior to the study. The proportion of alcohol dependence increased with age and income level. Age is linked with more years spent in alcohol consumption which is a factor when computing the level of alcohol dependence. Alcohol use also affects the health status of an individual; hence the study shows that sickness three months prior to the study was attributed to the increased level of alcohol dependence. Alcohol consumption directly affects morbidity and mortality. [27]

Testing for confounders it become clear that it was only marital status, which was a significant predictor of the level of alcohol dependence.

Level of alcohol dependence was the only factor that was found to have a significant relationship with nutritional status. [28] Alcohol dependence as significant effect on nutritional status, it depresses the appetite, displaces other food nutrients from the diet and decreases the quality of food by hampering proper digestion `and also absorption. Therefore patients with medical complications associated with alcohol abuse and dependence are usually severely malnourished. This therefore agrees with this study which found a significant inverse relationship between nutritional status and level of alcohol dependence.

Conclusion and Recommendations

Conclusion

The study shows that the level of alcohol dependence has an inverse effect on the nutritional status with increase in alcohol dependence leading to decrease in nutritional status and vice versa. Therefore the inverse relationship is as a result of alcohol decreasing the value of food consumed through its interference with digestion and absorption.

The main factor influencing level of alcohol dependence was marital status. The married were more likely to be alcohol dependent than the single, separated or widowed, this is as a result of family disputes and economic challenges posed by poverty.

Recommendations

In view of the study findings the following recommendations are made about this study:

1. Increased community education on the adverse effects of alcohol use and alcoholism at the individual, household and community level is necessary.
2. Campaigns against alcohol use should also involve the community leaders and alcoholics who can be the best agents of change.
3. The population should supported and also be encouraged to educate their children as a preventive measure against alcohol consumption besides the other benefits of education.
4. Working with the relevant government departments to ensure that the youth are positively engaged into productive activities e.g. increased uptake of the devolved funds in a way that is beneficial to the youth and the community at large.

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