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SELF-MEDICATION PROFILE OF DENTAL PATIENTS ATTENDING A NORTH EASTERN TERTIARY HOSPITAL IN NIGERIA

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ABSTRACT

Background: **Self-medication is widely practiced worldwide. Literatures abound on its use for medical ailments but there is paucity of information for dental complaints especially in Northeastern Nigeria. Hence, this study was designed to determine the prevalence of self-medication for dental problems before dental consultation and its associated factors among patients attending Federal Teaching Hospital (FTH), Dental and Maxillofacial Outpatient Clinic, Gombe, Gombe State, Nigeria.**

Materials and Methods: **A descriptive cross-sectional study based on a structured pretested close-ended interviewer-administered questionnaire was distributed among adults visiting FTH outpatient dental clinic, Gombe, Nigeria for a period of 8 months. The questionnaire was composed of two main sections: demographic characteristics and questions assessing the behaviour of self-medication. The non-probability convenient sampling technique was used and data was stored and analysed using IBM-Statistical Package for Social Sciences (SPSS) version 23.0.**

Results: **The results showed that the prevalence of self-medication was found to be 41.5% (194/468), with a higher prevalence among females (55.1% or 107/194) than males (44.9% or 87/194). The majority (52% or101/194) of the patients were in the 2-4th decades of life. Educational status was significantly associated with self-medication. Analgesics accounted for the greatest percentage (98/164 or 59.8%) of orthodox drugs used followed by antibiotics (62/164 or 37.8%). However, with respect to individual medication consumed, paracetamol accounted for the majority (28.7%). A greater number (55/194 or 28.4%) could not remember the name of the orthodox drugs they took before consultations. Street hawkers were the main source of these medicaments (36.6 or 71/194%). Fear of dental treatment (20.1% 39/194), ailment is simple and the need not to see a dentist (20.1% 39/194) were claimed to be the main reason for practicing self-medication with periodontitis (53.1% or 103/194), pulpitis (13.9% or 27/194) and pericoronitis (10.8% or 21/194) the main predictors.**

Conclusion: **The prevalence of self-medications to dental problems in this study was discovered to be high with the use of both orthodox and unidentified traditional drugs. National Health Insurance Scheme should be made to cover all social group of Nigerians in order to encourage easy accessibilities of all people to wide range of medical and dental consultations, thereby discouraging the practice of self-medication.**

Keywords: Self-medication, Dental patients, North-eastern Nigeria.

INTRODUCTION

Self-medication is described as the use of drugs without the advice and monitoring by a physician or the use of a drug without consulting a qualified health care professional to alleviate stress or disorders such as diseases, depression and anxiety.[1,2,3] It is defined by World Health Organization (WHO) as the use of drugs to treat self-diagnosed disorder or symptoms or the intermittent or continuous use of prescribed drugs for chronic or recurrent diseases.[4] It suffices to say that self-medication is a self-care attitude which is an attribute of poor health seeking behavior. The prevalence varies as evidenced from studies in southern Nigeria (92,.3%), Cameroon (67.8%), Jordan (46%), Greece (44.6%), Lithuania (22%), USA (17%) and Spain (11%).[5,6,7,8] Certain health challenges have been reported to be associated with the practice of self-medication world-wide. These include drug misuse, non-compliance with appropriate dosage hence development of anti-microbial resistance strains, drug interaction, liver failure and disorder of gastro intestinal system due to analgesic overdose for pain alleviation, hypersensitivity reactions, drug addiction and consumption of expired drugs.[9,10,11,12,13,14] In many

instances, these set of complications may negate any presumed or perceived advantages of self-medication. Reasons attributed to the practice of self-medication include shortage of Doctors, economic hardship, ignorance, hindrances and barrier to health care providers, political challenges, social and religious belief, lack of monitoring of over-the-counter (OTC) drugs and unwillingness of many people to spend money and time to get medical attention from appropriate quarters.[1,17,18,19,20] While severity of signs and symptoms of certain diseases have been implicated as predisposing factors to self-medications, the perception by many people that physician should be seen only for serious ailments have also been reported.[19,20]

