



Pattern and Extent of Self-Medication Practice Among In-School Adolescents in Ile-Ife, Osun State: Implications for Nursing

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SUMMARY

Objectives: The study was conducted to assess pattern and extent of self-medication practices, sources of drugs/drug information and perception of the disadvantages of self-medication by adolescents.

Methods: A cross-sectional, descriptive, questionnaire-based design was adopted. The study was conducted among 270 in-school adolescents across 4 public secondary schools in Ife Central Local Government, Osun State. A weighted proportion (10%) of the total population of students (2681) were selected from 4 schools. Convenience sampling was used. Questionnaire covered socio-demographic data, pattern of self-medication and extent to which students self-medicate. Permission to carry out the study was sought from the School Principals. Participation was voluntary and consent obtained from all participants.

Results: Females (50%) and students aged 14-16 years (66%) formed majority of the respondents. The prevalence of self-medication was found to be 33.6%. Patent medicine dealers constituted the highest source of student's drug prescriptions, drug purchase and information on how to use the drugs. Most students self-medicated for malaria (50.8%) and cough/throat, (48.7%) infections. Pain killers and antibiotics/antimalarials were self-medicated with mostly. Higher percentages viewed self-medication as beneficial and majority (55.5 - 72.7%) agreed with various outlined disadvantages of self-medication.

Conclusion: It is recommended that school-based health education on the use of medicines be offered to students starting from basic schools up to tertiary institutions so that they can get a better perspective and a more acceptable view of responsible self-medication. The risks/disadvantages of self-medication should also be discussed.

Keywords:

Adolescents,
Extent, Pattern,
Self-medication,
Students, Nursing

INTRODUCTION

Self-medication has traditionally been defined as "the taking of drugs, herbs or home remedies on one's own initiative, or on the advice of another person, without consulting a doctor".[1] It includes several forms through which the individual or the ones responsible for him/her decide, without medical evaluation, which drug they will use and in which way for the symptomatic relief and "cure" of a condition. It involves sharing drugs with other members of the family and social group, using leftovers from previous prescriptions or disrespecting the medical prescription either by prolonging or interrupting the dosage and the administration period prescribed.[2]

Responsible self-medication is the practice whereby individuals treat their ailments and conditions with medicines which are approved and available without prescription, and which are safe and effective when used as directed.[3] Responsible self-medication requires that medicines used are of proven safety, quality and efficacy, medicines used are those indicated for conditions that are self-recognisable and for some chronic or recurrent conditions (following initial medical diagnosis).

In all cases, these medicines should be specifically designed for the purpose, and will require appropriate dose and dosage forms. Such products should be supported by

information, which describes how to take or use the medicines, its effects and possible side-effects, how the effects of the medicine should be monitored, possible interactions, precautions and warnings, duration of use and when to seek professional advice.[4] Responsible self-medication can be used to prevent and treat symptoms and ailments that do not need medical consultation or oversight.

Although the practice of self-medication has been shown to be useful in that it reduces pressure on medical services especially when these are limited and this is very typical of the Nigerian setting. However, it is far from being a completely safe practice, in particular in the case of non-responsible self-medication. It often has many adverse effects and can lead to many problems including incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease, and risk of dependence and abuse.[5]

Some researchers have studied aspects of self-medication in children and adolescents and have reported a high prevalence of self-medication in this age group. Its prevalence among adolescents from different countries ranged between 2% and 92%.[6] This subject is quite important because habits picked up during this stage are

usually carried forward during adulthood.[7]

Similar to adults, the highest consumption of drugs among adolescents involves the use of analgesics, antipyretics and anti-inflammatory drugs followed by antibiotics.[2] Also, it has often been suggested that the knowledge of medicines among adolescents is inadequate.[8] For instance, in a questionnaire designed to assess the knowledge of medicines among 15-17years old adolescents in Germany, the average score that had been obtained did not exceed 5.74 (S.D= 1.80) out of 13 possible points.[9]

Furthermore, very few paediatric over-the-counter (OTC) drugs have been adequately tested for safety and efficacy among child populations; the dosages of most paediatric OTC drugs have been extrapolated from adult clinical and pharmacological data. Use of OTC drugs in children has been linked to serious adverse cardiovascular events due to the inadvertent overdosing of cough and cold mixtures (CCMs).[10]

Many literatures exist on practice of self-medication among university students,[11] workers of tertiary institutions,[12] adult populations and patients,[13] in Nigeria and the world at large but it was observed that there is a relative dearth of literature on the pattern and extent of self-medication practice among secondary school students. Therefore, this study was set out to investigate the pattern of self-medication among adolescents in Ile-Ife, Osun State, Nigeria, to ascertain the extent to which the adolescents indulge in self-medication, to examine the sources of drugs/drug information that adolescents use in self-medication and their perception of the disadvantages of self-medication.

