

Awareness, Knowledge and Practice of Self-Medication among Undergraduates in Adeleke University, Ede, Osun State, Nigeria

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Abstract

Self-medication is the treatment of common health problems with medicines without medical supervision. There is substantive literature on self-medication, however there has been limited focus on undergraduates. Hence, this study aimed to bridge gaps in information on awareness, knowledge and practice of self-medication among respondents. Using cross-sectional study design and stratified random sampling technique, 418 consenting respondents were recruited into this study. Quantitative data was collected using a semi-structured, self-administered questionnaire; analyzed using SPSS version 21 and summarized using proportions and Chi-square tests ($p \leq 5\%$). Mean age of respondents was 19.89 ± 2.83 years, 52.4% were males while 47.6% were females. 97.8% had awareness about self-medication, 66.0% had good knowledge on harmful effects of self-medication while 76.8% practiced self-medication. Analgesics was the most common drug used among respondents. Age and sex were statistically significantly associated with respondents' knowledge on harmful effects of self-medication ($p < 0.05$). Sex was statistically significantly associated with their practice of self-medication ($p = 0.006$). There was a cognitive dissonance between respondents' knowledge and practice because though results showed that respondents had good knowledge, it did not translate into good practice. The university authorities need to develop intervention strategies to engender behavioral change which can potentially improve their practices towards self-medication.

Keywords: Awareness, Knowledge, Practice, Self-medication, Undergraduates.

Introduction

It is a natural phenomenon of life for people to feel unwell, hence, take action (health-seeking behaviors) towards regaining an equilibrium in health. On a daily basis, irrespective of how knowledgeable people may be, many acts on their health without prior consultation with qualified health personnel due to the desire for a relatively lower-costing solution. This is known as “self-care”. Self-medication, as an element of self-care, is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms (World Health Organization, 2012). The World Self-Medication Industry (2010) further defines self-medication as, “the treatment of common health problems with medicines especially designed and labeled for use and approved as safe and effective for such use without medical supervision”. Once a person obtains and consumes medicinal products in a bid to treat self- recognized disorders or symptoms without the advice of a physician, he/she can be termed as practicing self-medication (William, Phalke, Phalke, and Durgawale, 2006). It involves acquiring medicines without a prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's circle or using leftover medicines stored at home (Loyola, Uchoa, Firmo and Lima-Costa, 2005).

Drugs frequently used without prescription include antimalarial, analgesics, antipyretics, antibiotics and cough syrups. The sources of these drugs people use without prescription, sometimes are from pharmacies or left-over drugs from previous medications (Musa, Awosan, Ibrahim, Abdullahi, Jafaar, Peter, Anthony and Isah, 2016). Individuals obtain information about drugs through print media, pharmacy, medicine dealers, family and friends. Hence, they feel equipped to handle health issues by themselves, especially when faced with limitations such as difficulties in accessing medical care.

Increasing knowledge on how to deal with medications among populations, failures of health care systems in certain populations, availability of drugs in markets and poor drug regulatory practices are factors that contribute to self-medication. Other factors like demographic factors have been found to also influence self-medication. For instance, gender, age, sex and social role were discovered to have influence on self-medication (Girma, Diriba, Zerihun, Derbew, Abera, Mussie, Gebremedhin, Naod, Raghavendra and Abraham, 2011). It is a global public health issue of importance which is on a rapid rise/increase despite the dangers associated with it (Kumar, Kanchan, Unnikrishnan, Rekha, and Mithra, 2013; Osemene and Lamikanra, 2012). Many people trivialize ailments such as headache, fever, cough, throat infection, common cold and stomach ache while, some do perceive some ailments to be too mild to necessitate medical consultation.

A study carried out in Sokoto revealed that students indulged in self-medication to treat ailments such as fever, headache, body pain, cough/flu and diarrhea; the most frequently used drugs being pain killers, antimalarial, antibiotics, anti-flu and antidiarrheal (Musa *et al.*, 2016). According to a study by Omolase, Adeleke and Afolabi (2012), the perceived simplicity of a health condition, financial constraints as well as non-availability of health care services were the main reasons for the practice of self-medication among respondents. People indulge in self-medication because while it helps them through their common health problems, it is time and cost saving especially for those who have few or no options as alternatives. The practice of self-medication must be based on authentic medical information otherwise irrational use of drugs can cause wastage of resources, increased resistance of pathogens, and can lead to serious health hazards. (Goldsworthy and Mayhorn, 2009). Though self-medication is a popular preference worldwide, little is still known about its appropriateness, hence the need for a certain level of knowledge and health orientation in order to produce responsible self-medication. In 2009, the World Self-Medication Industry reported that responsible self-medication can potentially reduce current burdens and challenges being faced by limited health care systems in various countries.