Though there had been extensive research into the practice of self-medication, there is a limited information about its modality among dental patients in developing countries where oral health burden is more compared to developed countries of the world.[15,16] The few available studies in Nigeria are from Southern part while there is paucity of reports from Northern Nigeria hence this study from Northeastern city of Gombe. This study is therefore designed to determine the prevalence of self-medication to dental problems before dental consultation, identify drugs that are commonly self-medicated, identify the sources of these drugs, analyze the reasons for self-medication and dental diseases associated with it and the level of awareness of complications of self-medication among dental out patients. Significantly, this study will contribute to the body of existing knowledge on self-medication to oral and dental problems. The outcome of this present study may be found useful for holistic oral health care planning and delivery among Nigerians.

MATERIALS AND METHODS

Study Design

This is a descriptive cross-sectional survey conducted among patients attending Federal Teaching Hospital (FTH), Dental and Maxillofacial Outpatient Clinic, Gombe, Gombe State, North-East Nigeria. The study was conducted between January and August, 2017.

Ethical approval was obtained from Federal Teaching Hospital Institution Ethics Committee. Participants were well informed and no participant was unduly treated or victimized for refusing to participate in the study while informed consent form were duly signed by those that agreed to be part of the study. A total of 468 patients participated in the study. All patients that signed the informed consent and expressed willingness were allowed to participate in the study. Patients below 18 years old and those above 75 years were excluded from participating in this study.

Minimum sample size for this study was calculated to be 374 using the formula $n = (Z \div E)^2 P (I - P)$ at a prevalence of 42% (P=0.6) for self-medication with reference to previous study[1] where similar formula was used. n = Sample Size, Z = Desired confidence level (at 95%- = 1.96), E = Maximum tolerable sample error (0.05), P = Prevalence (0.42). Convenient sampling method was adopted for recruitment of participants.

Data Collection

Structured, pretested and close ended interviewer-administered questionnaires and simple clinical oral examinations were adopted as tools for data collection. Questionnaires were completed for each patient in the Oral Diagnosis Clinic by the researchers with the help of two trained Dental Assistants. The questionnaires contain two parts; Part A consists of questions on the bio-data of the participants while Part B was based on information about drugs utilization before consultation. For the purpose of this study, self-medication was defined as drugs taken by patients but was not prescribed by doctors or dentists. Prior to questionnaire administration, it was translated into local Hausa language for better understanding among the respondents that do not understand English language. Clinical history was taken, followed by clinical examinations of extra and intra-oral cavity by trained and calibrated examiners. Necessary investigations were done before making diagnosis of oral diseases presented by each patient.

The data were entered and cleaned in Statistical Package for Social Science (SPSS) Version 23. Frequencies, proportions, means and standard deviations were generated. Data on monthly income was categorized into >minimum wage of N18,000 and ≥minimum wage of N18000. For the purpose of bivariate analyses, age was recategorized into > 20 years (children and teenagers), 20 to 59 years (adults) and ≥60 years (elderly). Similarly, educational level was recategorized into non-formal, primary, secondary and post-secondary education. Chi-square test was used to test association between categorical variables: age group, sex, marital status, educational level, occupation, monthly income and residence and prevalence of self-medication at $p<0.05$.

RESULTS

Within the period of this study according to Table 1, a total number of 468 patients participated in this study out of 502 patients that presented at the study center. The participants were between ages 18 and 75 and were grouped into six. The mean ±SD age of participants was 35.15±16.36 years. Gender distribution shows that 220 (47.0%) male and 248

Table 1: Demographic character of the study population and self-medications.

