

The Use of Over-The-Counter Drugs and Its Health Implications in Awka South LGA, Anambra State, Nigeria

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ABSTRACT

This work examined the use of over-the-counter drugs and its health implications in Awka South LGA of Anambra State, Nigeria. The objective of the study is to empirically interrogate the prevalence of over-the-counter drug use in Awka South LGA of Anambra State, Nigeria; the factors influencing it, and its health implications. The study used a mixed methods research approach, with 204 respondents selected through a multistage sampling procedure. The structured questionnaire and In-Depth Interview (IDI) guide acted as data-gathering tools. The quantitative data were coded and processed with SPSS version 20. Frequency tables were utilized to evaluate, characterize, and show the data, whereas quantitative data were manually transcribed and analyzed using content analysis. Two study hypotheses were developed and tested using chi-square inference statistics. This study revealed that various factors influence the use of OTC drugs in Awka South LGA. The study equally found that the use of OTC drugs is very prevalent in Awka South LGA. Moreover, the study also found that abusing OTC drugs has health implications. Based on these findings, this study recommended that the government should regulate the production, sale, and advertisement of OTC drugs. The study also recommended that sensitization and awareness programs should be carried out periodically to teach people when and when not to use OTC drugs.

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1. INTRODUCTION

The practice of using over-the-counter (OTC) drugs is more prevalent than the use of prescription drug use all over the world [1]. Non-prescription drugs or OTC medications refer to all drugs that can be legally purchased without needing medical prescription from medical personnel [2]. OTC drugs are mainly used for self-medication purposes because they do not require a doctor's prescription. OTC medications provide prevention and

treatment for a variety of ailments, like headaches, flu, body pain, allergies, fever, tobacco dependence, heartburn, etc. [3].

Self-medication (SM) is the act of using drugs to improve one's health without necessarily consulting with health experts [4]. It is the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent diseases or symptoms [5]. Practiced globally, self-medication using OTC drugs is a significant public health issue, with prevalence rates ranging from 11.7% to 92% across the world [6]. In Kuwait, India, and Nepal prevalence rates are estimated at 92%, 31%, and 59% respectively. In Sudan and Cameroun, the prevalence of 73.9% and 55.7% have been estimated respectively, while a study in Nigeria showed a prevalence rate of 85% [7]. The various places where these drugs are gotten equally serve as a source of knowledge about drugs. OTC drugs that are commonly used include anti-malarial, analgesic, and antibacterial [8]. Different people take different measures to achieve well-being and freedom from illness based on their attitudes and experiences. Beliefs, feelings, and thoughts of an individual significantly influence their understanding of an illness, which in turn affects the decision taken to address it [9]. Lack of money, ignorance, the long distance to health-care facility, the poor attitude of health workers, re-treatment of similar illness, lack of health personnel, previous experience, access to pharmacies, family pressure, availability of medications at home, the mildness of the disease and previous knowledge about medications are some of the factors that promote self-medication using OTC drugs [10].

The use of OTC drugs is very common in developing countries like Nigeria where there is relatively easy access to a wide range of over-the-counter (OTC) drugs with proven efficiency and safety [5]. Over-the-counter (OTC) drugs, which can be purchased by consumers without a medical prescription, are believed to be relatively safe and suitable for use without the supervision of healthcare professionals [11]. When properly used, OTC drugs could be beneficial to individuals and health systems. It saves time spent queuing up for medical consultations; saves scarce medical resources from being used on minor health conditions; lightens the workload of health workers, decreases healthcare costs, and reduces absenteeism from work. Despite these numerous benefits, many undesired outcomes may result from inappropriate use, especially with antibiotics [12]. The indiscriminate use of OTC drugs contributes to the development of antimicrobial resistance [13]. Furthermore, it can also cause serious health hazards, including death [11].

The most common OTC drugs include Paracetamol, ibuprofen, vitamin C, cough syrup, etc. [13]. Pharmaceutical stores play a huge role in the issue of utilization of OTC drugs [14]. In a bid to make a lot of money, some pharmacists encourage people to buy their drugs without a doctor's prescription. And in some cases, they even prescribe drugs for their customers [14].