It is an acknowledged fact that the practice of self-medication (no matter the reason) is unacceptable (Sarahroodi, Arzi, Sawalha and Ashtarinezhad, 2010). This requires giving heightened attention to the health-seeking behaviors people exhibit in our society in order to curb such unhealthy practices. There is a dearth of information on the awareness, knowledge and practices of self-medication among undergraduates in Adeleke University. It therefore became crucial to investigate these parameters to determine if they were aware of the dangers associated with self-medication and/or indulge in self-medication and bridge gaps in information by providing valuable insight which the university community will utilize to prevent indulgence in harmful self-medication practices among her undergraduates.

Materials and methods

Description of study area

This study was carried out in Adeleke University which is situated in an ambient and serene environment at Ede, Osun State, Nigeria. It is a higher institution of learning with six faculties and twenty-six Departments. The Faculties include the Faculty of Business and Social Sciences (FBSS), Faculty of Arts (FOA), Faculty of Science (FOS), Faculty of Law (FOL), Faculty of Engineering (FOE) and Faculty of Basic Medical Sciences (FBMS).

Study design

It was a descriptive cross-sectional study.

Study population

This comprised of undergraduate students in Adeleke University, Ede, Osun State.

Exclusion criteria

All administrative and non-administrative staff, post graduate students and off-campus students of Adeleke University were excluded. Students who did not give voluntary consent were also excluded from participating in the study.

Calculation of sample size

This was determined by adopting Leslie and Kish formula for single proportion. The desired minimum sample size was estimated at 380; 10% of the estimated sample size was added to make up for possible non-response, which brought the minimum sample size to 418.

Sampling technique

A stratified random sampling method was used to select respondents from various levels in Faculties.

Instrument of study and method of data collection

A 30-item semi-structured self-administered questionnaire was used by 3 trained research assistants (RAs) to collect information from the respondents. It included questions on their socio-demographic characteristics, knowledge on self-medication and its harmful effects and practice of self-medication. Distribution of questionnaires was mainly carried out during the day when students could be gotten in their classrooms.

Data analysis

Data was analyzed using the Statistical Product for Service Solution (SPSS) version 21. Socio-demographic variables and respondents' responses were summarized and presented using frequency tables and charts. Bivariate analysis using Chi-square test statistics was employed to explore relationship between two categorical variables. Confidence limit was set at 95% and p-value of ≤ 0.05 as the significant level.

Scoring of outcome variable

A 5-point scale measured knowledge of self-medication. Respondents with scores greater than 2 were categorized as having good knowledge. A 3-point scale measured practice of self-medication with respondents who scored greater than 1 categorized as having poor practice (meaning the respondent indulged in self-medication).

Ethical considerations

Written informed consent was obtained from the respondents before administering the questionnaires and confidentiality was ensured.

Limitation of the study

Respondents' recall bias, which we believe was limited to the barest minimum because they were assured of confidentiality and anonymity.

Results

A total of 418 questionnaires were distributed and retrieved, giving a response rate of 100%. Table 1 shows the socio-demographic characteristics of respondents. Mean age of respondents was 19.89 ± 2.83 years. The age groups of 15-19 years and 20-24 years had 191(45.7%) and 195 (46.7%) respondents respectively. Two hundred and nineteen (52.4%) were male, 148 (35.7%) and 148 (35.7%) were students of the Faculty of Business and Social Sciences and the Faculty of Basic Medical Sciences respectively.

Table 1. Socio-demographic characteristics of the respondents

Variables	Frequency	Percentage
Age (in years)		
15-19	191	45.7
20-24	195	46.7
25-29	32	7.7
Mean age 19.89 ± 2.83 years		
Sex		
Female	199	47.6

Male	219	52.4
Faculty		
Business/Social Sciences	148	35.7
Basic Medical Sciences	95	22.7
Sciences	71	17.0
Arts	33	7.9
Engineering	14	3.3
Law	57	13.6
Year		
100	122	29.2
200	174	41.6
300	54	12.9
400	68	16.3

Most of the respondents, 409 (97.8%) had ever-heard about self-medication. The most common source of information were friends and family (83.5%). Other sources cited include the internet, television, radio and newspapers.

Two hundred and seventy-six respondents (66.0%) had good knowledge on self-medication though 71 respondents (17.0%) did not know the correct definition of self-medication. Possible side effects of self-medication cited by respondents included treatment failure 166 (39.7%), antibiotic resistance 152 (36.4%) and drug reactions 87 (20.8%) (Table 2).