MATERIALS AND METHODS

The study employed a descriptive, cross sectional design conducted between April and May, 2010.

Population of study/participants

This study was done among in-school adolescents in public senior secondary schools (SSS1-3 students) in Ife Central Local Government Area (LGA) of Osun State. The LGA is one out of the 30 LGAs in Osun State and purposively selected for the study (based on researcher's convenience). The LGA has a total of 8 public senior secondary schools.

Sampling technique

Of the 8 public senior secondary schools in Ife Central LGA, 4 was randomly selected for the study. Total population of senior secondary school students in the 4 selected schools was 2681. A weighted proportion (10%) of the total population was selected from each of the 4 schools making a total of 270 senior secondary school students who participated in the study. Convenience sampling was used in the selection of students in each of the 4 schools.

Instrument for data collection

The instrument for the study was an interviewer-administered questionnaire. It consisted of 3sections and 39 items. Section A covered questions on student's socio-demographic data (such as age, sex, religion e.t.c.). Section B covered questions on the pattern of self-medication (with

questions such as “When you fell ill, was your drug prescribed by a doctor?”, “If not the doctor, who prescribed it?”, “How often do you take drugs without a doctor's prescription?”, “Where do you get your drugs from?”, Reasons for self-medication e.t.c.) and Section C covered questions on the extent of their self-medication practice (with questions such as “Types of drugs adolescents used for self-medication” and “Health conditions in which adolescent's self-medicate”). The validity of the questionnaire was done by presenting it to the supervisor of the research for necessary modifications and corrections as needed.

Procedure for data collection

Permission to carry out the study was sought from principals of the selected schools. The purpose of the research was explained to the students, they were made to understand that their participation was voluntary and they could withdraw from the study at any point without any penalty. They were assured of anonymity and confidentiality of the information provided. Thereafter, consent was obtained from each respondent. Afterwards, the principal investigator and 2 co-investigators administered the questionnaires to the students and same collected on the spot after filling them. Data collection lasted 3 weeks.

Statistical Analysis

After data collection, data was entered into a computer software and analysed using statistical package for social sciences (SPSS), version, 17.0. Analysis was done using descriptive and inferential statistics at 95% confidence interval and 5% level of significance. Chi-square was used to test the association between students' gender/age and their pattern of self-medication.

RESULTS

Of the 270 questionnaires administered, only 238 were correctly and completely filled, giving a response rate of 88.1%.

Table 1: Socio Demographic Data

Variables	Frequency (n=238)	Percentage (%)
Age (at last birthday)		
9-13 (early teens)	18	7.6
14-16 (mid-teens)	157	66
17-19 (late-teens)	59	24.8
No response	4	1.7
Total	238	100
Sex		
Male	105	44.1
Female'	119	50
No response	14	5.9
Total	238	100
Religion		
Christianity	130	54.6
Islam	90	37.8
No response	18	7.6
Total	238	100

Table 2: Distribution of Students by Who Prescribed Their Drugs When They Fell Ill

Was the drug prescribed by a doctor?	Frequency (238)	Percentage (%)
Yes	152	63.9
No	80	33.6
No response	6	2.5
Total	238	100

Table 3: Sources of Prescription Other Than the Doctor

Source of prescription	Frequency (n=238)	Percentage (%)
Friends/Relatives	14	5.9
Nurses	21	8.8
Pharmacists	15	6.3
Patent medicine dealers	24	10.1
No response	12	6.3
Not applicable	152	62.6
Total	238	100

Table 4: Health Conditions in Which Students Self-Medicating

S/No	Medical Condition/Ailment	Yes (%)	No (%)	No response (%)
a.	Malaria	50.8	39.1	10.1
b.	High body temperature	36.6	53.4	10.1
c.	Abdominal Pains	33.6	56.3	10.1
d.	Infections e.g. Boil	23.9	62.6	13.4
e.	Cough or throat infections	48.7	43.7	7.6
f.	Difficulty in getting sleep	21.0	59.7	19.3
g.	Menstrual pains	29.8	53.4	16.8
h.	Skin infections and Rashes	29.4	52.9	17.6
I.	Allergic conditions	19.7	58.8	21.4
j.	Wounds and Injuries	47.9	34.9	17.2
k.	Eye discharge	27.7	53.8	18.5
l.	Tooth ache/decay	19.7	61.3	18.9
m.	Genitourinary tract infections	16.0	64.3	19.7