The objectives of this research are: to investigate how prevalent the use of OTC drugs is in Awka South LGA of Anambra state; to identify the factors that influence the use of OTC drugs in Awka South LGA of Anambra state, Nigeria; and to uncover the health implications of the use of OTC drugs in Awka South LGA of Anambra state, Nigeria.

The research problem of this work revolves around the health implications of the use of OTC drugs. The significance of this research problem stems from its relevance to public health and safety. OTC medications are freely accessible to consumers without a prescription, resulting in widespread self-medication. However, misusing or overusing these medications can have major health consequences, such as unpleasant reactions, drug interactions, addiction, masking of underlying medical issues, and delaying proper treatment.

This study is very significant in that it will recommend measures that can be adopted to curb the indiscriminate use of OTC drugs in Nigeria generally, and Awka South LGA specifically. It will also provide empirical information to policymakers and the general public on the various factors influencing the use of OTC drugs in Awka South LGA. Moreover, it will provide useful data that will enable the government, NGOs, and policymakers to make policies that are geared toward curbing indiscriminate OTC drug use. Finally, this work will enlighten the general public on the health implications of the indiscriminate use of OTC drugs. It is therefore hoped that this research will inform the safe use of over-the-counter medications. This work could also benefit other researchers who may be interested in carrying out a similar study.

Though researchers like Kamal et.al [13] among others have conducted a similar survey in different locations, the specific focus of this survey on Awka South LGA of Anambra State, Nigeria sets this research apart from others that may have a broader or different geographic scope. This localized approach allows for a more in-depth analysis of the over-the-counter drug usage patterns and health implications within this particular region. However, these similar works provided a rich array of literature for this study.

This study seeks to fill a research gap by providing a comprehensive understanding of the prevalence, patterns, and health consequences of over-the-counter (OTC) drug use in Awka South Local Government Area (LGA) of Anambra State, Nigeria. This study gap is significant since the use of OTC medications without sufficient medical supervision or consultation can result in a variety of health problems, drug interactions, and even toxicity. Furthermore, data are scarce on this topic in the context of Awka South LGA, limiting the potential to establish effective public health interventions and policies. Therefore, this study aims to fill this research gap by surveying a representative sample of the population in Awka South LGA to assess the prevalence and patterns of OTC drug use and its associated health implications.

2. METHOD

The study was done in Awka South Local Government Area of Anambra state, South-east Nigeria. The multi-stage sampling procedure, which involves breaking down the sampling process into distinct stages and employing various sampling techniques, was implemented. Due to the huge size of the target population, the multi-stage sampling approach was deemed appropriate for this study. The Taro Yamane formula [15] was used to calculate a sample size of 204. The study's target population is adults, defined as those aged 18 and up. This study used a mixed methods research approach, which combines quantitative and qualitative approaches [16]. The quantitative data was collected using a

questionnaire schedule, while the qualitative data was collected via an In-Depth Interview (IDI). Participants for the In-Depth Interview were selected using a purposive sampling technique based on their expertise in the topic of inquiry. The quantitative data were cleaned, processed, and analyzed with the Statistical Package for Social Sciences (SPSS) version 20 software. The data were presented as well using tables. Verbatim IDI quotes were used to support and clarify the quantitative data conclusions. The chi-square (χ^2) inferential statistics was used to examine the hypotheses developed for this paper.

3. RESULTS AND DISCUSSION

Two hundred and four copies of questionnaires were distributed, but 201 (98.5%) of the distributed copies of questionnaires were correctly filled and collected. The analysis for this survey is therefore based on the 201 correctly filled and collected copies of questionnaires.

3.1. Socio-Demographic Data

Table 1 below displays the respondents' demographic information.