Demographic characteristics	Freq. (%) n=468	Prevalence of self-medication		χ^2-test	P-value
		Yes	No		
Age group (years)					
<20	86(18.4)	28(32.6)	58(67.4)	3.44	0.18
20-59	347(74.1)	151(43.5)	196(56.5)		
≥60	35(7.5)	15(42.9)	20(57.1)		
Sex					
Male	220(47.0)	87(39.5)	133(60.5)	0.622	0.430
Female	248(53.0)	107(44.1)	141(56.9)		
Marital status					
Married	278(59.4)	122(43.9)	156(56.1)	1.871	0.392
Single	169(36.1)	65(38.5)	104(61.5)		
Others (Widowed/divorced)	21(4.5)	7(33.3)	14(66.7)		
Educational level					
Non-formal	67(14.3)	34(50.7)	33(49.3)	7.82	0.04
Primary	39(8.3)	10(25.6)	29(74.4)		
Secondary	99(21.2)	46(46.5)	53(53.5)		
Post-Secondary	263(56.2)	104(39.5)	159(60.5)		
Occupation					
Civil/public servant	174(37.2)	69(39.7)	105(60.3)	1.757	0.416
Business	70(15.0)	34(48.6)	36(51.4)		
Others (students, applicants)	224(47.9)	91(40.6)	133(59.4)		
Monthly income					
<N18,000.00	116(24.8)	53(45.7)	63(54.3)	1.215	0.545
≥N18,000.00	250(53.4)	99(39.6)	151(60.4)		
Dependence	102(21.8)	42(41.2)	60(58.8)		
Residential					
Outside city	99(21.1)	42(42.4)	57(57.6)	0.049	0.825
Inside city	369(78.9)	152(41.2)	217(58.8)		

Note: NCE – National Certificate of Education; AL – Advanced Level

(53.0%) female participated in this study. The majority 278 (59.4) were married, 67 (14.3) had no formal education while 401 (85.7%) had formal education. Two hundred and forty-four (52.1%) were employed while 224 (47.9%) were unemployed. Participant's income shows that 250 (53.4%) participants were on estimated regular monthly income higher than national minimum wage of N18,000 while 218 (46.6%) participants were on estimated regular monthly income lower than national minimum wage or were dependents. The majority 369 (78.9%) resides inside cities. The relationship between educational level of the participants and self-medication was statistically significant. (p = 0.014)

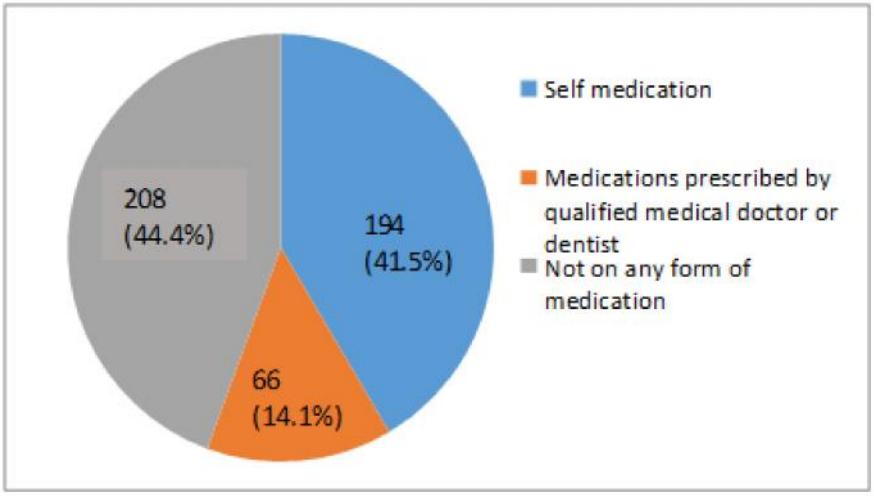

Figure 1: Frequency distribution of medication among study participants

Figure 1 shows that out of the 468 patients that participated in this study, 194 (41.5%) were on medications not prescribed by a qualified medical doctor or dentist, 66 (14.1%) were on medications prescribed by a qualified medical doctors or dentist and 208 (44.4%) were not on any form of medication prior to consultation

Table 2 revealed that of the 194 study participants who engage in self-medication 39 (20.1%) reported fear of dental treatment and ailment is simple and the need not to see a dentist as reasons for engaging in self-medication. Other reasons (23/11.9%) given include unavailability of dental surgeon, personal knowledge of ailment and long queues in the hospitals.