Table 5: Drugs Mostly Used By Students for Self Medication

Group of Drug/ Type	Frequency (n=238)	Percentage (%)
Antibiotics /Antimalarials	40	16.8
GIT drugs	2	0.8
Pain relievers, Muscle relaxants, Antipyretics, Anti-inflammatory	123	51.7
Respiratory drugs	5	2.1
Blood forming /Vitamins	19	8.0
Herbs/Herbal Medicines	4	1.7
No response	40	16.8
Not applicable	5	2.1
Total	238	100

Table 6: Students Sources of Medicines

Students' sources of medicine	Frequency (n=238)	Percentage (%)
From parents/relatives	18	7.1
In the house	2	2.2
Patent medicine dealer	133	55.9
Hospital	52	21.8
No response	13	5.0

Table 7: Students' Source of Information on the Medicines Used

Sources of information	Frequency (n=238)	Percentage (%)
Parents	26	10.9
Patent medicine dealers	82	34.5
Health Centres	56	23.5
On the drug pack/leaflet	15	6.3
Hospitals	46	19.3
Media (Radio, Television)	3	1.3
Internet	8	3.4
Other	2	0.8
Total	238	100

Table 8: Students' Perception of the Disadvantages of Self-Medication

S/No	Disadvantages of Self-Medication	Agree (%)	Disagree (%)	No response (%)
a.	There's a risk of making a wrong diagnosis	72.7	15.1	12.2
b.	Can lead to delay in appropriate treatment	63.0	22.7	14.3
c.	Can lead to under or over-dosing	63.4	23.5	13.0
d.	Adverse drug reactions	60.9	26.5	12.6
e.	It can mask malignant and potentially fatal disease	59.2	27.3	13.4
f.	Can lead to drug dependence and addiction	59.2	27.3	13.4
g.	Can result in resistance of pathogens to many other drug	55.5	31.1	13.4
h.	There's a risk of exposure to expired drugs	60.9	25.2	13.9

DISCUSSION

The results showed that adolescents aged 14-16 years and more females formed the largest proportion of respondents. Most of the respondents were Christians by religion. It was hypothesized that there was an association between students' age and their pattern of self-medication. This was found to be true that adolescents within the age-range of 14-16 years self-medicated more than adolescents of other ages. This may be attributed to the reason that this age group of adolescents formed the largest group in the study. There was no association found between adolescents' gender and their pattern of self-medication even though females formed larger portion of the respondents. This finding agrees with a study done by Awosusi and Konwea,[14] but inconsistent with another study where female gender was associated with self-medication among adolescents.[6]

The study revealed a low prevalence of self-medication as only 33.6% of students remarked that their drug prescriptions were not gotten from a medical doctor. Although, this finding did not take into cognizance the specific kinds of illnesses or health conditions for which they had sought medical attention (whether minor or major). However, this is contrasting to results from other studies done among dental, midwifery and nursing students where 76.8% practiced self-medication[15] and 72.1% frequency was documented among secondary school pupils in Hong Kong.[16] It is also crucial to note that among those who practiced self-medication, a significant portion however, had their drugs prescribed to them by nurses (8.8%) and pharmacists (6.3%) who are also health care professionals and have varying levels of the required knowledge, skill and proficiency of drug prescription. Hence, this depicts that the adolescents under study still exercise caution when they engage in self-medication.

Drugs acting on the musculoskeletal system (which includes pain relievers, muscle relaxants, antipyretics and anti-inflammatory) were the most used (51.7%) while drugs acting on the gastrointestinal system (0.8%) was the least used. Similar results were documented among undergraduates of University of Jos, Nigeria where analgesics was the most commonly used drug (61.9%) for self-medication[11] and 38.8% used analgesics among secondary school students in Ekiti, South west Nigeria.[14] This could be attributed to the fact that adolescents are in a period of life marked by high level activity, exuberance and a time of storm and stress. For this reason, they consume a lot of analgesics, muscle relaxants, antipyretics and anti-inflammatory drugs to combat the results of their active lifestyle. Although this was an expected finding, the widespread use of this class of drugs evidences a need to educate people on the risks of overuse of painkillers and the importance of proper diagnosis and adequate treatment of pain to prevent persistent/recurrent conditions or from allowing them to get worse.

