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Prevalence of alcohol withdrawal syndrome in Port Harcourt, Niger-Delta region of Nigeria, January 1999 – December 2003

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Abstract

Background: This was a hospital-based study on the prevalence of alcohol withdrawal syndrome amongst patients admitted in the medical, surgical and psychiatric wards of the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria; between January 1999 and December 2003. The hospital was one of the specialized centers in the Niger-Delta region of Nigeria. The patients were admitted not necessarily for alcohol related symptoms. *Methods:* Alcohol abusers were identified through the use of a 4-item questionnaire CAGE; and the patients with alcohol withdrawal syndrome were identified based on the DSM IV Criteria. *Results:* Amongst the 2,405 patients admitted in the study period of ages 16-54 years, 403 (17%) met the criteria for alcohol abuse, out of which 31 (1%) had alcohol withdrawal syndrome. They were 25 males (81%) and 6 females (19%). For those who had alcohol withdrawal syndrome, the mean duration of alcohol intake was 22 years. The mean quantity of alcohol taken was 49 units per week. Sixteen percent of the patients with withdrawal symptoms manifested within 24 hours of admission, and another 23% up to 48 hours. Ten percent developed withdrawal seizures.

In *conclusion*, high prevalence of alcohol abuse and alcohol withdrawal syndrome was seen among patients admitted to the University of Port Harcourt, Nigeria. The patients were typically from polygamous family, single, had no formal education or dropped out from school, many with occupational difficulties and forensic history.

INTRODUCTION

Alcohol is one of the most commonly abused drugs today.[1] Alcohol withdrawal syndrome (AWS) is a cluster of symptoms observed in person who stops drinking alcohol or have a reduction in intake following a prolonged and heavy consumption.[2] Signs and symptoms usually begin to manifest 6-24 hours after the last drink.[3,4] Symptoms of AWS are autonomic hyperactivity manifesting as tremulousness, profuse sweating, nausea, vomiting, anxiety and agitation, usually peak within 24-48 hours[4,5], and abate within 2-7 days.[3] Neuronal excitation including seizures occurs in 12-48 hours of abstinence.[5] Delirium tremens, manifesting with auditory and visual hallucinations, confusion, disorientation clouding of consciousness, impaired attention, amnesia and profound autonomic hyperactivity including severe hyperthermia, usually presents 3-5 days into the withdrawal process.[3] The mortality rate for patient who progress to AWS is approximately 20%. Deaths are related most frequently to stroke or cardio vascular collapse.[7]

Port Harcourt is a cosmopolitan city with high oil and industrial activities and rural-urban population drift, resulting in heavy human and vehicular congestion. The resultant stresses probably contribute to heavy alcohol consumption in the populace as alcohol is a relaxant[8] and an inhibitor of central nervous system activity.[9-10] Being in the Niger-Delta region of Nigeria, a region noted for production and consumption of local gin called kai-kai, the geographical location of the city also contributes to its vulnerability to alcohol consumption.

While several studies have been done for alcohol dependence and abuse, few studies has been done to determine the prevalence of AWS in West Africa and Nigeria in particular. This is a

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study to determine the incidence and manifestations of AWS in the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria.

METHODS

All patients admitted into the Psychiatric, Medical, and Surgical wards of the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria between January 1999 and December 2003 was included in the study. The patients were admitted not necessary for alcohol related symptoms. Every patient was seen in detail by one of the authors (PCS). Socio demographic and clinical data were recorded. The alcohol abuse status was obtained through the CAGE Questionnaire.[11] Patients with AWS were identified based on the DSM IV Criteria.[2]

RESULTS

The total number of patients admitted within the study period aged 16-54 years was 2,405. There were 41% males and 59% females. Four hundred and three patients (17%) fulfilled the criteria for alcohol abuse, 700 patients (29%) were social drinkers and 1,302 patients (54%) were total abstainers, and 31 patients (1%) had AWS. Of those with AWS, 25 patients (81%) were males and 6 patients (19%) were females.

Table 1 lists the age distribution of AWS patients according to sex. Table 2-5 list the marital, religious status, family structure, educational status, social and occupation history, and forensic history of the patients. Table 6 lists the onset of clinical symptoms from the last drink, and Table 7 the clinical symptoms and signs of the patients. The mean duration of the alcohol intake was 21.5 years, and the mean quantity of alcohol taken was 49 units per week.

The AWS patients were treated with sedation consisting of parenteral diazepam between 40mg to 60mg for 24 hours, then oral diazepam of 5-10mg 8 hourly for about 5 days. Intravenous 5% dextrose saline was used for treating dehydration. Nutritional supplements of vitamin B-complex and folic acid were given for two weeks, and the locally sourced protein such as cray fish, groundnuts were added to the diet. Concurrent infection such as malaria was treated, and behavioral (aversion) therapy was administered for the alcohol abuse.

There was no mortality recorded among the AWS patients.