Table 3 shows that of the 194 study participants who engaged in self-medication, the majority 71 (36.6%) obtained their drugs from street hawkers. Other sources (27/13.9%) included leftover of previously prescribed drugs, television, radio, traditional healers and online media.

Figure 2 revealed that almost half 98 (49.5%) of the respondents have been engaging in self-medication for 2-6 days before dental consultation

Table 2: Reasons for engaging in self-medication

Reasons for self-medication	Frequency	Percentage (%)
Fear of (Surgical) dental treatment	39	20.1
Don't know where to receive dental treatment	17	8.8
I believe the ailment is simple and I need not see a dentist	39	20.1
No time for dental consultation	28	14.4
No money for dental treatment	26	13.4
My house is far to hospital/dental clinic	17	8.8
Confidence in chemist and pharmacy	5	2.6
Others	23	11.9
Total	194	100.0

Table 3: Sources of self-medicated drugs

Sources of drugs	Frequency	Percentage (%)
Pharmacy store	26	13.4
Chemist store	37	19.1
Street hawkers	71	36.6
Family and relations	33	17.0
Others	27	13.9
Total	194	100.0

Figure 3 showed that the majority (159/194 or 82.0%) of the study participants used orthodox drugs for self-medication. Amongst those on orthodox drugs, 84 (84/159 or 52.8%) were on single type of drug, 52 (52/159 or 32.7%) on two types of drugs and 23 (23/159 or 14.5%) on combination of more than two types of drugs.

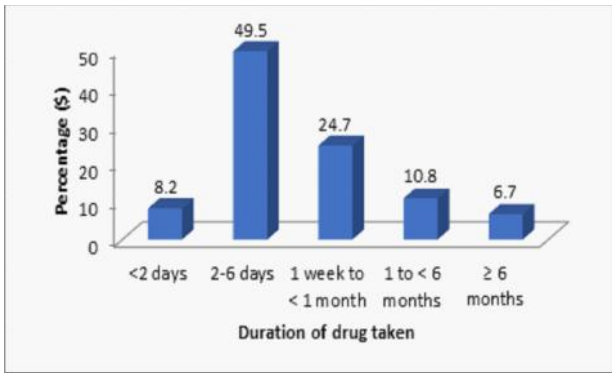

Figure 2: Duration of drugs intake for self-medication (n=194)

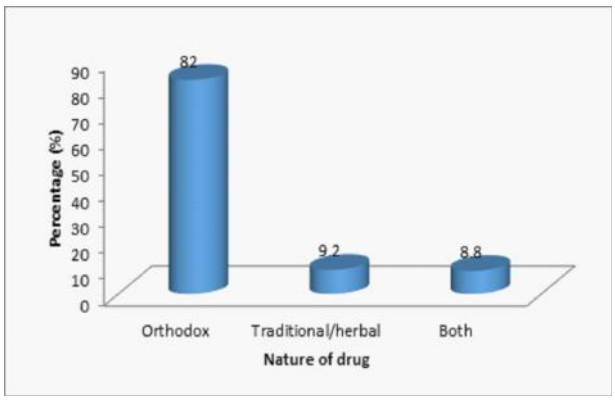

Figure 3: Type of drugs taken by the respondents

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Table 4 revealed that paracetamol (28.7%) and Ibuprofen (15.9%) accounted for most of the orthodox drugs used. Combination of drug groups was used for self-medication. A greater number (55/194 or 28.4%) among the study participants who engaged in self-medications could not remember the name of the orthodox drugs they took before consultations and were not having any sample on them that could be identified.