Table 2. Knowledge on self-medication

Variables	Frequency	Percentage (%)
Definition of self-medication		
Taking drugs without medical consultation*	324	77.5
Consumption of drugs without a doctor's prescription*	12	2.9
Is a human behaviour in which a substance is self-administered to treat physical or psychological ailments*	11	2.6
Don't know	71	17.0
Knowledge on harmful effects**		
Treatment failure	166	39.7
Antibiotic resistance	152	36.4
Drug reaction	87	20.8
May lead to death	10	2.4

* Correct answer

**Multiple responses

Table 3 shows that 321 (76.8%) respondents practice self-medication. Common ailments which the respondents reportedly treated with self-medications included diarrhea (28.0%), fever (27.8%), cough (27.3%) and sore throat (20.1%).

Table 3. Practice of self-medication

Practice	Frequency	Percentage (%)
Indulgence in self-medication		
Yes	321	76.8
No	97	23.2

Health conditions treated with medication

Fever 116 27.8
Cough 114 27.3
Diarrhoea 117 28.0
Sore throat 84 20.1
Others e.g. body aches 196 46.9

Source of procurement of medications

Patent medicine store 238 56.9
Leftovers from previous prescription 132 31.6
Online stores/e-shopping 61 14.6

At the bivariate analysis level, age ($p=0.028$) and sex ($p=0.001$) were statistically significantly associated with knowledge on self-medication. Sex ($p=0.006$) was statistically significantly associated with practice on self-medication (Table 4 and 5).

Table 4. Relationship between selected socio-demographic characteristics of respondents and knowledge on self-medication

Variables	Good knowledge	Poor knowledge	X ²	P value
Age				
15-19	70.7	29.3		
20-24	65.1	34.9	7.161	0.028
25-29	46.9	53.1		
Sex				
Female	74.4	25.6		
Male	58.9	41.1	11.159	0.001
Level				
100	68.9	31.1		
200	67.2	32.8	1.361	0.715
300	61.1	38.9		
400	63.2	36.8		

Table 5. Relationship between socio-demographic characteristics of respondents and practice of self-medication

Variables	Good practice	Poor practice	X ²	P value
Age				
15-19	40.3	59.7		
20-24	30.8	69.2	6.454	0.168
25-29	46.9	53.1		
Sex				
Female	28.6	71.4		
Male	43.4	56.6	10.351	0.006
Level				
100	41.0	59.0		
200	32.8	67.2	5.540	0.477
300	31.5	68.5		
400	41.2	58.8		

In Figure 1, drugs that respondents reported as being frequently purchased for self-medication is diagrammatically presented as analgesics (55.5%), antimalarial (26.1%), antibiotics (10.8%) and cough syrups (9.1%).

Figure 2 shows that the low cost of self-treatment (23.0%), convenience (48.6%) and a lack of trust in health care provider (24.6%) were reasons offered by the respondents for indulging in self-medication.

