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Self-medication among pharmacy undergraduates in the university of Uyo, Nigeria.

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ABSTRACT

Self-medication is an issue of great concern particularly in developing countries like Nigeria where there is unrestricted access to drugs, including prescription only medicines. There is paucity of data on self-medication among pharmacy undergraduates in Nigeria. The aim of this descriptive cross sectional study was to assess the prevalence of self-medication among undergraduate pharmacy students of the University of Uyo, Nigeria. The study was carried out between October and November, 2015, using self-administered questionnaires, which were collected in the various classes after completion. Data were analyzed using Statistical Product and Service Solutions (SPSS) Version 16.0. The prevalence of self-medication in this study was 82.0% with most frequently reported illness being fever/malaria (33.2%). The major reasons for self-medication were mildness of the disease (48.2%) and being knowledgeable about drugs (22.5%). Analgesics (70.2%) and antibiotics (61.9%) were the two most frequently used classes of medications, most of which were obtained from pharmacy outlets (60.9%). Academic knowledge (24.7%) was the most frequently reported source of drug information for self-medication in this study. The prevalence of self-medication among undergraduate Pharmacy students of the University of Uyo was high. No demographic characteristic was found to affect self-medication practice. In other to reduce the practice of self-medication among Pharmacy undergraduates and hence minimize its attendant negative effects, efforts to promote responsible self-medication and rational drug use should be intensified in Schools of Pharmacy.

Keywords: Self-medication, Prevalence, Pharmacy undergraduates, University, Prescription.

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INTRODUCTION

Self-medication, according to World Health Organization,[1] "involves the use of medicinal products by the consumer to treat self-recognized disorders or symptoms, or the intermittent or continued use of a medication prescribed by a physician for chronic or recurring diseases or symptoms." Self-medication is a form of self-care and is generally encouraged when it deals with minor illness.[2] Health problems can be considered minor when the duration is limited, and such illnesses perceived as non-threatening to the individual.[3]

If practiced appropriately, self-medication can help in the prevention and the treatment of signs and symptoms which do not require a doctor's visit[2]; it can also enable those patients with chronic conditions to take responsibility of their care and lessen the workload of health care personnel, particularly significant where such personnel are inadequate[4]**;** it increases health awareness among people and allows them to build confidence in the management of their health.[5] However the practice of responsible self-medication requires a certain level of knowledge about medications[1,6] as well as disease conditions. For an individual to self-medicate appropriately, they, just like the medical practitioner, should be able to correctly recognize symptoms, set therapeutic goals, select appropriate medicament and determine appropriate dosage vis-a-vis their medical history, contraindication(s), monitor response to treatment and possible side effects.[1] Improper practice of self-medication due to inadequate knowledge can thus, lead to untoward effects particularly in physiological conditions like pregnancy and breastfeeding, and in special populations, such as children and the aged.[7,8] Interactions (drug-drug, drug-food), drug abuse and dependence are other potential undesirable effects of inappropriate use of drugs; in addition, the emergence of resistant pathogens poses a problem when antibiotics are used irrationally.

The increasingly high prevalence rates of self-medication may be due to socio economic factors, lifestyle, ready access to drugs, the increased potential to manage certain illnesses through self-care, and greater availability of medicinal products,[2] dissatisfaction with long waiting time at clinics, lack of time, previous experience with the condition and its drug management, lack of nearby health facilities, unavailability of health professionals[9],influence of the media and advertisement.[10] Some patients have also discovered that self-medication of minor ailments is more convenient and less time consuming.[5]

Inappropriate self-medication can lead to increased risk of misdiagnosis, masking of a more serious underlying ailment, overdosing, prolonged duration of treatment, undesirable or fatal

drug interactions and poly-pharmacy.[5] According to World Health Organization,[1] risk of incorrect diagnosis, incorrect method of administration, risks of dependence and abuse, improper storage, medication wastages, amongst others, are some of the problems associated with self-medication.

