

Self-Medication for Oral Health Problems among Dental Outpatients at a Nigerian Tertiary Hospital

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Abstract

Background: Self-medication is the inappropriate use of drugs to treat self-diagnosed disorders or symptoms. Even though Self-medication has benefits as it enhances better use of clinical skills and increases access to medication; it is also associated with risks such as adverse drug reactions and antibiotics resistance. **Objectives:** To determine prevalence of self-medication practices among dental out-patients, triggering factors that influence self-medication practice and common source of drugs. **Materials and methods:** This descriptive cross-sectional study was conducted at the Clinic of the Department of Preventive Dentistry, Lagos University Teaching Hospital over a period of 6 months using self-administered questionnaires adapted from previous studies. Data obtained was analysed and expressed as frequencies and percentages. Test of associations was done using chi-square ($p < 0.05$). **Results:** Age of respondents ranged from 16 to 78 years (32.24 ± 13.47). M:F was 1:1. Prevalence of self-medication was 45.5%; toothache was the most prevalent reason for self-medication (71%). The frequently used drugs for self-medication were analgesics (65%) while the most common source for the drugs was the pharmacy (60%). Educational status ($X^2 = 12.85$, $P < 0.05$), gender ($X^2 = 6.42$, $P < 0.05$) and likelihood of recommending drugs to family and friends ($X^2 = 10.38$, $P < 0.05$) were significantly associated with self-medication. **Conclusion:** This study revealed high prevalence of self-medication with toothache as the predominant trigger and pharmacy, the most common source.

Keywords

Self-Medication, Toothache, Oral Health

1. Introduction

Self-medication has been defined as the inappropriate use of drugs to treat self-diagnosed disorders or symptoms of a disease, or the intermittent or continued use of a prescribed medication for chronic or recurrent disease or symptoms [1] [2]. It is seen as the “desire and ability of people/patients to play an intelligent, independent and informed role, not merely in terms of decision-making but also in the management of those preventive, diagnostic and therapeutic activities which concern them” [3] [4].

Several reasons have been given for self-medication: Urge of self-care, lack of time, lack of access to healthcare services, easy access to drugs, previous prescription of the drug, lack of transportation, lack of finance, ignorance, extensive advertisement, feeling of sympathy towards a family member in sickness and wanting to avoid the complexity associated with orthodox treatment [5] [6]. Regardless of the reasons being adduced for the increasing adoption of self-medication globally, it is important to bear in mind that it is a double-edged sword for its users, because it has both beneficial and harmful effects [7].

Self-medication has its own benefits as it enhances better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programmes [8] [9]. Some of the risks associated with self-medication include: severe drug reactions, dangerous drug interaction, increasing antibiotics resistance, drug abuse and dependence, misdiagnosis, renal dysfunction and incorrect administration of drugs [9] [10] [11].

Toothache is one of the commonest clinical presentations. It is common knowledge among dentists that patients resort to taking drugs, most especially analgesic and antibiotics in order to experience temporary relief or to avoid the need for dental consultation and treatment [12] [13]. Sofola *et al.* reported that 85.1% of patients older than 16 years applied at least one lay measure in response to oral pain [14].

Drug retail shops and pharmacies are a regular feature in many Nigerian cities where prescription drugs are readily available over the counter in contrast to developed countries where strict criteria are in place to dispense drugs. These outlets are the first point of call for many patients and play a major role in encouraging self-medication among Nigerians.

While responsible self-medication is a critical component of self-care, there is a tendency for patients to resort to inappropriate self-medication. Data on current practices about self-medication for dental conditions is considered to be of vital importance for policy formulation. Information on self-medication practices for dental problems in Lagos, Nigeria is not available in the scientific literature. Therefore, the present study aims to determine the trends in self-medication for dental problems among patients attending the dental clinic at the Lagos University Teaching Hospital, Lagos Nigeria.

2. Methodology

2.1. Study Population

The descriptive cross-sectional study was conducted at Clinic of the Department of Preventive Dentistry, Lagos University Teaching Hospital, Lagos State, between October and March 2018.

Subjects who were 18 years and above presenting at the Oral diagnosis clinic were included in the study while those unwilling to participate and subjects who were mentally incapacitated were excluded from the study.

2.2. Ethical Clearance

Ethical approval for this study was obtained from the Health Research and Ethics Committee of the Lagos University Teaching Hospital for confidentiality and use of data. The study was conducted after obtaining written informed consent from participants who satisfied the inclusion criteria.

