

A STUDY OF THE UTILIZATION OF COUGH SYRUPS CONTAINING CODEINE AMONG DRUG ABUSERS IN ASKIRA UBA LOCAL GOVERNMENT AREA OF BORNO STATE NIGERIA

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ABSTRACT

Background: The Directorate of Narcotic and Controlled substances of the National Agency for Food and Drug Administration and control (NAFDAC) disclosed that a large number of Nigerians are abusing prescription of codeine.

Objective: The following work study the illicit use of cough syrup within Askira Uba Local Government Area of Borno State of Nigeria, with the aim of understanding the socio-demographic factors surrounding the phenomenon within the study community.

Methods: A questionnaire based survey was conducted within the study area. Volunteers numbering 83 were recruited from pharmaceutical premises that consented to participate in the study within the Local Government Area. The questionnaire basically addressed the socio-demographic characteristics of users of cough syrups containing codeine (CCCS) and other circumstances surrounding the usage. Data obtained were analysed using simple descriptive statistics.

Results: Most of the volunteers recruited turned out to be males (n= 73, 90.1%), aged between 20 to 30 years (n=51, 63.0 %) with substantial proportion having senior secondary school certificates as the highest educational attainment (n= 26, 32.2 %). Most respondents uses 1 to 3 bottles per day (n=77, 95.1%). Feeling of euphoria appeared to be the most popular goal of abusing CCCS (n=31, 38.3%) despite the weaknesses and discomfort that always followed a session or its absence.

Conclusion: CCCS use in Askira Uba is essentially a youthful male problem that appears to be a consequence of search for happiness and excitement.

Keywords: Cough syrups containing codeine, Drug abuse, Askira Uba.

INTRODUCTION

Drug abuse is described as the use of illicit drugs, or the abuse of prescription or over-the-counter drugs.¹ It has a wide repercussion on medical, social and economic wellbeing of the society and on criminal justice. Although both over-the-counter drugs (OTCs) and prescription drugs (PDs) are liable to be abused, the latter has far reaching consequences. According to the Director of National Institute of Drug Abuse (NIDA), an estimated 52 million people (20 % of those aged 12 and older) have used PDs for nonmedical reasons at least once in their lifetimes. Young people are

strongly represented in this group. In fact, NIDA's Monitoring the Future (MTF) survey found that about 1 in 12 high school seniors reported past-year nonmedical use of the prescription pain reliever Vicodin in 2010, and 1 in 20 reported abusing OxyContin – making these medications among the most commonly abused drugs by adolescents.²

According to results from the 2010 National Survey on Drug Use and Health (NSDUH), an estimated 2.4 million Americans used PDs nonmedically for the first time within the past year, which averages to approximately 6,600 initiates per day. More than

one-half were females and about a third were aged 12 to 17. Although prescription drug abuse affects many Americans, certain populations, such as youth, older adults, and women, were reported to be more at risk.³

PDs misuse can have serious medical consequences. Increases in PD misuse over the last 15 years are reflected in increased emergency room visits, overdose deaths associated with prescription drugs, and admissions for prescription drug use disorders, the most severe form of which is addiction. Among those who reported past-year nonmedical use of a prescription drug, nearly 12 % met criteria for prescription drug use disorder. Unintentional overdose deaths involving opioid pain relievers have more than quadrupled since 1999 and have out-numbered those involving heroin and cocaine since 2002.⁴⁻¹¹

Abuse of alcohol, nicotine, and illicit and PDs cost Americans more than \$700 billion a year in increased health care costs, crime, and lost productivity. Every year, illicit and prescription drugs and alcohol contribute to the death of more than 90,000 Americans.^{12,13,14}

Misuse of prescription psychotherapeutic drugs is second only to marijuana as the America's most prevalent illicit drug use issue. In 2015, the National Survey on Drug Use and Health (NSDUH) reported that an estimated 119.0 million Americans aged 12 or older used prescription psychotherapeutic drugs in the past year, representing 44.5 % of the population. About 97.5 million people used pain relievers (36.4 %), This number included 12.5 million people who misused pain relievers in the past year (4.7 %).⁴

