ORIGINAL ARTICLE

Self-Medication Profile of Dental Patients in Ondo State, Nigeria

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Abstract

Background: *The practice of selfmedication has been extensively researched but there is dearth of information about its modality among dental patients in developing countries. Hence, this study was designed to determine the proportion of dental patients who practice, medications employed and the reasons for resorting to self medication in general dental populations in Ondo State, Nigeria and to make appropriate recommendations.*

Methods: *This study was conducted between June 2007 and June 2008 at the Federal Medical Centre, Owo and State Specialist Hospital, Akure, Ondo State, Nigeria. Five hundred and thirty six consenting respondents were selected by multistage sampling technique and interviewed with the aid of semi structured questionnaire.*

Results: Almost half of the respondents (42% or n=225) admitted to self medication while the majority (58%) did not practice it. Drugs utilized are usually singly (56.4%) rather than in combination (43.6%), commonly analgesics (50.1%) and antibiotics (30.4%), with the majority (45.8%) using the medications for at least one week. The reasons cited by respondents for self medication were their perception that they know what to do and it saves time and money.

Conclusion: *A sizable majority of the respondents admitted to self-medication usually with analgesics. Adequate health education of the populace on the use and misuse of analgesics needs to be mounted, while dental services should be made readily available and affordable so that self medication among dental patients can be reduced to the barest minimum.*

Keywords: *self-medication, profile, dental patients, Ondo State, Nigeria*

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Introduction

In most societies a person suffering from physical discomfort or emotional distress has a number of ways of helping himself or of seeking help from other people.[1] One of such means is by self medication, which can be defined as 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 disease or symptoms[2]. In developing countries most illness are treated by self medication[3]. A major short fall of self-medication is the lack of clinical evaluation of the condition by a trained medical professional which could result in missed or delayed diagnosis, delays in appropriate and effective therapy[4], increase inorganic risks due to inadequate drug therapy or of unnecessary expense and drug interaction between prescription and non-prescription drugs.[5-7]

In the dental profession, pain is the most likely symptom which could result in analgesic use without the Doctor's prescription. Dentists are aware that patients with dental pain often use over-the-counter (OTC) analgesics on their own to alleviate symptoms or to avoid the need for dental attendance altogether.[8] A study revealed that the current use-rate for analgesics was 52.9% among children with post-operative dental pain.[9] Abuse of drugs, either prescribed or for self use can cause local oro-dental and systemic diseases. Complications as severe as liver failure and upper gastrointestinal complications following overdosage of analgesia secondary to acute dental pain has been reported.[10,11]

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In addition, antimicrobials are routinely prescribed in dental practice and could be abused.[12] A major problem of self medication with antimicrobials is the emergence of resistance of human pathogens. Antimicrobial resistance is a current problem world-wide particularly in developing countries, where antibiotics are often available without prescription. The consequence of this is the loss of relatively cheap drugs that will require new drugs development which will be more expensive and will further disadvantage patients in developing countries.[13] This study was designed to determine the proportion of dental patients who practice self medication, the substances employed and the reasons for resorting to self medication. It is hoped that our findings will guide us in designing appropriate oral health education to reduce self medication to its barest minimum.

Materials and Methods

The study population consisted of 536 dental patients selected by a multistage sampling technique, who presented at the outpatient dental clinics of the Federal Medical Center Owo and State Specialist Hospital Akure, Ondo State. Based on other studies of a wide prevalence of 20-90% for self medication, albeit non-dental based, a prevalence of 50% was chosen as the average prevalence. This prevalence was used to determine the minimum sample size for this study using the formula[14]:

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

where n = minimum sample size
z = 1.96 at 95% confidence interval obtained from standard statistical table of normal distribution
p = estimated prevalence of non-adherence in a given population (50% or 0.5)
q = precision i.e prevalence of adherence in a given population (1 – p or 0.5)
d = margin of error (0.05)
n = 384

With the minimum sample size known, a total of 536 dental patients were selected during the study period, using a multistage sampling technique.

A sampling fraction of the monthly average of patients presenting at the out-patient dental clinic of the hospitals used was used to calculate the number of patients to be randomly selected for the study as follows:

State Specialist Hospital Akure
500 or 5/8 X 536 = 335 respondents
Federal Medical Center Owo
300 or 3/8 X 536 = 201respondents

Study instruments were semi-structured questionnaire with close and open ended questions highlighting their general bio data, history of any past practice of self medication, substances used, duration and reasons for resort to self medication. Information from minors amongst the respondents was obtained from their parents or accompanying persons. Ethical clearance was obtained from the ethical committee of the institutions where the study population would be obtained. Informed consent was obtained from each respondent prior to administering the questionnaires on them.