Despite the possible grave consequences, prevalence of self-medication still remains high particularly in developing countries like Nigeria, where there is virtually unlimited access to most prescription drugs.

Knowledge of medicines has been shown to promote self-medication,[9,11] probably explaining why the practice is common among health professionals.[6] Self-medication is also generally common among undergraduates[11,12] and particularly more prevalent among Pharmacy undergraduates than Medical students.[13-15] Alam and co-workers[16] however reported no significant difference between medicine and pharmacy students.

Various studies[13,14,17-19] have reported self-medication prevalence ranging from 38.5% to 92.0% in undergraduate Pharmacy students**.** However, information on self-medication among pharmacy students in Nigeria is sparse. This study therefore sought to assess the prevalence of self-medication among undergraduate students of Pharmacy of the University of Uyo, Nigeria; determine factors that might predispose such students to this practice, as well as assess their attitude towards self-medication.

MATERIALS AND METHOD

Instrument for Data Collection

Self-administered questionnaires adopted from a previous study[12] were used. The questionnaires which were pretested on a sample of 15 students, consisted of both open- and closed-ended questions. In addition to demographic information, the instrument sought information on practice of self-medication, complaints that prompted self-medication, drugs commonly used for self-medication, sources of drugs used, sources of information about such drugs, reasons for self-medication, amongst other information.

Setting

The research work was carried out in the University of Uyo, a tertiary institution situated in Uyo, the capital of Akwa Ibom State of Nigeria. Established by the Federal Government, the institution currently has twelve Faculties spread across two campuses.

Study Sample

A minimum sample size of 205 was obtained using the formula described by Yamane.[20] However, considering a non-response rate of 10%, incompleteness of data or error in filling the questionnaire, 300 questionnaires were distributed to respondents. Participants surveyed were undergraduate pharmacy students who were willing to participate in the study while those that were unwilling to participate were excluded.

Data Collection and Analysis

The questionnaires were distributed to pharmacy students of different levels of study in their respective lecture rooms, and from whom informed consent had been sought. After filling, these were collected on the spot. The study was done between October and November, 2015.

Data were analyzed using the Statistical Product and Service Solutions (SPSS) version 16.0. Descriptive statistics were used to summarize students' demographic data and to evaluate response distribution. The chi square tests of independence, as well as the Fisher's exact tests were used to evaluate associations between respondents' demographic characteristics and self-medication status. Statistical significance for all analyses was defined as a ρ value less than 0.05.

Ethical Issues

To obtain the consent of students prior to data collection, a detailed explanation on the objectives of the study was given. Anonymity and confidentiality were also assured and ensured.

RESULTS AND DISCUSSION

Two hundred and eighty eight out of 300 questionnaires distributed to students, were filled and returned yielding a response rate of 96%. Twenty two out of these were incorrectly filled and as such discarded. Twelve questionnaires were not recovered.

Demographic Characteristics of the Respondents

Table 3.1 shows that the study sample comprised 126 (47.4%) females and 140 (52.6%) males. Majority (54.1%) of the respondents fell within the age range 21-25years. About half of them were in the first two years of study: 24.4% of the respondents were from first year, 25.2% from second year. Only 12.4% were in their fifth year of study. Majority (95.9%) of the students were single. 98.1% of the students indicated that they were not taking any drug for long term illness while only a few (1.9%) were found to be on such drugs.

Attitude and Practice towards Self-Medication

Majority (82%) of the students accepted to have treated themselves in the past 6 months. More than half (59.8%) of the students agreed to have ever given their prescription medicines to others. More than three-quarter (88.3%) of these students knew it is unsafe to take drugs without

prescription; an even higher proportion (94.7%) said they would not encourage self-medication. As to whether the respondents do read medication leaflets whenever they bought a drug, about half of them (50.8%) agreed that they always did, while only 5.6% never read such leaflets (Table 2).