Table 1. Demographic data of the respondents

Variables	Frequency	Percent
Gender		
Male	84	41.8
Female	117	58.2
Total	201	100
Age Group		
18-25	137	68.2
26-33	49	24.4
34-41	5	2.5
42-49	4	2.0
50-57	4	2.0
58-65	1	0.5
66+	1	0.5
Total	201	100
Marital Status		
Single	170	84.6
Married	30	14.9
Widowed	1	0.5
Total	201	100
Religious Affiliation		
African Traditional Religion	11	5.5
Christianity	184	91.5
Islam	4	2.0
Atheism	2	1.0
Total	201	100
Educational Qualification		
FSLC	9	4.5
SSCE/GCE	106	52.7
OND/NCE	18	9.0
Bachelor's Degree/HND	60	29.9

Variables	Frequency	Percent
Postgraduate Degree	8	4.0
Total	201	100
Occupation		
Unemployed	4	2.0
Student	149	74.1
Self-employed	27	13.4
Civil/Public Servant	12	6.0
Artisan	2	1.0
Other	7	3.5
Total	201	100

Table 1 reveals that 58.2% of respondents are female and 41.8% of respondents are male. As a result, there were more female responders than male. Of the responders, 68.2% are between the ages of 18 and 25 and 0.5% are 66 years of age or older. 84.6% of the respondents are single, and 0.5% are widowed, in terms of marital status. Atheists make up 1% of the respondents, and Christians make up 91.5%. The highest educational credential held by 52.7% of the respondents is an SSCE or GCE, whereas 4% have a postgraduate degree. Of those surveyed, 1% are artisans and 74.1% are students.

3.2. Research Questions

1. How prevalent is the use of OTC drugs in Awka South LGA of Anambra state, Nigeria?
2. What factors influence the use of OTC drugs in Awka South LGA of Anambra state, Nigeria?
3. What are the health implications of the use of OTC drugs in Awka South LGA of Anambra state, Nigeria?

The findings are illustrated in the tables below.

Table 2. Respondents' views on the prevalence of OTC drug use

Responses	Frequency	Percentage
Very prevalent	126	62.7
Prevalent	40	19.9
Moderately prevalent	26	12.9
Not prevalent	3	1.5
I don't know	6	3.0
Total	201	100

According to Table 2, 62.7% of the respondents indicated that the use of OTC drugs is prevalent, while 1.5% opined that it is not prevalent. This view was supported by one of the IDI respondents, a health worker who said Over-the-counter drugs? They are prevalent. They are everywhere. In chemist shops, in stores, they are everywhere. Unauthorized people even sell them. They are very accessible. They are not hard to get. Just look at the number of chemist shops we have in this street alone. That tells you how prevalent these drugs are.

The respondents were asked if they usually take OTC drugs when they have health problems. The responses are illustrated in Table 3.

Table 3. Respondents' views on whether they take OTC drugs when they have health problems

Responses	Frequency	Percentage
Yes	197	98.0
No	4	2.0
Total	201	100

Table 3 shows that 98% of the respondents opined that they take OTC drugs when they have health problems, while 2% said they do not take OTC drugs when they have health problems. An IDI participant, a student had this to say: *Well, yes, I normally take these drugs when I fall sick. I mean, you don't expect me to go to a hospital because of a mild headache or stomach ache (laughs). So yes, I take them whenever I notice that I am not feeling very strong. I only visit a hospital when the symptoms persist, even after taking drugs. But I honestly don't think I have visited a hospital up to 5 times.*

Respondents who take OTC drugs were asked to indicate the particular type of OTC drug they commonly take. Their responses are shown in Table 4 below:

Table 4: Respondents' views on the OTC drug they commonly take

Responses	Frequency	Percentage
Cough syrup	32	16.2
Antimalarial drugs	96	48.7
Analgesics	58	29.4
Antibiotics	5	2.5
Others	6	3.0
Total	197	100

As shown in Table 4, 48.7% of the respondents opined that antimalarial drugs are commonly taken OTC drugs, while 2.5% indicated that Antibiotics are commonly taken OTC drugs. An IDI participant a patent medicine store owner captured it thus: *You know because of our environment; people are usually prone to malaria and typhoid. In a day, I usually sell different antimalarial drugs to up to seven eight, or even ten people, and that excludes patients who come for antimalarial injections. People also buy Paracetamol, Panadol, and other drugs. However antimalarial drugs are usually the drugs people commonly buy and take.*

The respondents were further asked if the drugs were usually effective in tackling their health issues. Table 5 shows how they responded:

Table 5. Respondents' views on the effectiveness of OTC drugs in tackling their health issues

Responses	Frequency	Percentage
Yes	126	64.0
No	33	16.7
Sometimes	38	19.3
Total	197	100

Table 5 indicates that 64% of the respondents opined that OTC drugs were effective in tackling their health problems, while 16.7% opined that they were not effective. An IDI participant, a civil servant said *generally, I would say that OTC drugs are effective in tackling a wide range of health problems. For instance, not too long ago, I was very sick. I was down with malaria. I went to a chemist's shop and bought one particular malaria tablet. The moment I took the tablet, I started sweating. The next day, I was perfectly fine and healthy. So, I will say that they are very effective.*

The respondents were asked if they usually recommend OTC drugs to others. Table 6 summarizes their responses:

Table 6. Respondents' responses on whether they usually recommend OTC drugs to others

Responses	Frequency	Percentage
Yes	196	97.5
No	5	2.5
Total	201	100

As revealed in Table 6, 97.5% of the respondents indicated that they recommend OTC drugs to others, while 2.5% indicated otherwise.

Table 7. Respondents' views on whether there are factors influencing OTC drug use

Responses	Frequency	Percentage
Yes	200	99.5
No	1	0.5
Total	201	100

According to the data shown in Table 7, while 0.5% of respondents disagreed, 99.5% of respondents said that certain factors influence the use of over-the-counter medications. We questioned the respondents who said "Yes" what factors affect their use of over-the-counter medications. Table 8 displays their responses.

Table 8. Respondents' views on factors influencing OTC drug use

Responses	Frequency	Percentage
Level of income	40	20.0
Level of education	10	5.0
Accessibility of OTC drugs	82	41.0
Lack of affordable healthcare	62	31.0
Other	6	3.0
Total	200	100

In Table 8, it is observed that 41% of the respondents opined that accessibility of OTC drugs is the major factor influencing its use, while 3% opted for other unspecified factors. An IDI participant and a teacher captured it thus: *I think that is a normal thing in Nigeria. Once people have a headache, they would just go to a chemist's shop to get Paracetamol instead of going for a medical test. They feel it is something they can easily handle. They feel going for a test is a waste of time.*

The respondents were asked if OTC drugs were readily available in their locality. Their responses are captured in Table 9 below:

Table 9: Respondents' views on the availability of OTC drugs in their locality

Responses	Frequency	Percentage
Yes	183	91.0
No	18	09.0
Total	201	100

Table 9 shows that 91% of the respondents indicated that OTC drugs are readily available in their locality, while 9% indicated otherwise. An IDI participant, a health worker affirmed that *over-the-counter drugs are very accessible in my locality. They are very accessible. There are lots of pharmacies here. You could just walk into one and tell them you need a particular drug, and you will get it. So people patronize them a lot.*

The average cost of over-the-counter medications was also posed to the respondents. Table 10 presents a summary of their responses.

Table 10. Respondents' views on the affordability of OTC drugs

Responses	Frequency	Percentage
Very expensive	6	3.0
Moderately expensive	47	23.4
Cheap	146	72.6
I don't know	2	1.0
Total	201	100

Table 10 indicates that 72% of the respondents indicated that OTC drugs are generally cheap, while 3% opined that they are expensive. An IDI participant, a trader agreed that *they are generally very cheap. Whenever you pass by a chemist's shop, you see people trooping in and buying different drugs for different purposes. It is generally easier and cheaper to buy OTC drugs than to go for treatment in a hospital. So, these drugs are... though there are some expensive ones, they are generally affordable.*

Table 11. Respondents' responses on whether abusing over-the-counter drugs can have health consequences

Responses	Frequency	Percentage
Yes	197	98.0
No	4	2.0
Total	201	100

As captured in Table 11, 98% of the respondents opined that abusing OTC drugs can have health consequences, while 2% opined otherwise. According to an IDI participant, a Patent medicine store owner, *of course, there are health implications when you abuse these drugs. For me, I try as much as possible to recommend the right medication for anybody who comes to my shop. I don't just sell to make money. I also tell people which particular drug would be best for their health issues. There are some drugs you would take, especially antibiotics, and they would have adverse reactions on you or even worsen your case. So it is always important to give accurate details of your health issue when you want to buy any drug from a chemist's shop.*

