

PREVALENCE OF ALCOHOL USE DISORDER AMONG WORKERS

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Abstract

Objective: Alcohol use disorder (AUD) is a common but usually undiagnosed and untreated condition. Persons with the condition tend to maintain their jobs until it severely incapacitates them. The ten years lag between frequent use of alcohol and development of AUD significantly contributes to this and until organizations actively screen and manage persons with the disorder, it continues to negatively affect productivity. The aim of this study was to determine the prevalence of AUD in an engineering company and establish a case for employee assistance program (EAP) for the management of AUD.

Method: Staff of the company were systematically sampled and administered a questionnaire which involved the Alcohol Use Disorders Identification Test

(AUDIT) questionnaire. A cut off score of 8 was used as a positive screen for AUD.

Results: Thirty-five (9.4%) out of 373 staff screened positive for AUD and half of them were between 31 and 40 years. Men were twice as likely to have AUD compared to females. Muslims were 2.4 times more likely to have AUD compared to Christians and junior staff were 4 times more likely to be diagnosed with AUD compared to senior staff.

Conclusion: AUD is common among industry workers and therefore human resource policies are necessary for early detection and treatment for improved productivity and employee motivation.

Key Words: alcohol use disorder, audit, employee assistance program

Introduction

Ethanol (C₂H₅OH) is the active compound in the many alcoholic beverages consumed the world over. There is no biochemical equation in the body that requires exogenous ethanol and many people who drink alcohol do so to overcome stress or perceived stress and to facilitate social interactions at occasions.^{1,2} Ghana like many cultures around the globe, has alcohol drinking as a part and parcel of many social functions.³ Some studies have suggested drinking alcohol in moderation may have some protective value but this is not for everyone.⁴ This assertion sometimes is what some people use to justify their drinking: to promote the health of their heart.

The regular consumption of alcohol has the potential to cause some brain changes especially among teenagers whose minds are brittle and not fully matured. The young and developing brain has the potential of developing alcohol use disorder (AUD) when exposed to chronic alcohol use. The changes become overt in symptoms of AUD some 10 or more years later so many young people do not appreciate the harm they do to their brains when drinking alcohol in excess.⁵ It is this lag in development of overt symptoms of AUD that get many people with the condition developing it in their prime and working life. If we are therefore going to screen for

AUD it needs to be at workplaces where they are most likely to be found.

Alcohol consumption is responsible for some 5.3% of all deaths worldwide in 2016. Approximately 5.1% of global disease and injury burden was attributable to alcohol in the same year and represented 132.6 million Disability-Adjusted Life Years (DALYs) globally. Over 100 million DALYs are attributable to years of life lost (YLL) and this accounted for 5.8% of all YLL globally in 2016.⁶ These numbers of deaths and injuries are considerable looking at it from the perspective that it is preventable only if they did not consume alcohol which is not essential for normal functioning of the body anyway.⁷

However, for those who drink in excess and do not seem able to control their drinking, they get many medical conditions that alcohol is necessary and sufficient to cause. AUD is no longer a matter of choice, but an illness that needs to be managed. It is the recognition of this fact that will require screening, diagnosis and intervention, particularly at the work place, to reduce injuries and cost of treating other medical conditions induced by alcohol abuse. This can improve productivity for the general good of society.⁸

Just like any other medical condition that employers take care of in their employees so they can be productive, the same way they will need to treat AUD to improve productivity. One common way is to institute and Employee Assistance Programme (EAP). Many employers have questioned the quantum of the problem of AUD and the need to “treat behaviour”. It is for this evidence that this study became necessary.

The aim of this study was to determine the prevalence of AUD in an engineering company and

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establish a case for employee assistance program (EAP) for the management of AUD.

Methods

Study design

The study was a cross-sectional study done to assess the disease burden of alcohol use disorder among staff of an engineering company in Ghana using the Alcohol Use Disorders Identification Test (AUDIT) questionnaire. The AUDIT questionnaire at a cut-off point of 8 has a sensitivity of 81.4%, a specificity of 94.6% and 0.97 AUROC curve.⁷ This therefore makes it almost diagnostic and not just screening.

Study Setting

The study sites were the company sites located in four cities in the southern part of Ghana and have over five hundred staff working in each of these sites.

Inclusion/exclusion criteria

Those included in the study were staff of the company who were present in their various offices when questionnaires were being administered. Using the nominal role of staff, every fourth staff on the role was sampled to be in the study and this made about 450 people. All staff who filled and returned their questionnaire were included in the study. Staff who were on leave or out of the office during the administration of the questionnaire (59 of them) were excluded, even if pre-sampled. This resulted in a study population of 373 staff.

Data analysis

Using a cut-off of 8 on AUDIT, returned questionnaires were analysed to determine the epidemiology of persons working with the company who were most likely to have alcohol use disorder. This was done manually and the results put in stata as a categorical variable. *Chi*² was used to determine differences among the different variables.

Ethical and Legal Considerations

The study was approved by the ethics committees of University of Ghana Medical School (UGMS) and by the Human Resource Department of the engineering company and their labour union.

Results

Of the total 373 staff sampled, 35 (9.38%) were observed to have AUD and 17 (50%) were between the ages of 31 and 40 years, while a quarter were 30 years or younger and the last quarter, 41 years or older. (Fig1)

From Table 1, we see that 4 out of the 77 (5.2%) women sampled had AUD while 31 out of 296 (10.5%) males sampled had AUD. This means the odds of male at the company having AUD was twice that of their female colleagues. The odds of a junior staff having AUD was almost four times that of a senior staff and this was statistically significant from Table 2. This is

important as those who did not return their questionnaires were more likely to be junior staff. There were 218 senior staff compared to 155 junior staff.