Reasons for Self Medication

Majority (48.2%) of the students indicated that they subscribe to self-medication when illness is not serious. This was followed by the 22.5% of students that practiced self-medication because according to them, they are knowledgeable about drugs. Reasons respondents gave for self-medication are summarized in Figure 1.

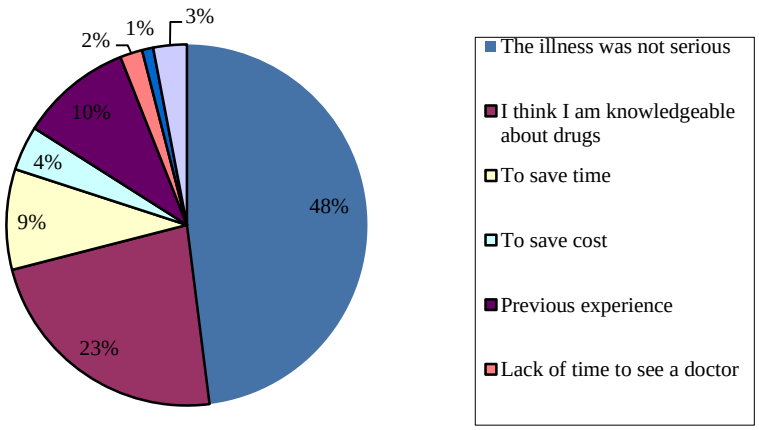

Figure 1: Reasons for Self-Medication

Indications and Drugs Used for Self-Medication

The most common complaint that led to self-medication practice was fever/malaria (33.2%) closely followed by headache/body pain (26.1%) then cough/cold (13.6%) (Figure 2).

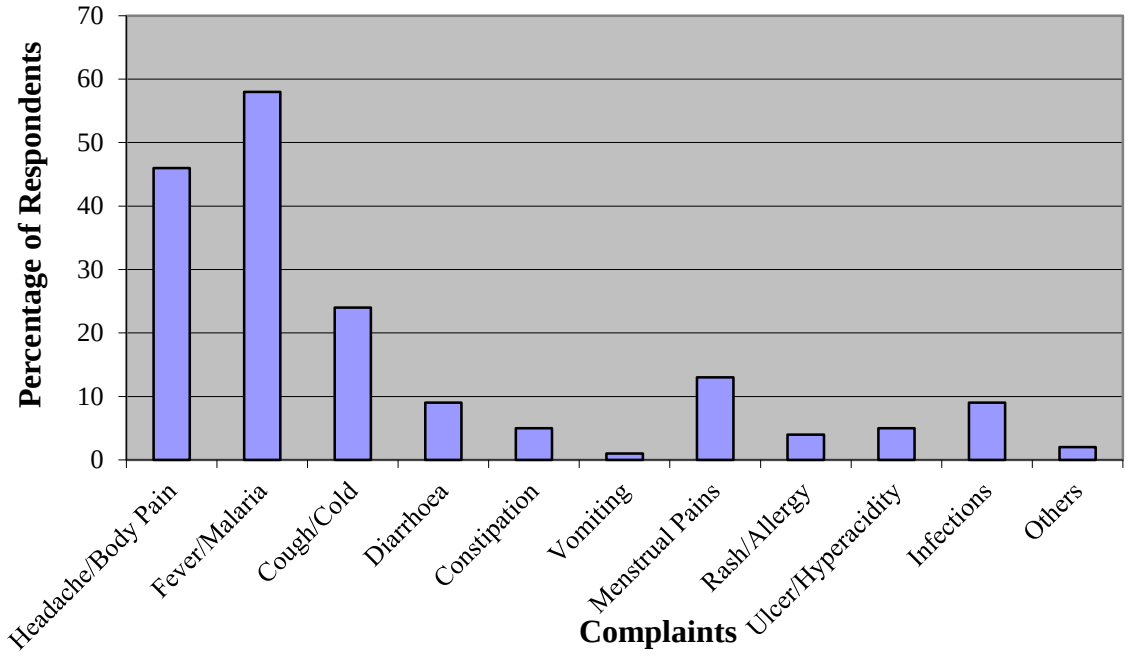

Figure 2: Complaints that Prompted Self-Medication

Table 1: Demographic Information of Respondents (n = 266)