Table 4: Orthodox drugs used for self-medication*

Group/name of drug used	Frequency n=164	Percentage (%)
Analgesic drugs		
Paracetamol	47	28.7
Ibuprofen	26	15.9
Panadol	7	4.3
Aspirin	5	3.0
Others types of analgesics e.g diclofenac, alabukun granules etc	10	6.1
Touch and Go	3	1.8
Antibiotics		
Ampicillin	11	6.1
Metronidazole	10	5.5
Ampiclox	9	5.5
Amoxicillin	7	4.3
Co-trimoxazole	7	4.3
Tetracycline	5	3.0
Doxycycline	5	3.0
Ciprofloxacin	3	1.8
Other types of antibiotics e.g septrin, erythromycin.	5	3.0
Others e.g haematincs, antihistamin	4	2.4

**single or multiple use*

Of those who engaged in self-medication Table 5, more than half (53.1%) were diagnosed with periodontitis while 10 (5.2%) participants had mouth ulcer. Other diagnosed conditions include gingivitis, tooth trauma, tooth fracture, dentinal sensitivity and oro-facial tumors.

DISCUSSION

The prevalence of self-medication to dental problems among dental patients in this study was 41.5%. Similar prevalence was reported from a similar study in western part of Nigeria[1]. However, other studies within and outside Nigeria reported a higher prevalence.[5,21,22,23]

Table 5: Diagnosed complaints for which medications were taken

Diagnosis/ Complaints	Frequency	Percentage (%)
Dental caries	16	8.2
Pulpitis	27	13.9
Periodontitis	103	53.1
Pericoronitis	21	10.8
Mouth Ulcer	10	5.2
Others	17	8.8
Total	194	100.0

The lower figure obtained in the present survey may be because the study was based on dental patients with or without toothache rather than other studies which was restricted to patients' that presented with only toothache.

Although from our findings, many demographic variables have no significant statistical relationship with self- medication to dental problems, this practice was observed to be more common among participants that were between second and fifth decades of life and specifically higher among 30-39 year-aged group. This conform with previous reports of high prevalence of self-medication among 2-4 decade aged group.[6,21] This findings may be due to the fact that 20-49 age group were the most active and busy group who may not have enough time to seek for proper medical and dental consultation but find it easier to indulge in self-medications. We discovered in the present study that the practice of self- medication was more among the female than male respondents and while this conforms to some previous reports,[1,20,22,26,27] it is contrary to others where self-medication were reportedly practiced more among the males than females.[18,21,24,25] The reason may be due to that adduced from a previous study[26]: lower threshold towards pain, greater fear of dental treatments, majority belonging to lower income groups and more likely to be unemployed. It could also be as a result of religious and cultural believes in the Northern part of Nigeria which preclude women from going out freely thus increasing the probability of self-treatment.

Our findings show significant association between self-medication practice and educational level among the respondents. The practice of self-medication was observed more among the non-educated than educated respondents generally and higher among the non-graduates than graduates due to poor access to dental treatments owing to poor purchasing power. This conforms to reports from a similar study which indicated higher level of self-medication among less educated and low socio-economic classes of people[27,28] but contrary to other reports indicating self-medication

more commonly practiced among the highly educated people.[21,22,29]

Self-medication was equally observed among those in business/traders, applicants/unemployed and students than among the civil servants. It was also observed more among those earning less than ₦18000 than those earning above ₦18000 as monthly income. Occupation may be considered as a proxy for income levels but monthly family income did not show any association with self-medication in our study. This agrees with a previous study.[27]