Some over-the-counter (OTC) and prescription cough and cold medicines contain active ingredients that are psychoactive at higher-than-recommended dosages and are frequently abused for this purpose. These products may contain other drugs, such as expectorants and antihistamines, which are dangerous at high doses compounding the dangers of abuse.³

Some of these OTC drugs that are often abused includes codeine containing cough syrups (CCCS) used in suppression of cough and numerous

reports have indicated large scale abuse of such drugs.^{14,15,16} In Nigeria for example, there are growing health concerns on the rate at which CCCS are abused.^{15,16}

Faced with the alarming level of abuse of CCCS, the National Agency for Food and Drug Administration and Control (NAFDAC) removed the products from the list of OTC drugs. The agency ranks it on top in the list of substances that are commonly abused by Nigerians, especially by teenagers between the ages of 18-21.¹⁷ Cases of rampant abuse were reported in some cities of the Northern Nigeria including Kano, Kaduna, Maiduguri and Jalingo.¹⁸ Some enrollees of National Health Insurance Scheme have perfected arts of presenting symptoms to be rewarded with prescriptions of CCCS.¹⁹

In Malaysia, CCCS have long been used as a substitute for heroin since it is relatively cheaper and more readily available. Despite actions taken by the Drug Control Authority (DCA) to curb misuse and abuse of codeine, this problem persists and addiction towards this drug is becoming rampant.²⁰

In Denmark a new trend concerning the abuse of codeine has been reported by [Jensen and Hansen](#). Danish drug abusers have discovered that codeine is easily separated from a number of medicine mixtures which is then used either orally or intravenously.²¹

On a survey of primary abuse of CCCS in Nagaland, it was reported that most addicts were male in their early twenties whom were unmarried and educated up to matriculation. Most of the addicts in Assam were Hindus (85.4%) and in Nagaland, Christians (81.63%).⁸ Unemployment was predominant in both the groups. Mild forms of physical and psychiatric disorders amongst users were reported. Easy over-the-counter availability, lesser expenditure, milder withdrawals and ease of consumption without secrecy were some of the reasons observed by the study group for the emergence of this new form of addiction in Assam and Nagaland.²²

In the present Nigeria, CCCS were transferred from the 'OTC drug category to the 'prescription only'

(schedule drugs) category. Meaning that they could be obtained from drug shops only on presentation of a prescription from medically qualified doctor. Against this background, health care providers were called upon to understand that some drug users have figured out ways to manipulate the system to get CCCS.

This work study illicit drug utilization within Askira-Uba Local Government Area of Borno State, Nigeria, with the aim of understanding the socio-political factors surrounding the menace in the society.

MATERIALS AND METHOD

Study Area Askira/Uba is one of the biggest LGAs of Borno State in North-Eastern Nigeria. The Headquarter is located in the town of Askira. It has an area of 2,362km² and a population of 138,091 by 2006 preliminary census. Dominated by the Marghi tribe, it has a sizable population of Fulani tribes. It shares border with Chibok Local Government Area of Borno state to the North, Hawul and Michika Local Government Areas to the West and East respectively. Hong Local Government Area of Adamawa State borders it from to the South.²³

Data Collection

A survey was conducted in the LGA in the patent medicine shops and pharmaceutical chemists identified as data collection centers. Choice of centers was based on willingness of the pharmacy directors and shop owners to participate in the study.

A total of eighty three (83) volunteers were recruited in the premises of eleven medicine stores (pharmacies and patent medicine shops) distributed across the study area after they gave an informed consent. Participants are only recruited when they satisfy the inclusion criteria - intention to purchase CCCS without prescription and/or request for more than one bottle of CCCS with or without prescription.

Data Collection

Structured interviewer administered questionnaire was used to collect the data for this study. The data collected includes the sociodemography of the study group, pattern of and reason behind the use

of the CCCS as well as its effects on the participants.