The respondents were asked if they had had any negative experiences using OTC drugs. Table 12 shows how they responded to the question:

Table 12. Respondents' responses on whether they have had negative experiences using OTC drugs

Responses	Frequency	Percentage
Yes	50	24.9
No	151	75.1
Total	201	100

Twenty-four-point nine percent (24.9%) of the respondents opined that they have had a negative experience after using an OTC drug, while 75.1% opined otherwise. An IDI participant, a student had this to say: *Yeah, I had one particular experience some time ago. I was down with malaria, so I went to a chemist's shop to get malaria drugs. After taking the drugs, I started feeling very dizzy. My head was spinning, and it was as if I would faint. But thank God it was nothing serious. I felt better after a long, deep sleep.*

The respondents who indicated that they had had a negative experience after taking OTC drugs were asked what the negative experience was. Their responses are summarized in Table 13 below:

Table 13. Responses on people's negative experience with OTC drugs

Responses	Frequency	Percentage
Dizziness	22	44.0
Vomiting	15	30.0
Nausea	4	8.0
Other	9	18.0
Total	50	100

Among those who used over-the-counter medications, 44% reported feeling dizzy and 8% reported feeling nausea. A question on whether the respondents kept taking the medication despite negative side effects was posed to them. Table 14 documents their responses.

Table 14. Respondents' responses on whether they continued with an OTC drug after experiencing adverse reactions

Responses	Frequency	Percentage
Yes	5	10.0
No	45	90.0
Total	50	100

Ninety percent (90%) of respondents said they stopped taking OTC drugs after encountering negative side effects, while 10% said they continued.

3.3. Test of Hypotheses

The two hypotheses proposed to guide this investigation were examined and interpreted using chi-square inferential statistics. The hypotheses are the following:

1. There is a strong correlation between OTC drug consumption and educational attainment. in Awka South LGA of Anambra state, Nigeria.
2. A significant relationship exists between gender and the use of OTC drugs in Awka South LGA of Anambra state, Nigeria.

Table 15. The relationship between the level of education and the use of OTC drugs in Awka South LGA of Anambra state, Nigeria

		Do you usually take over-the-counter drugs when you have health problems?		Total
		Yes	No	
What is your highest formal educational qualification?	FSLC	9	0	9
	SSCE/GCE	80	26	106
	OND/NCE	16	2	18
	Bachelor's degree/HND	52	8	60
	Postgraduate degree	4	4	8
Total		161	40	201

$X^2 = 10.703$, $DF = 4$, $P\text{-value} = 0.30$

With the P-value of $0.30 \geq 0.05$, we therefore reject the substantive hypothesis and accept the null hypothesis. Thus, there is no significant relationship between the level of education and the use of OTC drugs in Awka South LGA of Anambra state, Nigeria.

Table 16. The relationship between gender and the use of OTC drugs in Awka South LGA of Anambra State, Nigeria

		Do you usually take over-the-counter drugs when you have health problems?		Total
		Yes	No	
What is gender?	Male	70	14	84
	Female	91	26	117
Total		161	40	201

$X^2 = 0.947$, $DF = 1$, $P\text{-value} = 0.331$

With the P-value of $0.331 \geq 0.05$, we therefore reject the substantive hypothesis and accept the null hypothesis. Thus, there is no significant relationship between gender and the use of OTC drugs in Awka South LGA of Anambra state, Nigeria.

3.4. Discussion

This study revealed various factors that influence the use of OTC drugs in Awka South LGA, of Anambra state, Nigeria. This finding is in line with Tachi et.al [17] whose study revealed that factors like age, gender, disease, and alcohol intake/smoking status all affect the use of OTC drugs to varying extents. The study equally found that easy access to OTC drugs is the main factor influencing the use of OTC drugs in Awka South LGA. This finding is however at variance with Buabeng, Ampratwum, Rosina, and Swad [18] whose study in Ghana reported that lack of time for a hospital visit constituted the major factor influencing the use of OTC drugs in a part of Ghana. The study equally found that OTC drugs are generally cheap and affordable. This finding aligns with Alomaim et al., [19] whose study found that OTC drugs are generally cheap.