Data obtained were analysed by micro-computer running SPSS 12.0.1 software. Frequency tables were generated and statistical relationship between the variables was analysed using chi-square test. P-value was be set at 0.05.

Results

There were five hundred and thirty six respondents surveyed with age range from 1 – 97 years. The mean age was 34.3 years, modal age was 25.0 years and median age 30.0 years (standard deviation 17.6 years). There were 259 males (48 .3%) and 277 females (51.7%). Two hundred and ninety two (54.5%) were married, 233 (43.5%) were single and the remaining 11 (1%) were widowed or separated. Four hundred and thirty nine (81.9%) belong to the Yoruba and 51 (16%) to the Ibo ethnic groups. Four hundred and eighty eight (91.0%) were Christians while 44 (8.2%) belong to the Islamic faith. The majority (72.2% or n=387) had at least a secondary school education (38.4% or n=236 post secondary; 33.8% n=181 secondary education) while the rest

Table I: Characteristics of Respondents

	No of Subjects(n=536)	Percentage %
Age Range(years)		
=20	111	20.7
21-30	160	29.9
31-40	95	17.7
41-50	69	12.9
51-60	60	11.2
61-70	28	5.2
>70	13	2.4
Total	536	100.0
Marital Status		
Married	292	54.5
Single	233	43.5
Widowed/Seperated	11	2.1
Tribe		
Yoruba	439	81.9
Ibo	51	9.5
Others	46	8.6
Religion		
Christianity	488	91.0
Islam	44	8.2
Traditional religion	4	0.8
Gender		
Male	259	48.3
Female	277	51.2
Education		
None	63	11.8
Primary	86	16.0
Secondary	181	33.8
Post-secondary	206	38.4
Occupation		
Schooling	106	28.4
Civil Servant	68	18.2
Trading	45	12.1
Artisan	34	9.1
Professional	33	8.8
Teaching	31	8.3

had a primary/preschool education (21.5% or n=86) or no formal education (11.8% or n=63). The majority (32.3% or n=173) were students while a significant proportion are either traders (21.1% or n=113) or civil servants (12.9% or n=69) [Table I].

Prevalence of self medication: Two hundred and twenty five (42.0%) of the respondents admitted to self medication while the majority (52.0% or n=311) claimed not practice self medication for their complaints. [Figure 1] Pain from toothache was the commonest reason (80.4% or n=181) for self-medication.

Self medication Profile: Of the 225 who practiced self medication, 56.4% (n=127) used a single drug while 43.6% (n=98) used drugs in combination. [Figure 2] Individual drug used was counted accounting for multiple responses which does not tally with the number of respondents surveyed. Analgesics (50.1%), antibiotics (30.4%), haematinics (7.5%) and a preparation 'Touch and Go' [Ayrton Saunders Healthcare Limited, Liverpool. England. NAFDAC Reg Number 04-2822] (3.4%) were the commonest drugs used alone [Table II], while analgesics-antibiotics (47.4% or n=47) and analgesics-antibiotics-haematinics (15.3% or n=15) were the commonest drug combinations used. The majority (45.8% or n=103) have used their medications for the past one week and 25.3% (n=57) between one to two weeks. Only 6.2% (n=14) have been using their drugs for more than four weeks. [Figure 3]

Reasons for self medication: Fifty (22.2%) attributed the reasons for self medication to their perception that they know what to do, it saves time and money (15.6% or n=35), it is a minor problem (9.3% or n=21) and the distance to the hospital is too far (8.0% or n=18). Other reasons volunteered, for instance, previous medical prescription for related symptoms, advice from friends, siblings and mate, accounted for 39.6%. There were 12 (5.3%) who did not respond to this question.

Table II Medication Groups Used for Self-Medication*

Groups	Frequency	Percentage
Analgesics	173	50.1
Antibiotics	105	30.4
Haematinics/Vitamins	26	7.5
Touch and Go	13	3.4
Warm Saline Mouthrinse	9	2.6
Others e.g Herbal preparations	19	5.5
Total	**345**	**100.0**