2.3. Sample Size Determination

Sample size was calculated using the formula:

$$n = \frac{Z^2 pq}{d^2}$$

N = the estimate of the population size, Z = Critical value at the level of the chosen confidence level. d^2 = the precision level set at 0.05. P = estimated proportion of an attribute that is present in the population = 70% = 0.70. $q = 1 - p = 0.30$.

$Z = 1.96$ Standard error at 95% level of Confidence.

At 95% confidence level, $Z = 1.96$, $p = 0.70$, $q = 1 - 0.70 = 0.30$, $d = 0.05$.

Therefore,

$$n = \frac{Z^2 pq}{d^2} = \frac{(1.96)^2 * 0.70 * 0.30}{(0.05)^2} = 322$$

Addition of 10% for non-response: $322 + 32 = 354$.

2.4. Data Collection

The study was carried out using self-administered questionnaires in English, adapted from previous similar studies [12] [17]. It was closed-ended containing 26 questions, under two sections. First section of the questionnaire contained information related to demographic details of the survey participants; Second section of the questionnaire contains information related to distance of the respondent's houses from the nearest health care centre/clinic/medical store, last dental visit, common dental problems requiring self-medication, frequently used drugs for self-medication, triggering factors and sources of information about medications used and reasons for self-medication as well as source.

2.5. Data Processing and Analysis

Data obtained was analysed with Statistical Package for Social Science (SPSS ver-

sion 18.0) and expressed as frequencies and percentages in tables and charts as appropriate. Tests of associations was done using chi-square ($p < 0.05$).

3. Result

3.1. Demographic Details of the Population

A total of 400 patients enrolled in the study. Age of respondents ranged from 16 to 78 years (32.24 ± 13.47). There were more respondents in the third decade 195 (48.8%), while M:F was 1:1. Out of 193 who volunteered information on their monthly income, 120 (62.3%) earned N50,000 and above, 67 (34.7%) earned N20,000 - N50,000 and 6 (3%) earned less than N20,000. On the distribution of participants based on educational qualification, 278 (69.5%) were graduates, 68 (17%) had a diploma, the rest were Senior School Certificate (SSC) 41 (10.2%), PreSSC 8 (2.0%), while 5 (1.3%) of respondents were illiterates, 0.3% were unemployed and 8% undertook unskilled work (**Table 1**).

About half of respondents (51%) live more than 2 km from the nearest Dental clinic.

3.2. Self-Medication Practice for Oral Problems

One hundred and eighty two respondents (45.5%) practice self-medication; among this one hundred and eighty two who practice self-medication, 67 respondents (36.8%) self-medicated more than twice in the past 6 months. Toothache was the most prevalent reason for self-medication 130 (71%), followed by gum problems 24 (13.1%), swelling in the face 13 (7.1%), bad breath 12 (6.6%) and mobile tooth 3 (1.6%).

The frequently used drugs for self-medication were analgesics 118 (65%), antibiotics 27 (15%), native herbs 25 (14%), salt and water 12 (6%) and 100 (55%) said the drugs were effective while 82 (45%) had temporary relief. The most common source for the drugs was the pharmacy 110 (60%) (**Table 2**).

Eighty-two of the respondents who practice self-medication took the drugs because they had a previous prescription 82 (45%) while lack of finance 75 (41.5%) and advice from family and friends 25 (13.5%) were the other reasons. In addition to taking medications without prescription; one hundred and sixteen of the respondents (64%) admitted they also recommend medications for family and friends.

Three hundred and twenty of the participants (80%) in this study believe that self-medication may be dangerous.

3.3. Associations with Self Medication

Examination of the effects of sociodemographic characteristics revealed that educational status ($X^2 = 12.85$, $P < 0.05$) and gender ($X^2 = 6.42$, $P < 0.05$) were significantly associated with self-medication. There was also a significant association of self-medication practice with the likelihood of recommending drugs to family and friends ($X^2 = 10.38$, $P < 0.05$) (**Table 3**).

Table 1. Socio-demographic characteristics of respondents.

VARIABLE	FREQUENCY	PERCENT
Age (years)		
11 - 20	46	11.5
21 - 30	195	48.8
31 - 40	79	19.8
41 - 50	33	8.3
51 - 60	21	5.3
61 - 70	19	4.8
71 - 80	7	1.8
Mean Age - 32.24 years		
Standard Deviation - 13.47		
Total	400	100
Gender		
Female	203	50.8
Male	197	49.3
Total	400	100
Occupation		
Skilled	173	43.3
Unskilled	32	8.0
Business	58	14.5
Student	136	34
Unemployed	1	0.3
Total	400	100
Educational status		
Graduate	278	69.5
Diploma	68	17.0
SSC	41	10.2
PreSSC	8	2.0
No Education	5	1.3
Total	400	100
Monthly income		
Less than #20,000	6	3
#20,000 - #50,000	67	34.7
More than #50,000	120	62.3
TOTAL	193	100

4. Discussion

The present study aimed to study the trends in self-medication practices among

Table 2. Self-medication practice for oral problems.