This study observed that the use of OTC drugs is very prevalent in Awka South LGA. This discovery is consistent with Iheanacho and Adam [20] whose work reported that OTC drug use is prevalent in Nigeria. The study further uncovered that most people take OTC drugs when they are ill. This observation aligns with Akinnawo, Onisile, Alakija, and Akpunne [21] whose study reported the prevalent use of OTC drugs in South-west Nigeria. The study found that antimalarial drugs are the most consumed OTC drugs in Awka South LGA. The study also established that residents of Awka South LGA considered OTC drugs to be very effective in tackling their health challenges. This finding aligns with the outcome of a study by Akinnawo et.al. [21] which reported that OTC drugs are considered to be highly effective. The study also discovered that many people usually recommend OTC drugs to their family members, relatives, friends, and their wider social cycle. This could be a result of their pleasant experience with a drug in treating an ailment in the past [20].

The study found that abusing OTC drugs has health implications. This finding corroborates Tesfamariam et al [22] whose survey observed that abusing OTC drugs could lead to some adverse reactions. It is however at variance with Chautrakarn, Khumros, and Phutrakool [23] whose study reported that only a fraction of the respondents agreed that it has health implications. The study also revealed that only a few people experienced adverse reactions after taking an OTC drug, and dizziness was the most common adverse reaction. This finding resonates with the finding of a study by Mekuria, Birru, Tesfa, Geta, Kifle, and Amare [24] who reported that only a few respondents experienced an adverse reaction after taking an OTC drug.

The study shows that there is no relationship between one's level of education and their use of OTC drugs in Awka South LGA. This finding is different from Kassie, Bifftu, and Mekonnen [25] whose study revealed a strong link between one's level of education and the use of OTC drugs. Similarly, Esan et al [26] found a nexus between the level of education and the use of OTC drugs in Nigeria. The study also observed that there is no significant relationship between one's gender and the use of OTC drugs. Conversely,

however, Tachi et.al. [17] found in their study that gender is a strong predictor of OTC drug usage. Lorentzen, Lorentzen, and Wikstrom [27] agreed that females have a higher usage of OTC analgesics compared to males.

The results of this study have enhanced the health belief model, which served as the study's theoretical foundation. According to the HBM, people's risk perception of a condition, among other things, heavily influences their decision to accept or reject any healthcare option provided to them, including the usage of OTC medications. As a result, if people believe a condition is dangerous, they are more inclined to seek medical attention. However, if they believe the danger of a specific illness is low, they may choose over-the-counter medications.

These findings could be useful to the authorities and NGOs, as well as the public. It will provide empirical data on the dynamics of OTC drug use in Awka South LGA of Anambra state, Nigeria. This empirical data could form the basis of government policies in ensuring that the production and sale of OTC drugs are well regulated. It could equally serve as an educative document to both NGOs and the public who may want to gain insight into the state of OTC drug use in Awka South LGA. It could also be useful to researchers who want to do a similar study.

4. CONCLUSION AND RECOMMENDATION

4.1 Conclusion

The use of OTC drugs is prevalent. OTC drugs are not necessarily dangerous on their own. When used properly, they could treat a wide range of health conditions that may not necessarily need a medical practitioner's attention, but when abused, they could have serious health implications that could prove fatal. The government needs to ensure that the production, sale, and advertisement of OTC drugs are regulated. It is equally important that sensitization and awareness programs are carried out periodically to teach people when and when not to resort to the use of OTC drugs. These measures will ensure that people use OTC drugs responsibly and healthily.

4.2 Recommendations

The findings of this research have led to the following recommendations being made:

1. The government should regulate the production, sale, and advertisement of OTC drugs.
 2. Only licensed patent medicine store owners should be permitted to sell OTC drugs.
 3. Sensitization and awareness programs should be carried out periodically to teach people when and when not to use OTC drugs.
 4. The government should subsidize the cost of health care so that people can go to the hospital when need be, and not depend entirely on using OTC drugs.
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