



# The Perceptions of Health Care Providers on the Current Therapeutic Utility of Codeine Containing Cough Syrups in Askira-Uba Local Government Area of Borno State Nigeria

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**Abstract:** The non-medical consumption of codeine containing cough syrups (CCCS) in some communities of Northern Nigeria has become a subject of public concern of recent, largely due to its potential health hazards on the users and socio-economic impacts on the Society. The following work studied the drug prescribers' and dispensers' perceptions on the usage of CCCS within Askira Uba Local Government Area (LGA) of Borno State of Nigeria. The work aimed at understanding some health care providers' views of the therapeutic relevance of CCCS against the background of its abuse in Askira/Uba LGA. A questionnaire based survey was conducted within the study area. Health care providers, categorised into prescribers and dispensers were recruited and administered structured questionnaire. The questionnaire basically addressed demography of health care providers and socio-political factors surrounding the therapeutic utility of CCCS. Data obtained were analysed using simple descriptive and inferential statistics. The majority of the prescribers and dispensers were male of six to ten years of practice. The majority of patent medicine vendors did not support the idea of transferring CCCS from the Over-The-Counter (OTC) list to the Prescription-only-Medicine (PoM) list as against the perceptions of the other dispensers (pharmacists) as well as that of the prescribers. On the other hand, the notion of putting a ban on CCCS was supported by the majority of prescribers while the majority of the dispensers felt that a ban might not be necessary. Primary health care providers within Askira Uba LGA of Borno State have supported the idea of reclassifying CCCS from the OTC category to the PoM category with a view of controlling its distribution.

**Keywords:** Cough, Codeine, Narcotics, Askira-Uba, Borno State, Nigeria, Control Substances, Prescribers, Dispensers, Patent Drug Vendors

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## 1. Introduction

The relevance of cough as a useful physiological mechanism that clears foreign material and excess secretions from respiratory passages of human can never be over-emphasized. It should not be suppressed. However, in pathological cough, health care providers often use cough syrups to reduce the frequency or intensity of the cough. A category of such syrups that had gained wide acceptance because of its excellent central effects is the cough syrups containing opioids [1].

Cough suppression often occurs with lower doses of

opioids than those needed for analgesia. A 10- or 20-mg oral dose of codeine, although ineffective for analgesia, produces a demonstrable antitussive effect, and higher doses produce even more suppression of chronic cough [1]. Opioids commonly used in cough syrups include codeine, dextromethorphan, methorphan and other analogs of codeine. The use of codeine containing cough syrups (CCCS) - which is the most common type of opioid cough syrups - is limited by its abuse potential [2].

The non-medical consumption of codeine containing

cough syrups (CCCS) in some communities of Northern Nigeria has become a subject of public concern of recent, largely due to its potential health hazards on the users and socio-economic impacts on the Society [3]. It was reported that CCCS had been subject to abuse by teenagers and college students and fatalities often results after respiratory depression [4]. Chronic CCCS abuse can induce physical and psychological dependence. It may cause serious damage to the brain and neuroimaging may further illustrate decreased striatal dopamine transporters in the brain [5].

Severe obsessive-compulsive disorder has also been observed among abusers of CCCS [6]. Volume loss and aberrant functional organization in bilateral ventral medial prefrontal cortex (vmPFC) among CCCS users was also reported. Furthermore, the decreased vmPFC GM volume and attenuated functional connectivity of the vmPFC-inferior parietal lobe network were associated with clinical higher impulsivity trait in CCCS users [7].

An outcome of a national epidemiologic survey on codeine and related opioids in China, revealed that high prevalence of psychiatric disorders among nonmedical opioid users, particularly women [8].

In Nigeria, a press bulletin reported that the abuse of CCCS in Kano, especially among students and pupils in both secondary and primary school is quietly spreading like a wild fire on a wheat farm. Their mothers and aunties are major culprits too [9].

To curb this epidemic, the National Agency for Food and Drug Administration and Control (NAFDAC) is currently embarking on grass root awareness creation and sensitization campaign to warn the public of the risks of abuse/misuse of CCCS through campaign and talks in Schools and the use of Broadcasting media all over the Nation.

The Agency admitted that it has been confronted with rising cases of young persons and women abusing some cough syrups, especially codeine to get high.

The Federal Government of Nigeria had further enacted an act that ensured the transfer of CCCS from the 'Over the Counter' (OTC) list to the 'Prescription only Medicines' (PoM) (schedule) list. This invariably means that CCCS can only be obtained on presentation of genuine prescription from medically qualified personnel. However, the acceptability and impression of primary drug prescribers (medical doctors and community health extension workers) and dispensers (pharmacists and patent drug vendors) on the reclassification of CCCS to the scheduled list need to be ascertained so as to have a good idea of primary health providers' perspective of the health dilemma.

The following work studied the drug prescribers' and dispensers' views on the usage of CCCS within Askira Uba Local Government Area (LGA) of Borno State of Nigeria, with the aim of understanding the primary health providers' perspective of the menace.