VARIABLE	FREQUENCY	PERCENTAGE
Self-Medication		
Yes	182	45.5
No	218	54.5
Total	400	100
Triggering Factors		
Toothache	130	71
Gum Problems	24	13.1
Facial Swelling	13	7.1
Bad Breath	12	6.6
Mobile Tooth	3	1.6
Total	182	100
Type of Medication		
Analgesics	118	65
Antibiotics	27	15
Native Herbs	25	14
Salt and Water	12	6
Total	182	100
Source of Medication		
Pharmacy	110	60
Local drug store	22	12
Tradomedical Store	20	11.5
Family and Friends	30	16.5
Total	182	100
Reason for Self-Medication		
Previous Prescription	82	45
Lack of Finance	75	41.5
Advice from Family	25	13.5
TOTAL	182	100

patients attending the clinic for oral health problems. In Nigeria prescription drugs are readily available over-the-counter, in contrast to developed countries, where strict criteria are in place to dispense drugs.

The age range of respondents in this study is from 16 to 78 years. However, almost half of the respondents (48.8%) are in the third decade of life. The peak age-group in this study is similar to other previous hospital-based studies [15] [16]. This age-group in most populations constitute the work-force and are more susceptible to stress and therefore tries to adopt self-medication practices due to various factors like lack of money, time, minor illness and previous experience of

Table 3. Associations with self-medication.

VARIABLE	Self-Medication			DF	X ²	P-VALUE
	No	Yes	Total			
Educational status				10	12.85	*0.03
	Number [Percent]	Number [Percent]				
Graduate	145 [52]	133 [48]	278			
Diploma	26 [38]	42 [62]	68			
SSC	26 [63]	15 [37]	41			
PreSSC	3 [37]	5 [63]	8			
No Education	3 [60]	2 [40]	5			
Occupation				10	9.55	0.14
Skilled	93 [54]	80 [46]	173			
Unskilled	17 [53]	15 [47]	32			
Student	31 [53]	27 [47]	58			
Buisness	63 [46]	73 [54]	136			
Unemployed	1 [100]	0 [0]	1			
Gender				2	6.42	*0.04
Male	125 [63]	72 [37]	197			
Female	93 [46]	110 [54]	203			
Likelihood of Recommending drugs				4	10.38	*0.01
Yes	37 [32]	80 [68]	117			
No	139 [70]	102 [30]	241			
Monthly Income				6	4.81	0.29
Less than #20,000	3 [50]	3 [50]	6			
#20,000 - #50,000	35 [53]	32 [47]	67			
More than #50,000	61 [51]	59 [49]	120			

treating a similar illness [17].

In this study, the prevalence of self-medication was 45.5%, which is much lower than 100%, 76% and 70% reported from similar studies conducted in Bangalore [17] Pakistan [12] and India [13] respectively. The high prevalence of self-medication in these studies have been attributed to different reasons such as distance from nearest health post/medical store, minor illness, lack of time, quick relief from symptoms, no family support, lack of knowledge about side effects, and belief in other herbal system of medicines [17].

There was a significant association between gender and self-medication in the present study; observations in our survey that 54% of females practice self-medication compared to 37% of males is in agreement with a study in Jimma town, Nigeria [18] that reported a self-medication prevalence of 61.9% among females. However, a similar study conducted in Bangalore reported a higher

prevalence in males. The high prevalence of self-medication practice among females in the present study may be due to their lower threshold for pain and fear of dental treatment as compared to males [12].

There was a positive association in level of education of respondents and self-medication practice in this study similar to findings from other studies [12] [19]. The high prevalence noticed among patients with university education (graduates), may be due to the fact that education makes people confident of self-medication and also gives the ability to read drug labels while respondents who are illiterate may not know the common drug names and have challenges understanding instructions on drug labels [12].

This study also revealed toothache (71%) as the most common dental problem that necessitates most patients to self-medicate in agreement with previous studies [12] [19]. Majority of respondents in this study (45%) offers that the knowledge of previous medication is the reason why they use drugs without prescription. It is likely that some patients either keep the case of previously prescribed drugs or master the colour to be able to procure same for similar future dental problems.