*Multiple Responses

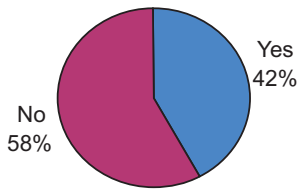

Figure 1 Prevalence of Self-Medication in dental patients

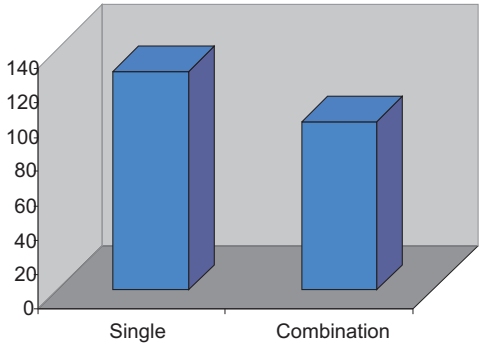

Figure 2: Modality of drugs used for self-medication

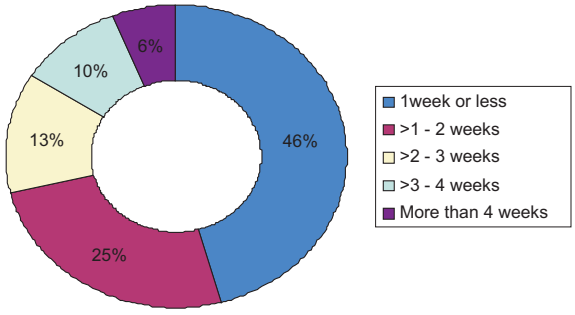

Figure 3 Duration of drugs used for self-medication

Discussion

The proportion of the respondents who practiced self medication for dental complaint is high. However, the prevalence obtained is lower than previous population based studies for self-medication, albeit non dental based, which range from 60-90%.[5,15] For instance, Omolase et al established that 79% of ophthalmic patients[16] and 85% of patients in the general out patients clinic in Owo, Nigeria[17] admitted self-medication, and Servidoni et al in an Ear, Nose and Throat clinic in Brazil reported 83%.[7] Bamgboye et al, in a study of workers in a tertiary hospital in Nigeria reported a prevalence of 73%,[15] Onajole et al established in Lagos, Nigeria that 71% of their respondents admitted to drug misuse,[18] while three studies of different population groups in Sudan reported that 81.8%,[19] 79.5%[20] and 73.9%[5] respectively engaged in self medication without prescription or medical advice.

In contrast, other population based studies for the practice of self-medication is almost in tandem with our findings. For instance, studies in school age subjects in France[21] and those attending a primary health care centre in Spain[22] revealed prevalence of 46.1% and 48% respectively.

Dental patients usually complain of pain from toothache, usually an acute condition, resulting in early presentation, as revealed in our study by the short duration of self-medication, before seeking professional help. Hence, the tendency to seek early relief from dental professionals rather than resorting to self-medication was higher compared to other symptoms which do not present with noxious stimuli for which pain is known to elicit. However, other studies revealed a much lower prevalence for self-medication.

For instance, it was 22% in a population-based study in Czechoslovakia,[23] 32.5% in a study among Hong Kong Chinese population[24], 27.5% in a study conducted among Ethopian populations[25] and 22% among ophthalmic patients in Ibadan, Nigeria[26]. The extreme variation in figures might also depend on the composition of the sample population, survey location and methods.[5]

In contrast to our study, previous studies of self-medication revealed that the use of drugs in combination was commoner than if a single drug was used alone.[20,21,27,28]

The differences might be attributed to the use of plethora of drugs by the respondents to treat varieties of symptoms for which self-medication is employed. Our study showed that relief of dental pain was the commonest reason for seeking dental care, as supported from other studies in Nigeria,[29,30] for which the majority of the respondents correctly used analgesics for self treatment, though it might not be in the correct dose and duration.

The use of drugs in combination in dental patients might follow where there are other associated presentations like dentoalveolar abscess, halitosis, oral ulcers or if the respondents were previously on a daily regimen for a chronic illness. Analgesics, being the commonest drug group used, either alone or in combination, agree with previous studies of self medication, whether for dental ailments or not.[16,17,27,31,32]

In addition, the percentage user rate for analgesics obtained from our study agrees with a study by Asc and Dazner which revealed a 52% current use-rate among children with post-operative dental pain[9]. This was not surprising as common analgesics can be bought without prescription, is readily available and it is cheap. The high user rate for analgesics compared to other drug groups emphasizes the importance of educating patients presenting at the dental clinic about the proper use of analgesics, whether the patient has used it before presenting at the clinic or not, in view of reported cases of complications that might arise from its use or misuse.[10,11,33]

Most respondents attributed the reason for self medication to lack of gravity to go and see a dental practitioner because they can take care of themselves.[8] This is a dangerous assumption as dental ailments that could easily have been managed by a dental practitioner could easily be mismanaged through self medication, resulting sometimes in fatal complications[10,11,32].