There were 320 staff who identified their faith as Christianity, 37 Islamic, one traditionalist and 15 others. Twenty-eight of the Christians and 7 Muslims were found to have alcohol use disorder. This means the odds of a Muslim having AUD was 2.4 times that of Christians. None of those who identified as other faith had AUD, just as the traditionalist.

Tribe was only significant for staff who identified as *Ewes*, who compared with *Akans* (the majority) had 2.8 times odds of having AUD. There were 13 persons out of 70 Ewes who had AUD.

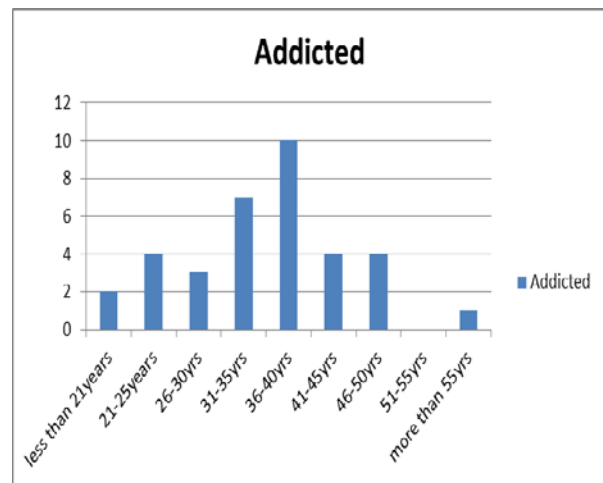


Figure 1

Table 1

. tabulate Sex StatusofAUD, cchi2 cell chi2 expected

Key	
frequency	
expected frequency	
chi2 contribution	
cell percentage	

Sex	Status of AUD		Total
	Not Addic	Addicted	
female	73	4	77
	69.8	7.2	77.0
	0.1	1.4	1.6
	19.57	1.07	20.64
male	265	31	296
	268.2	27.8	296.0
	0.0	0.4	0.4
	71.05	8.31	79.36
Total	338	35	373
	338.0	35.0	373.0
	0.2	1.8	2.0
	90.62	9.38	100.00

Pearson chi2(1) = 2.0020 Pr = 0.157

Table 2

. tabulate Position StatusofAUD, cell chi2 expected

Position held	Status of AUD		Total
	Not Addic	Addicted	
junior staff	135	20	155
	140.5	14.5	155.0
	36.19	5.36	41.55
senior staff	203	15	218
	197.5	20.5	218.0
	54.42	4.02	58.45
Total	338	35	373
	338.0	35.0	373.0
	90.62	9.38	100.00

Pearson chi2(1) = 3.8642 Pr = 0.049

Discussion

From the results, close to one in every 10 staff sampled had AUD as diagnosed using AUDIT. This is also true for the general population as studies show that for every 10 persons exposed to alcohol use, one of them is likely to develop alcohol use disorder and a lifetime prevalence sometimes going up to about 30% in some populations in developed countries.⁹ This supports the genetic theory of addiction which explains that, the tendency for one to get a substance use disorder is largely due to genetic predisposition. That is, not everyone who is exposed to drinking alcohol will develop alcohol use disorder (AUD) but rather those who are genetically predisposed will be the ones who will go ahead and develop the disorder.¹⁰

With over 70% of all those who screened positive to AUD being between the ages of 31 and 50 years, this is worrying. These ages represent largely the brain and brawn potential of the company. This group has the experience and institutional knowledge to make the company most productive. If these are not managed, presenteeism, absenteeism, frequent arguments and accidents that occur with chronic alcohol use will in fact decrease the productivity of the company in general. Males were twice as likely to have AUD compared to their female colleagues. Again, this is similar to the general public.

A junior staff was up to four times more likely to have AUD than senior staff and this was statistically significant. As the senior staff earn more than the juniors, they could be using the more expensive beers and stouts which have lower ethanol content compared to the cheap locally distilled spirits which could be in excess of 50% ethanol v/v. This should be of concern to management of the company as they are likely to be working directly with equipment that can cause serious injuries in an accident compared with their senior colleagues who will be working largely in the office.

More intriguing is the finding of staff who professed Islamic faith being 2.4 times more likely to have AUD than their Christian colleagues. This is because the Islamic faith totally abhors drinking of any kind of alcohol while many Christian denominations in Ghana allow some drinking though not to intoxication. Generally, the Catholics, Jehovah's Witnesses and the protestants are more liberal to alcohol use compared to the Pentecostals and charismatics. Traditionalists in Ghana use alcohol during their prayers but the single staff who identified himself as a traditionalist did not have AUD. Apart from the Ewes who seemed to have a relatively higher likelihood of being diagnosed with AUD, tribe did not significantly influence being diagnosed of AUD.

Conclusion

One in ten likely to have AUD undiagnosed will significantly affect productivity and the quality of life of the employees. Investment into Employee Assistance Programme (EAP) will be very useful to improve productivity and motivation of the staff. With EAP in place, employees will feel that management considered their welfare and they will be willing to give their all to the company and thereby increase productivity. This study has shown that persons with AUD are more likely to be working and the workplace if designed to be therapeutic, will improve the health of persons with AUD and productivity.

Limitations

Not all persons who got the questionnaire returned them. It would have been interesting to know the demographics of those who did not return the questionnaire, probably, they had obvious substance use disorder that could have raised the percentage of persons with AUD even higher.

Sample size could have been increased for a higher power of the study.

Recommendations

As these staff were only screened and not diagnosed, it will be desirable if the management of the company took this up and gets the diagnosis confirmed and institute human resource policies that will encourage voluntary disclosure of drinking habit and treatment using EAP.

EAP should be introduced to our industries which should be championed by Occupational health specialists.

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