Data Presentation/Analysis

Data was analysed with Statistical Package for Social Sciences (SPSS) version 16.0[®] (SPSS, Chicago, Ill, USA) and presented in the form of frequency tables. Chi-square analysis was used to test for statistical significance between categorical variables. A p-value of 0.05 was considered statistically significant.

Challenges faced/Limitation of the study

Enrollment of study centers (pharmacies and drug shops) and volunteers was greeted with difficulty for fear of legal implication making use of a scientifically acceptable method of sampling impossible.

RESULTS

Most the volunteers recruited were males of 20 to 30 years of age with senior secondary school certificates being the highest educational attainment as shown in table 1. Table 2 shows that majority of the study subject consume 1 to 3 bottles of CCCS per day. Feeling of euphoria appeared to be the most popular goal of abusing CCCS despite the weaknesses and discomfort that always followed a session or its absence. Our study showed that males have the highest frequency of all findings; the most common finding seen in males was skull fracture (14.5%), whilst cerebral contusion/edema and cerebral atrophy (4.5%) were the most common findings in females. Cerebellar infarction was the least common finding seen in both males and females (0.9%). (Table 4). Figure 2 shows that cerebral contusion (CC) (10%) was the most frequent of the intracranial hemorrhages in this study, and the least was Intraventricular hemorrhage (IVH) at 1.8%.

Table 1: Sociodemographic Characteristics of the respondents

Category	Variable	Frequency	%
Sex	Male	73	90.1
	Female	8	9.9
	Total	81	100
Occupation	Civil servant	5	6.2
	Student	28	34.6
	Farmer	24	29.6
	Business	15	18.5
	Driver	5	6.2
	Artist	1	1.2
	Drug vendor	3	3.7
	Total	81	100
Highest Educational	None	28	34.6
	PSLC	15	18.5
	SSCE/WAEC	26	32.1
	Islamic	1	1.2
	Diploma	8	9.9
	Degree	3	3.7
	Total	81	100
Age group	13-19	4	4.9
	20-30	51	63.0
	31-49	4	3.6
	Total	81	100

Table 2: Pattern of Consumption of CCCS amongst the Users in Askira/Uba LGA

Category	Variable	Frequency	%
Frequency of use	Very often	10	12.3
	Often	36	44.4
	Occasionally	20	24.7
	Rarely	15	18.5
	Total	81	100
Number of bottles per day	1-3	77	95.1
	4-6	4	4.9
	Total	81	100
Method of consumption	Alone	44	54.3
	With water	19	23.5
	With soft	13	16.0
	With alcoholic	5	6.2
	Total	81	100
Do clients use CCCS other than for the treatment of cough	Yes	70	86.4
	No	11	13.6
	Total	81	100

Table 3: Reasons behind abuse of CCCS among the study group

Category	Variable	Frequenc	%
Reason for the use	Sleeping	8	9.9
	Medication	4	4.9
	Feel slow	2	2.5
	Euphoria	31	38.
	Remove fear	1	1.2
	Anxiety	3	3.7
	Tipsy	4	4.9
	Cools temper	4	4.9
	Comfort	5	6.2
	Addiction	2	2.5
	Sexual enhancement	3	3.7
	Be with friends	1	1.2
	Increase libido	1	1.2
	Feel intoxicated	1	1.2
	Insomnia	1	1.2
	Take away problems	1	1.2
	Headache	1	1.2
	Fashion	1	1.2
	Driving	3	3.7
	Feeling of royalty	1	1.2
	Reading	2	2.5
	Farming	1	1.2
	Total	81	100

Table 4: Undesirable symptoms of withdrawal as described by study participants

Category	Variable	Frequency	%
How they feel	Weak	23	28.4
	Bad	14	17.3
	Very lazy	1	1.2
	Normal	18	22.2
	Slow	2	2.5
	Sick	3	3.7
	Mad	2	2.5
	Down	1	1.2
	Uncomfortable	8	9.9
	Sleepy	1	1.2
	Disturbed	4	4.9
	Lazy	4	4.9
	Total	81	100
Amount spent on CCCS per day (Naira)	#1000 and below	20	24.7
	Above #1000	26	32.1