DISCUSSION

This present study shows a prevalence of alcohol abuse at 17% and AWS as 1% of patients of 16-54 years admitted to the Port Harcourt Teaching Hospital. The prevalence of alcohol abuse and AWS was consistent with other Western studies.[4,12] Of those with AWS, 81% were males and 19% females. The religious affiliation of the patients with AWS, 68% Christians, 23% traditional religion and 10% Islam, was consistent with the constituency of Niger-Delta, which was predominantly Christians. Close to two third of the patients with AWS were from polygamous home background. Close to three fifths of the patients with AWS had no formal education or dropped out of school. The poor socio-economic status and large family with possibly inadequate supervision of children probably contributed to the development of alcohol abuse.[13] These were consistent with many other Nigerian and Western studies.[12-17] Only 36% of the AWS patients were married. Close to two thirds were separated, divorced, widowed or never married. The single status may have contributed to, or a result of alcohol abuse. The mean duration of alcohol intake, quantity consumed and the mean age of first onset of AWS at 21.5 years, 49 units per week, and 37.5 years were also consistent with other previous studies.[12]

The onset of symptoms in our patients was 16% by 24 hours of admission, 39% by 48 hours, and 77% by 72 hours. The features seen in majority of patients were restlessness, insomnia, tremulousness, tachycardia, profuse sweating, disorientation in time and place, and moderate to severe dehydration. Although symptoms of alcohol withdrawal were self-limiting and abate within 2-7 days of the last drink, 10% of our patients went on to develop withdrawal seizures, which was consistent with previous studies.[18,19] Medically supervised withdrawal in an in-patient setting is thus necessary in alcohol dependent subjects who are at risk.[7,19]

The mortality rate for patients who progress to severe alcohol withdrawal syndromes and delirium tremens has been reported to approximate 20%.[7] However there was no mortality recorded in this study, despite many patients having severe symptoms. This may be due to early diagnosis, and prompt management.

Our study also documented the social and occupational difficulties as consequences of alcohol abuse with difficulties in relating to friends and relatives, lateness to work, absenteeism, job

Table 1: The age distribution of patients with AWS according to sex

Age	Males	Percent	Females	Percent
16 – 26 years	2	8	0	0
27 – 37 years	5	20	0	0
38 – 48 years	14	56	2	33
49 – 54 years	4	16	4	67
Total	25	100	6	100

Table 2: Marital, religious status and family structure of patients with AWS

Marital status	No. of patients (N = 31)	Percent
Never married	7	23
Married	11	36
Separated or divorced	9	29
Widowed	4	13
Religion		
Christianity	21	68
Islam	3	10
Traditional	7	23
Family structure		
Monogamy	11	35
Polygamy	20	65

Table 3: Educational status of patients with AWS

Education Status	No. of patients (N = 31)	Percent
Never been to school	7	23
Dropped out	8	26
Completed junior secondary	6	19
Completed senior secondary	7	23
Nursing/Ordinary national diploma	2	6
Higher national diploma/University education	1	3

Table 4: Social and occupation history of patients with AWS

	No. of patients (N = 31)	Percent
Difficulties with friends and relations	24	77
Lateness to work	21	68
Automobile accidents	11	35
Absenteeism from work regularly	11	35
Job loss	10	32
Domestic and industrial accidents	8	26

Table 5: Forensic history of patients with AWS

	No. of patients (N = 31)	Percent
Committed non violent crime e.g. stealing, fighting	13	42
Drunk during arrest	12	39
Arrested previously for various offences	9	29
Committed violent crime	3	10
Free from criminal history	4	13

Table 6: Onset of clinical symptoms in patients with AWS

Duration	No. of patients (N = 31)	Percent
1st 24 hrs	5	16
24 to 48 hours	7	23
48-72 hours	12	38
>72 hours	7	23

Table 7: Clinical symptoms and signs in patients with AWS

Features	No. of patients (N = 31)	Percent
Restlessness	31	100
Insomnia	31	100
Tremors	31	100
Tachycardia	31	100
Profuse sweating	19	61
Disorientation in time and place	19	61
Moderate or severe dehydration	16	52
Markedly elevated systolic blood pressure	14	45
Visual hallucination	13	42
Temp >37.5 degrees centigrade	12	39
Amnesia	31	35
Disorientation in person	8	26
Convulsions	3	10
Suicide	0	0

loss; automobile accident, domestic and industrial accidents. The higher incidence of crime and arrests among those with AWS found in this study was in line with previous findings.[12,20-23]

There was no reported case of attempted suicide in this study. This was in agreement with previous studies that most of the socio-cultural values of most African communities abhor suicides. An attempt to carry it out was seen as a taboo, an act that defiled the land. Hence a family whose member attempts or committed suicide was usually ostracized.[24] This punitive measure certainly served as a deterrent and may lead to concealment of suicide or attempted suicide even when it occurred.

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