Characteristic	Frequency	Percentage
Gender		
Female	126	47.4
Male	140	52.6
Age (Years)		
16-20	82	30.8
21-25	144	54.1
26-30	30	11.3
> 30	10	3.8
Year of study		
1	65	24.4
2	67	25.2
3	41	15.4
4	60	22.6
5	33	12.4
Marital status		
Single	255	95.9
Married	9	3.4
Engaged	2	0.8
On drugs for long term illness?		
Yes	5	1.9
No	261	98.1

Table 2: Practice and Perception of Self-Medication (n=266)

Question	Frequency	Percentage
Have you taken any drug without a doctor's prescription in the last 6 months?		
Yes	218	82.0
No	48	18.0
Have you ever given your prescription medicine to others?		
Yes	107	40.2
No	159	59.8
Do you read the insert/leaflet that comes with medications?		
Yes, sometimes	116	43.6
Yes, always	135	50.8
No	15	5.6
Do you think it is safe to take medications without prescription?		
Yes	31	11.7
No	235	88.3
Would you encourage or advice self-medication?		
Yes	14	5.3
No	252	94.7

As shown in Table 3, analgesics were the most frequently (70.2%) used class of drugs for self-medication. This was followed by antibiotics (61.9%) and anti-malarials (58.3%). Anti-emetic drugs accounted for 5.5% of drugs respondents used to treat themselves, while a negligible 1.8% of the study sample could not recall what drug(s) they took within the period under study.

Sources of Drugs and Drug Information

A large percentage of the students (60.9%) indicated pharmacy outlets as their source of drugs, while 19.2% patronized patent medicine stores as shown in **Table 4.**

Table 3: Drugs Used For Self-Medication (n = 218)

Drugs	Frequency (n)	Percent of cases (%)
Analgesics	153	70.2
Antimalarials	127	58.3
Antibiotics	135	61.9
Drugs for vomiting	12	5.5
Worm expellers	35	16.1
Multivitamins/supplements	80	36.7
Herbal medicines	15	6.9
Antacids	46	21.1
Cough syrup	62	28.4
I don't remember	4	1.8
Other	1	0.5
TOTAL	**670***	**307.3***

*value greater than 218 because most respondents chose more than one source.

*value greater than 100% because most respondents chose more than one source.

Table 4: Sources of Drugs and Drug Information (n = 218)

Source(s)	Frequency	Percentage
Sources of Drugs		
Patent medicine shops	51	23.4
Pharmacy outlets	162	74.3
Friends or family members/spouse	5	2.3
Sources of Drug Information		
The internet	46	21.1
Academic knowledge	97	44.5
Advice from friends/family members	41	18.8
Advertisement	12	5.5
Advice from traditional healer	1	0.5
Previous prescription by a doctor	58	26.6
My own experience	36	16.5
Advice from a nurse/doctor without a prescription	26	11.9
Recommendation by a pharmacist	75	34.4

As regards information on drugs, majority (24.7%) of the students went for "academic knowledge" followed by 14.8% of students that indicated "previous prescription by a doctor". 11.7% browsed the internet to get information on drugs. Advice from family and friends served as a source of drug information for 10.5% of the study sample (Table 4).

Effect of Demographic Characteristics on Self-Medication

No significant relationship was found to exist between demographic characteristics of respondents and self-medication. *P* values from Pearson Chi square and Exact Fischer's tests yielded values ranging from 0.067 to 0.862.