Table 5: Social challenges related to abuse of CCCS by the study group

Category	Variable	Frequency	%
Ever encountered problem with the law	Yes	21	25.9
	No	60	74.1
	Total	81	100
Problems encountered	Obtaining the product	1	4.8
	Police arrest	7	33.3
	Fever	4	19.1
	Trouble with friends	2	9.5
	NDLEA arrest	2	9.5
	Stealing and nasty talk	2	9.5
	Segregation from friends	1	4.8
	Hospitalized	1	4.8
	Accident while driving	1	4.8
	Total	21	100
Are the family and friends aware they take CCCS	Yes	18	22.2
	No	63	77.8
	Total	81	100
Reaction from members of family and friends	Not happy	7	38.9
	Felt bad	6	33.3
	Friends are happy because we take it together	1	5.6
	Parents hate me	1	5.6
	Parents advice to stop taking CCCS	2	11.1
	Wife not happy with me	1	5.6
	Total	18	100

DISCUSSION

Of the 81 users of CCCS that participated in the study, 73 (90.1%) were males which is consistent with the findings of gender difference in drug abuse. Adult men are 2 to 3 times more likely than women to have a drug abuse/dependence disorder.^{25,26} A good proportion (34.6%) of the study group are student but the highest level of education attained was secondary school. The fact that the unemployed and the SSS certificate owners constituted the majority, suggests that unemployment might have contributed to the CCCS abuse.

The majority of the users admitted to consuming an average of 1 – 3 bottles of CCCS per day; a rate that was described as 'often'.

Popular modality of taking the CCCS amongst a fraction (16.0%) of the volunteers was by mixing it with soft drinks (mainly coca cola). This practice of using cola drink to mask the illicit drug use suggests that the users believed that the practice is a taboo within the Society. Some (13.6%) of the volunteers insisted that they only take it to cure cough. In its 2015 survey, the NSDUH reported that people aged 12 or older misused prescription pain relievers in the past year popularly to relieve physical pain (62.6 %).²

In describing their feelings following administration of CCCS which appear to be the motive behind usage, larger proportion of the volunteers cited feeling of euphoria. The common feeling whenever supply of CCCS is cut off are; 'weaknesses' (28.4%), 'bad' (17.3%) and 'uncomfortable' (9.9%). On the other hand, 22.2% do not experience any abnormal feeling in the absence of CCCS. It was reported that μ and K-opioid receptors are responsible for the antitussive property of codeine and also some of the adverse effects and withdrawal syndrome associated with its abuse.²⁴

Of the 81 volunteers, only 21 (25.9%) admitted having any form of challenges within the larger society in respect of their CCCS usage and these challenges was mainly with the Nigerian Police

Force (NPF) and National Drug Law enforcement Agency (NDLEA). Most of the volunteers (77.8%) stated that none of their family members or friends were aware of their usage of CCCS. The remaining 22.2% described the responses of their friends and family members as 'not happy' or 'felt bad' on their CCCS consumption. Neither sex nor occupation of CCCS users demonstrated any relationship with method of consumption, frequency or number of bottles taken par day ($p>0.005$). However, there was a relationship between their sex and motives behind usage of CCCS. As more males use the drug for the euphoric effect than females ($p<0.005$).

The occupation of users seems to be statistically associated with perceived benefits ($p<0.005$). The age group of users was neither statistically associated with frequency nor with number of bottles per day nor the daily amount spent on CCCS. However, the perceived benefits seem to be related to age groups of users.

CONCLUSION

Male farmers and students who have attained senior secondary school certificate constituted the highest proportion of users of CCCS in Askira/Uba LGA of Borno State. The users have perfected administering CCCS in soft drinks. The role of law enforcement agencies like NPF and NDLEA in curtailing CCCS abuse is minimal in the study area as such these agencies need to be invigorated. Family members need to also be proactive in counselling their kingpins on the non-medical consumption of CCCS.

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