Similarly, this study shows that the commonest abused drugs among dental patient are analgesics (65%), similar to reports from another study [16]. This trend is in conformity with previous observation that toothache is the commonest problems among dental patients, so it is reasonable that they turn to use of analgesics, which are readily available as over-the-counter drugs.

There was an association between self-medication and likelihood of recommending prescription of drugs to family and friends in this survey signifying that while people have a high tendency of undertaking self-medication, they also propagate this flawed practice by recommending drugs to others. More than two-third of the respondents, 320 (80%) believe that self-medication may be hazardous, which was a similar finding reported earlier in literature [19]. While self-medication has benefits, there are hazards associated with it, some of which include: drug reactions and interactions, mounting antibiotics resistance, drug abuse and dependence which is a major challenge in Nigeria, misdiagnosis and renal dysfunction [9] [11].

5. Conclusion

The prevalence of self-medication in this study is relatively high and should be a source of concern for health care practitioners. The dangers associated with self-medication cannot be over-emphasized. This study concluded that self-medication practices were more prevalent among females and university graduates. It is therefore important to embark on health education to enlighten the populace on responsible use of drugs and ensure that there are laws to prevent indiscriminate purchase and use of medications from drug outlets.

Limitations of the Study

The study has some limitations; the first is that cross-sectional design of this

study does not allow for causal inference. Secondly, the study population was made up of only patients seeking dental consultation, hence the results presented here may not be a true representation of the general population.

Conflicts of Interest

There are no conflicts of interest to disclose.

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Appendix 1

Self Medication among Patients Attending the Dental Clinic of the Lagos University Teaching Hospital

This questionnaire is designed to study the pattern of self-medication among patients attending the dental clinic of the Lagos University Teaching hospital, Lagos State, Nigeria.

The information provided by the respondents is strictly confidential. Thank you!

Section A

- 1) Serial No:
- 2) Residential Address (LG): _____
- 3) Age: _____
- 4) Income (Monthly) _____
- 5) Sex: _____
- 6) Ethnicity (a) Yoruba (b) Igbo (c) Hausa (d) Others (specify) _____
- 7) Educational status: (a) None (b) Primary (c) Secondary (d) OND/HND (e) University (f) Masters/Post graduate (g) Others (please specify)
- 8) Occupation: _____
- 9) Religion (a) Christian (b) Muslim (c) Others (please specify)

Section B

- 9) How far is your house from the nearest dental clinic?
(a) <1 km (b) 1 - 2 km (c) >2 km
- 10) Is this your first visit to the dental clinic. (a) Yes (b) No
- 11) When was your last dental visit? _____
- 12) Did you have any dental problems in the last one month? (a) Yes (b) No
- 13) If yes to Question 12, what problems _____
- 14) What was done to treat the problem.
(a) Took medications on my own (b) Went to the dental clinic (c) Went to the chemist (d) used herbal products
- 15) If the dental problem was treated, where was it treated _____
- 16) Do you take medications without doctor's prescription? (a) Yes (b) No
- 17) How many times in the last month did you takes medications without Doctor's prescription? (a) Once (b) Twice (c) More than two times
- 18) Will you undertake self-medication if you have dental problems in the next six months? (a) No (b) Likely (c) Very likely (d) Not sure

- 19) For what dental problems do you self-medicate.
(a) Toothache (b) Gum bleeding (c) Bad breath (d) facial swelling
(e) Tooth mobility (f) Others (Please specify)
- 20) Why do you self-medicate?
(a) Lack of access to dental services (b) Lack of finance (c) Previous prescription of the drug (d) Lack of transportation (e) Traditional/Religious belief (f) Unavailability of doctors (g) Advice from family/friends
(h) advertisement
- 21) How do you feel after taking medications?
(a) Temporary relief (b) Effective (c) Useful in stressful situation
(d) Unsure about the effect
- 22) Which of these medications do you normally take without doctor's prescription? Please give name of the drug(s)
(a) Analgesics (b) Native herbs (c) Antibiotics (d) Salt and hot water
(e) Others (Please specify)
- 23) Who recommends drugs for you?
(a) Relatives (b) Friends (c) Personal knowledge (d) Pharmacist
(e) Mass media (f) Traditional healer (g) Others (Please specify)
- 24) If you take medications without doctor's prescription, where do you normally get the drugs and instructions for their use?
(a) Pharmacy (b) Chemist (c) Hospital Pharmacy (d) Traditional Home
(e) family and friends (f) Others (Please specify)
- 25) Do you recommend drugs for family and friends (a) Yes (b) No
- 26) Do you think self-medication is dangerous? (a) Yes (b) No