In Nigeria, the civil and public service consists mainly of educated populace while illiterates and non-educated people are mostly found in petty businesses. Therefore, unrestricted access to medical and dental consultation through the National Health Insurance Scheme by the civil servants compared with those in informal sector, (for example traders/self-employed) of the economy may be responsible for less dependence on self-medication for managing dental complaints. This could also explain higher patronage of street hawkers observed in this study as the most significant source of the self-medicated drugs among the respondents followed by chemist/medicine stores. These medicine sellers do not ask questions from their customers about reasons for drugs purchased but are only interested in profits unlike pharmacy stores which are regulated. This conforms with an earlier study[20] but contrary to reports from other similar studies that identified previous prescriptions and pharmacy shops as major sources of drugs consumed.[21, 22, 24, 26] While many reasons were said to be responsible for this practice among the respondents, majority stated fear/phobia of receiving dental treatments and their perception of dental problem being simple and can easily be addressed by self-medication without any need for consultation. This agrees with previous studies.[1, 22, 24, 30] Low dental awareness, knowledge and attitude which have been widely reported among many Nigerian population may be responsible for this impression. Dental health education should be increased by training more middle level dental manpower (dental therapist and hygienist) with limited resources instead of concentrating on the highest level dental manpower (dentists) who can be left to manage more complex dental complaints.

Toothache was observed as the most significant symptoms responsible for self-medication in this study. It account for 84.5% of all the symptoms observed to be responsible for self-medication and this conform with previous studies.[1,21,23,31] The associated pain may also be responsible for why analgesics compared to other medication groups was commonly used among the respondents. The commonly used analgesic, acetaminophen (paracetamol) is not surprising as it is cheap, readily available and is a household remedy for pain across all social strata. Incidentally, many do not even regard it as a drug with any side effects considering the way it is consumed. Some of our respondents do not even own up taking these analgesics before dental presentation unless it is mentioned to them and the side effects which had earlier on been reported[1] discussed with them. The use of nonsteroidal anti-inflammatory drugs by consumers is equally worrisome especially when these drugs are combined with other drugs of the same group. This practice is common among street hawkers and medicine stores who dispense these drugs in combination with other drugs without having an idea of their dosage and side effects. This is a public health hazard which could result in life threatening complications as earlier reported.[31]

Equally worrisome from this study is the use of herbal/traditional drugs for dental complaints which had been previously reported from a previous study.[21] Many could not state the specific names of those drugs apart from the general name 'Maganin Garigajiya'. The situation where an individual have no idea of what he/she is consuming can be a great hazard not only to dental but general health. Though these remedies are easily assessable and affordable, they had no proven dosage, duration or clinical usefulness, neither had their side effects been documented. This could worsen an already dental complaint and overall health of the patient. The use of 'Touch and Go' for dental pain had earlier on been reported in previous studies.[20,21] "Touch and Go" made for oral use is a red liquid that contains two active ingredients, clove oil 3.12%, which is a local anesthetic agent and Tolu of balsam, 1.25%. Other constituents are menthol 1.25%, solvent ether 1.5%, phenol 1.25%, cajuput oil 2.5%, and vehicle to 100%. The deleterious effect on the dental pulp makes this preparation inappropriate for management of dental pain.[21] The Nigerian Dental Association should embark on a public enlightenment aimed at discouraging and possibly banning its use for dental complaint because this preparation, apart from being readily available and affordable in pharmacy and patent medicine stores, is erroneously being touted as the permanent solution for any form of toothache. The high percentage of antibiotics used is a cause for concern because of danger of drug resistance as previously reported, further worsening and increasing chances of complication of patient's complaints.

Equally noteworthy was the commonest dental complaint for which self-medication was employed,

periodontitis. Left untreated, it can progress to chronic infection and subsequent tooth loss. The fact that about half of the respondents were on self-medication 2-6 days before presentation shows why dental complaints are acute in nature. Non-relief of the pain might have accounted for about a quarter of the respondents extended the practice up to a month, by which time the disease would have entered the chronic phase.