## 2. Methods

### 2.1. 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 2,362km<sup>2</sup> and a population of 138,091 by 2006 preliminary census. Dominated by the Marghi tribe, it has a sizable population of Fulani tribes and others. It shares border with Chibok Local Government Area of Borno state from the North, while Hawul and Michika Local Government Areas from the West and East respectively. Hong Local Government Area of Adamawa State borders it from the South [10].

### 2.2. Study Population and Design

Health care providers practicing within the study area were recruited based on voluntary sampling for the survey. They were classified as either prescribers or dispensers. Prescribers were described as medical doctors and in some cases community health extension workers were included. Dispensers were defined as registered pharmacists, pharmacy assistants and patent medicine dealers. An observational descriptive design was adopted in the study.

### 2.3. Data Collection

Structured, mixed and non-disguised questionnaires were administered to the enrolled health care providers. The first part of the questionnaire addresses the demography and characteristics of respondents while the second part addresses the practices and opinions surrounding the therapeutic utility of CCCS under the present policy that is meant to address distribution.

### 2.4. Data Analysis

Data were grouped and presented in the form of frequency tables. Data was further analyzed by use of Statistical Package for Social Sciences (SPSS) version 16.0<sup>®</sup>. Chi-square analysis was used to test for statistical significance between categorical variables. A p-value of  $\leq 0.05$  was considered statistically significant.

## 3. Results

The majority of the prescribers and dispensers were males of six to ten years of practice. The majority of patent medicine vendors did not support the idea of transferring CCCS from the OTC list to the PoM list as against the perceptions of the other dispensers (pharmacists) as well as that of the prescribers. On the other hand, the notion of putting a ban on CCCS was supported by the majority of prescribers while the majority of the dispensers felt that a ban might not be necessary.

**Table 1.** Some Demographic and Basic Information of Prescribers of CCCS in Askira- Uba LGA of Borno State.

Category	Variable	Frequency	Percentage (%)
Gender			

Category	Variable	Frequency	Percentage (%)
Area of practice	Male	7	77.8
	Female	2	22.2
	Total	9	100
	Specialist	2	22.2
	Dentist	2	22.2
	Medical	2	22.2
	Gynecologist	1	11.1
	General practice	2	22.2
	Total	9	100
Number of years in practice	1-5	3	33.3
	6-10	5	55.6
	11-15	1	11.1
	Total	9	100
Qualification	MBBS	7	77.8
	BDS	2	22.2
	Total	9	100

*Table 2. Prescribers' Opinions on the Use and Control of CCCS.*

Category	Variable	Frequency	Percentage (%)
Reason for prescribing CCCS	Dry cough	7	77.8
	No response	2	22.2
	Total	9	100
Frequency Physicians prescribe CCCS	Often	1	11.1
	Not often	8	88.9
	Total	9	100
Frequency Physicians come across deliberate abuse by clients	Very often	3	33.3
	Often	3	33.3
	Not often	3	33.3
	Total	9	100
Should CCCS be made POM	Yes	9	100
	No	0	0
	Total	9	100
Should CCCS be Ban	Yes	7	77.8
	No	2	22.2
	Total	9	100

*Table 3. Some Demographic and Basic Information of Pharmacists Supplying CCCS in Askira-Uba LGA.*

Category	Variable	Frequency	Percentage (%)
Gender	Male	9	90
	Female	1	10
	Total	10	100
Area of practice	Community	8	80
	Civil service	2	20
	Total	10	100
Number of years in practice	1-5	2	20
	6-10	5	50
	11-15	2	20
	21-25	1	10
	Total	10	100
Qualification	B. Pharm	9	90
	Bsc. Pharm	1	10
	Total	10	100

**Table 4.** Practice and Perception on Dispensing of CCCS amongst Pharmacists in Askira-Uba LGA.

Category	Variable	Frequency	Percentage (%)
Frequency Pharmacist come across CCCS Prescription	Very often	2	20
	Often	4	40
	Not often	4	40
	Total	10	100
Perception of Pharmacists on Frequency clients that Visits Premises without prescription	Very often	1	10
	Often	2	20
	Not often	7	70
	Total	10	100
Perception of Pharmacists on Age group of Clients that patronize Pharmacy	13-19	1	10
	20-30	8	80
	31-50	1	10
	Total	10	100
Perception on Gender that patronize Pharmacy more often	Male	10	100
	Total	10	100

**Table 5.** Opinions of Pharmacists' on the Use and Control of CCCS in Askira-Uba LGA.

Category	Number of Bottles per Day	No of Pharmacy Shops	Percentage (%)
Turn-over Rates of CCCS	5	2	20
	6	1	10
	10	1	10
	15	1	10
	20	1	10
	30	2	20
	15	1	10
	Total	10	100
Should CCCS be made PoM	Yes	10	100
	No	0	0
	Total	10	100
Should CCCS be Ban	Yes	4	40
	No	6	60
	Total	10	100