Appropriate oral heath education to correct these potentially disastrous assumptions should be fashioned out by the dental professionals and disseminated widely through the mass media, religious organizations, workshops and seminars.

A sizable majority of our respondents mentioned financial constraint and saving of time as reasons for resorting to self-medication. This emphasizes the importance of reducing the 'administrative bottlenecks' patients have to undergo before seeing the dentist in the hospitals. The records and revenue section should be close to each other and be decentralized so as to reduce the distance patients have to travel, especially for dental patients, many of who present with acute pain and in need of relief. The dental clinic can also be autonomous so that the patients can be attended to promptly so as to reduce the waiting time. Financial constraint could have accounted for why about 10% of the respondents resort to use of inexpensive preparations like 'Touch and Go', battery water, and herbal concoctions for self treatment. This was the main reason cited by Awad and co-workers for self-medication with antibiotics in a population-based study in Sudan.[5] The reason for the variance from our study might probably be due to their study population, which may largely be low income earners, which translates to low purchasing power for more expensive drugs prescribed in hospitals.

The fact that 8.0% of the respondents attributed the reason for self medication to dental services not readily available was understandable and should not be discountenanced. The lone dental centre in Owo, located at Federal Medical Centre, Owo, is barely three years old. There is only one public dental clinic in Akure, Ondo State capital, Nigeria, and the cost of services for the very few private dental clinics is prohibitive to the majority of the populace. This implied that the few dental clinics, until very recently, cannot cater for these vast populations residing in these places, while the majority cannot afford the cost of the few private dental practitioners The government will assist greatly in minimizing the prevalence of self medication by making affordable oral care readily accessible to the populace, together with implementation of general measures to alleviate poverty, so that the purchasing power of the vast majority can be increased.

Conclusion

A sizable majority admitted to self-medication commonly with analgesics, either alone or in combination, for the relief of pain of dental origin. Adequate health education of the populace, especially of the dental patients, on the use and misuse of analgesics needs to be mounted, while dental services should be made readily available and affordable so that self medication among dental patients can be reduced to the barest minimum.

Recommendations

1) The high user rate for analgesics compared to other drug groups emphasizes the importance of educating patients presenting at the dental clinic about the proper use of analgesics, whether the patient has used it before presenting at the clinic or not, in view of reported cases of complications that might arise from its use or misuse.

2) Appropriate oral heath education should be fashioned out by the dental professionals to correct the potentially disastrous assumption that dental complaint are minor and the patient can take of it themselves. This is a dangerous assumption as dental ailments that could easily have been managed by a dental practitioner could easily be mismanaged through self medication, resulting sometimes in fatal complications. Government should enforce relevant legislation which limits the sales of drugs without prescription to only few relatively harmless over the counter ones.

3) There is need to create awareness about existing oral health facilities so that patients will know where to go when the need arises thereby minimizing the potential resort to self medication.

4) As part of the effort by the government to achieve the Millennium Development Goals, the government should improve on the existing oral heath coverage, and also intensifies measures to alleviate poverty among the populace.