The study also established the extent to which adolescents indulged in self-medication and found that most adolescents only self-medicated in health conditions such as malaria (50.8%), cough and throat infections (48.7%), wounds and injuries (47.9%). Another study done among university students in South-Western Nigeria also documented that majority of the students self-medicated more with antimalarials after antibiotics.[12] The finding was

not unexpected as malaria is an endemic infection in Nigeria where the study was conducted and it remains an issue of public interest coupled with the fact that there is a lot of information available to the public on its prevention and treatment. Furthermore, cough is easily and mostly treated by a lot of people with a simple therapy of cough mixture. Wounds and injuries are a product of the active lifestyle that adolescents are noted for and the use of drugs acting on the musculoskeletal system could be the outcome. This result is in consonance with the previous results, hence, treatment of wounds and injuries by adolescents were expected and they did same by way of first aid treatment.

In the contrary, adolescents under study will not self-medicate in health conditions such as genitourinary tract infections (64.3%), infections such as boils (62.6%), tooth ache/decay (61.3%) and insomnia (59.7%). This implies that adolescents exercise some sense of caution when they experience some of the above-listed health conditions. Local chemists (otherwise known as patent medicine dealers)/chemists shop doubled as the highest source of medicines used (55.9%) and source of drug information (34.5%). This finding is somewhat contrary in view of the low prevalence of self-medication found among the students. It would have been expected that since majority of them had a doctor's prescription, they will equally purchase their drugs from either the hospital pharmacies or registered pharmacies outside the hospital. This could be connected to the fact that these chemists are usually closer and easily accessible to the grassroots and probably due to the relatively limited number of registered pharmacists in this locality and developing countries generally. Similar report was also documented in another Southwestern Nigerian study which showed that the main channel of information and the usual source where medication was obtained were the patent medicine dealers and chemists.[17] This report can result in life-threatening consequences as a good number of these chemists do not meet up with the minimum standard requirements expected of their practice thereby posing a threat and risk to the health of the populace since they are well patronized.

Concerning students' perception of self-medication practice, 64.7% agreed that there are no waiting times involved in pharmacies or chemists while 31.1% disagreed; 63.4% remarked that the urgency of the problem could predispose them to self-medication while 28.6% disagreed; 59.7% mentioned that they engaged in self-medication due to a good past experience with the same drug while 36.1% disagreed. This simply implies that although most of the adolescents under study viewed self-medication as beneficial, a small percentage still disagreed with all of the reasons or the supposed benefits of self-medication. In view of this, it indicates that adolescents and the general populace needs more awareness, information and education on what responsible self-medication entails.

A greater proportion of the respondents agreed with all of the listed disadvantages of self-medication including that self-medication carried a risk of making a wrong diagnosis (72.7%), risk of exposure to expired drugs (60.9%), over and under dosing (63.4%), and that it could lead to a delay in receiving appropriate treatment (63.0%). This indicated that though some of the adolescents indulged in self-medication and also validated the benefits of self-medication, they are still very cognizant of the dangers of self-medication.

Based on the findings from the study, the following recommendations are proposed: Firstly, school-based health education on the use of prescription and non-prescription drugs should be given to students right from basic schools up to tertiary institutions. Most adolescents spend a great deal of time in schools and when this is being taught in their schools, they get a better perspective and more acceptable view of the issue.

Secondly, educational campaigns in the form of regular seminars, symposiums, posters, flyers, radio jingles and bulletins should be organized for parents, adults and caregivers to help them see the need and their responsibility to guide their wards and adolescents in appropriate and responsible self-medication. Parents need to be good role models in medication use by taking medications only as directed and needed, not sharing medications with others and discarding old or unused medications promptly.

Thirdly, the study has revealed that the chemist shops served as the major source for adolescent's drug prescription, drug purchase and information on how to use the drugs. Hence, officials of the drug regulatory sector/unit must ensure that chemists/patent medicine sellers meet up with the minimum requirements/standard for such roles through regular monitoring and the laws safeguarding drug use duly enforced. Finally, government officials responsible for regulation and control of drugs should be more active and alert in ensuring that safe drugs are available over the counters and that the consumer is given adequate information about the use of drug and when to consult the doctor. Also, the Federal Government should enact a law that would stop the indiscriminate sale of drugs in the open markets or illegal places.

CONCLUSION

In view of these findings, nurses, irrespective of their area of practice/setting, are to work in collaboration with the health care team to fight and curb the menace of self-medication among In-school adolescents through regular health education. Furthermore, school nurses should provide school-based education to adolescents on the dangers of self-medication, how and when to consult a doctor when they fall ill as well as providing regular, adequate and clear information on how and where to purchase over-the-counter drugs when/if the need arises.

Conflict of Interest

Research was self-funded, no conflict of interest declared.

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