**Table 6.** Some Demographic and Basic Information of Drug Vendors in in Askira-Uba LGA.

Category	Variable	Frequency	Percentage (%)
Gender	Male	10	66.7
	Female	5	33.3
	Total	15	100
Age of Drug vendor	20 & below	2	13.3
	21-30	6	40.0
	31-40	4	26.7
	41-50	2	13.3
	51 & above	1	6.7
	Total	15	100
Number of years in business	1-10	11	73.3
	11-20	2	13.3
	21-30	1	6.7
	31-40	1	6.7
	Total	15	100
Educational background	PSLC	2	13.3
	SSCE/WAEC	1	6.7
	NCE/OND	3	20.0

Category	Variable	Frequency	Percentage (%)
	Nurse	2	13.3
	Health technology	3	20.0
	Degree	4	26.7
	Total	15	100

*Table 7. Drug Vendors' Opinions on the Use and Control of CCCS.*

Category	Variable	Frequency	Percentage (%)
Frequency	Very often	1	6.7
	Often	4	26.7
	Not often	8	53.3
	Occasionally	2	13.3
	Total	15	100
Age group	13-19	1	6.7
	20-30	11	73.3
	31-49	3	20.0
	Total	15	100
Number of bottles	14	1	6.7
	21	1	6.7
	28	2	13.3
	35	5	33.3
	36	1	6.7
	38	2	13.3
	40	1	6.7
	70	2	13.3
	Total	15	100
Should CCCS be Ban	Yes	3	20
	No	12	80
	Total	15	100

## 4. Discussions

Out of the 9 prescribers, of which they were all medical doctors, seven (77.8%) were males. The prescribers were fairly distributed between the clinical sub-units of general practice, gynaecology, dentistry and two specialists. The majority (55.6%) had 6 to 10 years of clinical experience (table 1).

Most of the prescribers recommends CCCS in managing patients presented with dry cough and this class of patients are not often seen (table 2). However, going by the report of Elwood (2002) users of CCCS on insurance, have learned which symptoms to describe to get a prescription for cough syrup [3]. The majority of prescribers admitted coming across cases of deliberate misuse of CCCS by patients. All the prescribers supported the transfer of CCCS from the over the counter (OTC) list to the PoM list and 77.8% of them went ahead to support the idea putting a ban on the use of CCCS (table 2).

The Dangerous drug act of Nigeria classified Opioids and related drugs as schedule drugs (PCN 1990). Meaning that certain regulatory measures must be observed in their distributions and therapeutic usages. The quantity of codeine in CCCS was considered too little to warrant its inclusion in among the schedule drugs. Recently however, the Federal Government of Nigeria have reclassified CCCS as a schedule drug under the Dangerous drug act of 1990 to curtail its excessive abuse [11].

Of the 10 pharmacists enrolled in the study, only 1 is female. Half (50%) of the enrolled pharmacists have had 6 to

10 years of practice and 80% were in community pharmacy practice. The majority (70%) of the pharmacists described their encounter with cases of patients requesting CCCS without accompanying prescription paper as 'not often' and that 80% of the total request of CCCS were from the 20 to 30-year age category and they were all male. There was variable turnover rate of 5 to 30 bottles per day irrespective of the weather condition. All the pharmacists were of the opinion that CCCS should be maintained in the 'PoM list', 60% of which argued further that its usage should be banned. However, Howard and Huda believes that CCCS still has a place in managing pathological coughs [1].

Out of the 15 patent medicine vendors enrolled for the study, 10 (66.7%) were male. They mainly fall within the 21 to 30 age category and have been in business for 1 to 10 years. They have varying educational background ranging from primary school leaving certificates to diplomas (nursing, health technology, etc) and degrees. Those with degrees constituted the majority (26.7%). On the encounter with cases of patients requesting CCCS without prescription, 53.3% claimed that it is not often seen, despite the fact that they gave an estimated sales of 35 to 38 bottles per day. Most vendors (80%) do not see any need for transfer of CCCS from OTC list to PoM list and same proportion did not support the idea of putting a ban on sales of CCCS.

The selling of patent medicines appeared to be a lucrative job judging from the fact that degree holders with no health-related training have dominated the business and moreover, the majority thought that reclassifying CCCS to control drug category and/or putting a ban on it, is inappropriate. This popular idea of the patent medicine vendors might have been

born out of fear of decreased turnover of sales of CCCS if reclassified. Statistical significant ( $p < 0.05$ ) correlation have been demonstrated between the two form of dispensers and the support of ban or reclassification of CCCS. None of the other demographic variables of the volunteers showed any statistically significant relationship with either the decision of reclassification and/or ban on CCCS.

## 5. Conclusion

Primary health care providers within Askira Uba LGA of Borno State have supported the idea of reclassifying CCCS from the OTC to PoM category with a view of controlling its distribution. Some, advocated the concept of putting a total ban on it. However, patent medicine dealers perceived such move as unhealthy to the overall well-being of the Society.

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