The commonest population group, 30-39 year olds who engage in self-medication might also be having periodontal pain as the commonest reason for using drug without prescription. The earlier onset is a departure from what is known as a disease of the elderly. It is probable that poor dental awareness, poor oral hygiene coupled with the low literacy level might be responsible. The authors are not unaware of the limitation of this study which include the unreliability of self-report, loss of valuable data due to inability to remember, limited number of participants used being an hospital based study could have limited generalization to the general population.

CONCLUSION

The prevalence of self-medications to dental problems in this study was discovered to be high with the use of both orthodox and unidentified traditional drugs among the respondents. It was discovered that Analgesics drugs were majorly used and these were mostly obtained from street hawkers. Among the major reasons given for this practice were phobia for dental treatments and perceptions that dental ailments are simple to treat by self-medication. Those that engage in self-medication cut across sex, age and educational background but more among the uneducated and low income earners.

RECOMMENDATION

Appropriate authorities should be encouraged to put a stop to the present indiscriminate sales of drugs on the streets and drugs should not be sold and dispensed without proper prescriptions from appropriate quarters. Meanwhile, high level of campaign against self-medication practice should be raised among Nigerians. National Health Insurance Scheme should be made to cover all social group of Nigerians in order to encourage easy accessibilities of all people to wide range of medical and dental consultations. The establishment of more dental health care facilities and increase oral health awareness will also help to reduce self-medication among the populace in Gombe city, North Eastern Nigeria.

Conflict of Interest

The authors jointly bear responsibility for this submission and declare no conflict of interest.

REFERENCES

1. **Afolabi AO,** Akinmoladun VI, Adebose IJ, Elekwachi G. Self-medication profile of dental patients in Ondo State, Nigeria. Nig J Med 2010; 15 (1-2):1-3
2. **Montastruc J L,** Bagheri H, Gerand T and Lapeyre M. Pharmaco vigilance of self-medication. Therapie 1997; 52:105-110.
3. **Passik SD.** Issue in Long-term Opioid therapy: Unmet needs, risks and solutions. Mayo Clinic Proc. 2009; 84(7): 593-601.
4. World Health Organization: Guidelines for the regulatory assessment of medicinal products for use in self-medication. WHO/EDM/GSM/00.1, 2000.
5. **Agbo MA,** Azodo CC. Self-medication for oral health problem in Cameroon. Int Dent J 2011; 61(4) 204-209.
6. **Ayanwale MB,** Okarfor IP, Odukoya O. Self-medication among rural residents in Lagos, Nigeria. Journal of Medicine in the Tropic, 2017; vol 19(1):65-71.
7. **Omitola OJ,** Arigbede AO. Prevalence and pattern of pain to presentation among patients attending a tertiary dental centre in Southern region of Nigeria. A Dent Res Dent Clin Dent Prospect 2010; 4(2):42-46
8. **Eystathios Skliros** *et al.* Self-medication with antibiotics in rural population in Greece: a cross-sectional multicenter study. BMC family practice, 2010;11:58
9. **Dickerson LM,** Mainous AG, Carek PJ. The Pharmacist role in promoting optimal Anti-microbial use. Pharmacotherapy 2000; 20(6):711-723.
10. **Hossaini MM,** Glass RI and Klan MR Antibiotic use in rural community in Bagladesh. International Journal of Epidemiology 1981;11:402-205.
11. **Awad A.** Ectaved I, *et al.* Self-Medication with antibiotic and antimalarial in the community of Khartoun State Sudan. J Pharm Sci. 2005; 8(3): 326-331.
12. **Covington TR.** Nonprescription medication and self-care. Nonprescription Drug Therapy issue and opportunities. A M J Pharmaceutical Education 2006: 70 (6)1:5.
13. **Silvalogariathan K,** Johnson PA, Bray GP *et al.* Department of Family Medicine. Pericoronitis and accidental paracetamol overdose. A cautionary tale. Br Dent J 1993; 174(2):69-71.
14. **Milner N,** Dickson A, Thomas A. the use of NSAIDS in Dentistry. A case study of gastrointestinal complications. Dent Update 2006; 33(8): 487-488, 491.
15. **Petersen PE,** Bourgeois B, Ogawa H *et al.* The global burden of oral disease and risk of oral