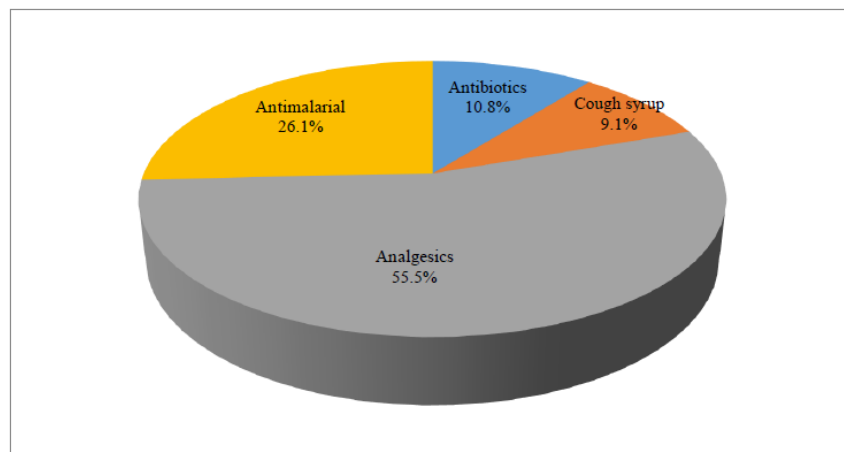


Figure 1. Drugs used for self-medication by respondents

*multiple responses apply

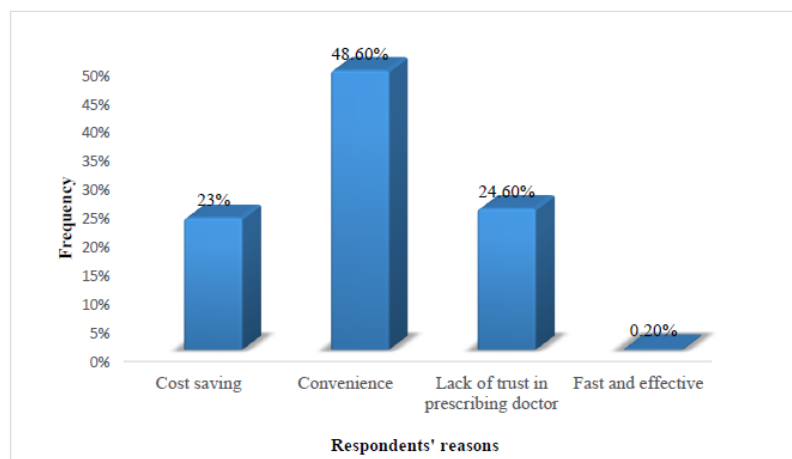


Figure 2. Reasons for practicing self-medication

*multiple responses apply

Discussions

The patterns of sociodemographic characteristics among the respondents in this study was found to be unlike that observed in a study conducted in Northern Nigeria by Musa *et al.* (2016) where ages of respondents were mainly within the range of 20-29 years. Majority of the respondents in this study were within the age range of 15-24 years. However, this is a normal phenomenon for many undergraduates in the Southwestern parts of Nigeria where education is more readily pursued.

There was a very high level of awareness about self-medication (97.8%) amongst the undergraduates in this study. This is corroborated by studies by Oluwole, Joseph, Olujide, Kabir., Oladele, Paul and Olaniyan (2016) and Musa *et al.* (2016) where awareness among respondents was also very high (94.8%) and 95.0% respectively. The main source of information about self-medication was cited as friends/ families (83.5%), akin to findings by Musa *et al.*, (2016). Though undergraduates in Adeleke University are required to attend life seminars every semester where they are availed information on various issues including health-related ones, it was not mentioned as a source of information. This calls for the attention of the University's management in modifying these seminars to include topics on self-medication as being better informed will more readily enable students embrace positive health-seeking behaviors.

With respect to the respondents' level of knowledge, more than half (66.0%) had good knowledge on self-medication. Majority (83%) gave correct definitions of self-medication. This can be attributed to the fact that as students, they are believed to be exposed to a variety of communication channels and

also retain information obtained for long periods. A study conducted in Delta state, Nigeria among secondary school students also found out that 75% had good knowledge on the harmful effects of self-medication (Iyeke and Onoharigho, 2016).

This study found that a high proportion (76.8%) of the respondents practiced self-medication despite having knowledge on the harmful effects of self-medication. Findings from a study conducted in Nepal among medical students revealed similar situation (Raj and Sujata, 2016). Reasons proffered for practicing self-medication included convenience (48.6%), lack of trust in prescribing doctors (24.6%), cost saving (23.0%) and fast & effective (0.2%). In an Ethiopian study, other reasons for practicing self-medication were cited as the respondents' prior experience (39.10%) and mildness of the illness (37.50%) (Girma *et al.*, 2011). Common health problems for which self-medication was practiced included aches and pains (46.9%), diarrhea (28.0%), fever (27.8%) and cough (27.3%) as corroborated by Musa *et al.* (2016). Notable amongst the drugs used for self-medication were analgesics (55.5%) and anti-malarial (26.1%). This is similar to situation in Iran where major drugs used for self-medication were cold and cough medications (94.5%) and analgesics (89.9%) (Marziyeh, Maryam, Farzaneh, Fatemeh, Ensiyeh, Abbas and Payam, 2016). An explanation for this may be the presence of medicine stores and vendors densely located within Ede, where drugs can be purchased quite easily over the counter. It is also believed that students resume school with pre-purchased medications stashed in their belongings for use once the feeling of ill health is suspected.

Furthermore, the study found that there was a statistically significant relationship between age and knowledge of harmful effects of self-medication ($p=0.028$). Those within the age group of 15-19 years had more knowledge on self-medication than those aged older. Also, there was a statistically significant relationship between sex and knowledge on self-medication ($p=0.01$) as female students were found to have more knowledge on self-medication than their male counterparts. There was a statistically significant relationship between the sex of the respondents and practices of self-medication ($p=0.006$). A higher proportion of male students had good practices in comparison with the females. Despite females having better knowledge on self-medication, this obviously did not translate into good practice. This is probably due to the potential for females to experience a greater burden of health issues for which medication might be needed on short notice such as dysmenorrhea.

Conclusion

This study concluded that there was a high level of awareness (97.8%), knowledge (66.0%) and indulgence in poor practice of self-medication (76.8%) among undergraduates of Adeleke University. There was a cognitive dissonance between the respondents' knowledge and practice of self-medication as knowledge did not translate into good practice (the proportion of students who had poor practice was quite high).

Recommendations

Efforts should be intensified at the University level to develop interventions that would encourage positive behavior changes such as seeking medical consultation. Information, Education and Communication (IEC) materials should be employed in sharing information on the harmful effects of self-medication to aid better understanding of its consequences. At the community level, strict rules and penalties regarding unauthorized drug advertisement or sale should be enforced. The creation of health clubs/associations should be welcomed so as to create a more personal platform through which students can clarify issues on self-medication (and other health matters) and impact can be made.

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