References

1. Helman C. Culture Health and Illness. An introduction for health professional 1st ed. Bristol B545 NUU. John Writing and Sons (Printing) Ltd, at the Stone bridge press, 1985; 42 – 53.
2. World Health Organization: Guidelines for the regulatory assessment of Medicinal products for use in self – medication WHO/EDM/QSM/00.1, 2000.
3. Nokes K, Prince R.J, Achieng R, et al. Children and medicines: Self treatment of common illnesses among Luo school children in Kenya. Soc Sci Med 2000; 50:1171 – 83.
4. Hamel M.J, Odhacha A, Roberts J.M, et al. Malaria control in Bungoma District Kenya: A survey of home treatment of children with fever, bed net use and attendance at antenatal clinics. Bulletin of the World Health Organization 2001; 79: 1014 – 23
5. Awad A, Eltaved I, Matowe L, et al. Self-medication with antibiotics and antimalarials in the community of Khartoum State, Sudan. J Pharm Sci. 2005; 8(2): 326-31.
6. Covington T.R. Non prescription medications and self-care. Non prescription Drug Therapy: Issues and Opportunities. Am J Pharmaceutical Education 2006; 70(6): 1-5.
7. Servidoni A.B, Coelho L, de Lima Navarro M, et al. Self-medication profile of ENT patients. Rev Bras Otorrinolaringol 2006; 72(1): 83-8.
8. Preshaw P.M., Meechan J.G., Dodd M.D. Self medication for the control of dental pain: What are our patients taking? Dent Update 1994; 21(7): 299-301, 304.
9. Asc G and Drazner E. The incidence of post-operative and analgesic usage in children. ASDC J Dent Child 1992; 59(1): 481-52.
10. Silvaloganathan K, Johnson P.A, Bray G.P, et al. Pericoronitis and accidental Paracetamol overdose. A cautionary tale. Br Dent J 1993; 174(2): 69-71.
11. Milner N, Dickerson A, Thomas A. The use of NSAIDS in dentistry: a case study of gastrointestinal complications. Dent Update 2006; 33(8): 487-8,491.
12. Sweeney L.C, Dave J, Chambers P.A, et al. Antibiotic resistance in general dental practice- a cause for concern? J Antimicro Chemother 2004; 53: 567-76.
13. Hernandez M and Quesada J. Dentistry and self-medication: a current challenge. Medicina Oral 2002; 7: 344-7.
14. Machin D, Campbell MJ. Comparing two means. In: Statistical Tables for the Design of Clinical Studies. Oxford: Blackwell Scientific Publications, 1987; 79-88.
15. Bamgboye E.A, Amoran O.E, Yusuf O.B. Self medication practices among workers in a tertiary hospital in Nigeria. Afr J Med Med Sci 2006; 35(4): 411-5.
16. Omolase C.O, Afolabi A.O, Mahmoud A.O, et al. Ocular self-medication in Owo, Nigeria. Nigerian Journal of Postgraduate Medicine 2008; 1(1): 8-14.
17. Omolase C.O, Adeleke O.E, Afolabi A.O, et al. Self-medication amongst General Outpatients in a Nigerian Community. Annals of Ibadan Postgraduate Medicine 2007; 52:55-58.
18. Onajole A.T, Bamgbala A.O. Socio demographic characteristics of drug misuse in a Polytechnic in Lagos, Nigeria. Nig Jnl Health and Biomed Sciences 2004; 3(1): 40 -43.
19. Awad A.I, Eltayeb I.B, Capps P.A. Self medication practices in Khartoum State, Sudan. European Journal of Clinical Pharmacology April 2006: 62(4): 317 – 324.
20. Awad A.I, Eltayeb I.B. Self-Medication Practices with Antibiotics and Antimalarials among Sudanese Undergraduate University Students. Ann Pharmacother 2007 June 12.
21. Luis-Turabain J and Ramos-de-Juanes J. Self medication and pharmacologic compliance at a primary care centre. Gac Sanit 1989; 3(14): 510-513.
22. Lapeyre-Mestre M, Lebret-Bories E, Charlet J.P, et al. Consumption of drugs in a population of school age subjects: Therapie 1991; 46(1): 49-53.
23. Hartlova S and Solich J. Drugs and health awareness in the population. Cesk Zdrav 1990; 38(3): 120-126.

24. Lam C.L, Catarivas M.G, Munco C, et al. Self medication among Hong Kong Chinese. Soc. Sci Med. 1994; 39(12): 164-167

25. Abula T and Worku A. Self medication in three towns of North West Ethiopia. The Ethiopian Journal of Health Development 2001; 15 (1) 25 – 30.

26. Ajaiyeoba A.I and Scott S.C.O. Risk factors associated with eye diseases in Ibadan, Nigeria. African Journal of Biomedical Research 2002: 5(1-2): 1 – 3.

27. Afolabi A.O. Factors Influencing the Pattern of Self-Medication in an Adult Nigerian Population. Ann Afr Med 2008; 7(3): 120-7.

28. Afolabi A.O. Drug Use and Misuse in an Adult Nigerian Population. Clinical Review Journal 2007; 68: 7-14.

29. Ukeje C.N, Agbelusi G.A, Jeboda S.O. Presenting complaints of patients at the oral diagnosis clinic of the Lagos University Teaching Hospital (LUTH). Nigeria. Nig Qt J Hosp Med 2000; 10(2): 121-125.

30. Sofola O.O, Uti O.G. Barriers in Oral Health Care: Dental Anxiety and Fear in Nigerian Patients. Nigerian Journal of Community Medicine and Primary Health Care 2003; 15: 53-9.

31. Oriol-Toron P.A, Lou Arnal S, Blasco-Perez-Aramendia M.J, et al. Self healthcare when faced with acute patholgy in childhood. Aten Primaria 1994; 14(2): 616 – 618.

32. Afolabi A.O and Ojo M.A. Common Medications Consumed by Market Women in a Suburban Community in Lagos, Nigeria. Tropical Journal of Health Sciences 2009; 16(2): 1-5

33. Afolabi A.O, Adekanle O. Nonsteroidal Gastropathy in a Dental Patient: A case report. Nigeria Medical Practitioner 2008; 53(6):110-112.