health, policy and practice theme paper. Bulleting of the World Health Organization 2005;3:661-669
16. **Petersen PE.** Continuous improvement of oral health in the 21st century-the approach of the WHO Global Oral Health Programme. The World Oral Health Report 2003: (WHO/NMH/ORH/03.2)
17. **Kiklilu EM,** Masalu JR, Kahabuka FK, Senkoko AH. Prevalence of oral pain barrier to the use of emergence oral care facilities among adult Tanzanians. BMC oral Health 2008; 8:28.
18. **Sweileh MW.** Self-medication and over the counter practices: A study in Palestine. Res Soc Adm Pharm, 2008; 4:164-172.
19. **Omolase CO,** Afolabi AO, Mahmoud AO, Omolase BO. Ocular self-medication in Owo Nigeria. Nig. J Postgrad Med 2008; 1(1): 8-14.
20. **Afolabi AO.** Factors influencing the pattern of self-medication in an Adult Nigerian Population. A M Afri Med 2008; 7 (3):120-127.
21. **Anyanachi CE,** Saheeb BD. Toothache and Self-Medication Practices: A study of patients attending a Niger Delta tertiary hospital in Nigeria. Annals of Medical and Health Sciences Research, 2014;4:6
22. **Qaiser AB,** Danish M, Ashar A, *et al.* Prevalence of self-medication among Dental patients. Parkistan Oral and Dental Journal, 2012; Vol 32: no 2.
23. **Abhishek SN,** Assessment of Abuse of Self-medication for oral and dental problems amongst 21-60 years aged populace residing in the rural areas of Belgaum Taluk, Karnataka, India: A Questionnaire Study. International Journal of Collaboratory Research on Internal Medicine & Public Health, 2016;8:6
24. **KomalRaj MR,** Padma K Bhat, Aruna CN. Self-medication practices for oral health problems among dental patients in Bangalore: a cross sectional study. IOSR Journal Of Pharmacy , 2015; Volume 5, Issue 10 (October 2015), 68-75
25. **Ritu P,** Himmat S, Manisha R, Gaurav G. An online exploratory study of selfmedication among pharmacy graduates in India. Int J Drug Dev Res 2011; 3:2007.
26. **Uzma Z,** Aroosa N, Asma S, *et al.* Practice of self medication for dental ailments among patients attending dental OPDs in Karachi. Pakistan Journal of Oral Hygiene and Health, 2018;6:2
27. **Simon AK,** Rao A, Rajesh G, *et al.* (2015), Trends in self-medication for dental conditions among patients attending oral health outreach programs in coastal Karnataka, India. Indian J Pharmacol 47: 524-529
28. **Gandhi S,** Gandhi RA, Nayyar AS. Assessment of abuse of self-medication for oral and dental problems among 21–60 years aged populace residing in the rural areas of Belgaum Taluk, Karnataka, India: A questionnaire study. Arch Med Health Sci 2016;4:180-184
29. **Sallam SA** *et al.* Pharmaco epidemiological study of self-medication in adults attending pharmacies in Alexandria in Egypt. Eastern Mediterranean Health journal. 2009; 15: 683-691.
30. **Jain A,** Bhaskar DJ, Gupta D, *et al.* Practice of self-medication for dental problems in Uttar Pradesh, India. Journal of Oral Health and Prev. Dent, 2016; 14(1):5-11.
31. **Afolabi AO,** Ojo MA. Common medications consumed by market women in a suburban community in Lagos, Nigeria. Tropical Journal of Health Sciences 2009; 16(2): 1-5.