DISCUSSION

This study indicated a very high prevalence rate of self-medication among undergraduate Pharmacy students. This is consistent with earlier reports[11,14,21] among undergraduate students of Pharmacy and other health-related disciplines. A study conducted among medical, pharmacy and health science students in Ethiopia, however, reported a much lower prevalence rate of 38.5%.[17] This may have been as a result of the fact that a two-month review period was considered in the study as against six months in the present study.

Similar to an earlier report,[18] fever/malaria was the major ailment for which self-medication was practiced owing to the study area being a malaria endemic region, and the six months preceding the study period was the peak of the rains in the region. Headache and body pains ranked second in the indications that prompted self-medication among the students. However, in line with an earlier report,[22] analgesics were the most commonly used class of drugs, followed by antibiotics. It is an issue of great concern that the toxic effects of commonly used analgesics are not as

widely known as their therapeutic effects. Thus, most people continue to use such drugs for relief of pain or fever which could actually be a symptom of a more serious ailment. Further, some of these analgesics contain caffeine, codeine or other drugs with addictive and/or other harmful potential, in addition to Non-steroidal Anti-inflammatory Drug (NSAID)-associated risk of gastrointestinal bleeding. Self-medication with antibiotics is a prevalent practice in developing countries.[1] Unrestricted access to such antibiotics without prescriptions increases the likelihood of development of resistance to subsequent therapy,[12] leading to increased morbidity, increased cost of treatment, therapeutic failure, and even death. The regulation of these drugs is therefore necessary for the safety of individuals.

In line with previous studies,[14,18,21] "mildness of the illness" was the major reason given by the respondents for self-medication in this study. This is not surprising as most of the respondents who practiced self-medication in the preceding six months to the study claimed to have practiced it because they had "academic knowledge". Medicine knowledge has been reported to promote self-medication.[9,11]

This study is consistent with earlier researches,[17,21] which reported pharmacy outlets as the main source of obtaining drugs used for self-medication among pharmacy and medical undergraduates. This might be due to the fact that the respondents are enlightened and educated and see themselves as future Pharmacists; they may thus want to identify with their (future) profession. Also, educated people are likely to patronize pharmacy shops which they believe would stock only genuine drugs.

As to whether respondents thought it was safe to take drugs without a doctor's prescription, majority knew it was not, giving reasons such as concerns of adverse drug effects, and having insufficient knowledge about drugs and disease conditions. This is consistent with an earlier report.[21] Similarly, the present study showed that most of the respondents would not encourage the practice of self-medication. This finding could be due to the fact that most of them claimed to have knowledge about self-medication the possible consequences of self-medication, particularly to those without good knowledge about drugs and disease conditions.

The practice of checking medication inserts was satisfactory as majority of the respondents answered in the affirmative to the question: "When you buy a drug without prescription do you read the insert/leaflet that comes with it?" This will ensure that additional information regarding such issues as indications, dosage, side effects, contraindications, and so on, would be obtained by respondents, particularly those who claimed they read the leaflets always. An almost negligible proportion of respondents who reported that they do not read drug inserts, stand

increased chances of adverse drug events from taking the wrong drug, wrong dosage, or even an expired product.

Giving one's medicine to others has been documented as a form of self-medication.[22] Though the general prevalence of self-medication in this study was high, a lower proportion of the respondents reported that they had never given their prescription medicines to others. This might likely be due to the fact that almost all of them indicated that they would not encourage the practice.

This study showed no relationship between respondents' demographic characteristics and self-medication practice. This probably indicates that self-medication cuts across different age groups, genders, levels of education and marital status.

CONCLUSION

The prevalence of self-medication is high among undergraduate pharmacy students surveyed. This notwithstanding, most of the respondents had knowledge of the risks of taking medication without prescription, and only a very few were willing to encourage self-medication. The knowledge and perception of self-medication of these students are different from their practice. Thus, efforts to promote responsible self-medication and rational drug use should be intensified in Schools of Pharmacy.

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