

# Questionnaire Study

## Pattern of Drug Prescription For Periodontal Problems

Rajdeep Beura, Adrita Purkayastha, Micky Kumari, Samarjeet J. Pattanaik

Associate Professor<sup>1</sup>,  
Dept of Periodontics,  
HI-Tech Dental College & Hospital,  
Bhubaneswar, Odisha.

Associate professor<sup>2</sup>,  
Dept of Periodontics,  
HI-Tech Dental College & Hospital,  
Bhubaneswar, Odisha.

Associate Professor<sup>3</sup>,  
Dept Of Periodontics,  
HI-Tech Dental College & Hospital,  
Bhubaneswar, Odisha.

Professor and HOD<sup>4</sup>,  
Dept of Periodontics,  
HI-Tech Dental College & Hospital,  
Bhubaneswar, Odisha.

### Abstract :

**Introduction/Background:** Irrational use of drugs is a major problem for present day dental practice. Various medications are being prescribed for periodontal complaints. However, not many studies have been carried out on the type and distribution of medications prescribed for patients with periodontal concerns. Knowledge obtained from these may be beneficial for addressing issues such as injudicious use.

**Aims & Objectives:** To assess the pattern and trends of drug prescription for periodontal complaints in Bhubaneswar and Cuttack.

**Results:** Total 242 prescriptions were taken into account, and it was found that for various periodontal problems the main antibiotics prescribed are Ofloxacin and Ornidazole combination followed by Amoxicillin. Main analgesic prescribed are Diclofenac followed by a combination of Paracetamol and Aceclofenac. Main Proteolytic enzyme used are Seratiopeptidase.

**Conclusion:** The above result indicates the need for more precise education of dentist on rational prescribing and to take measures for effective use of drugs in all types of periodontal complains.

**Keywords:** Drugs, Prescription.

### Introduction:

Awareness about periodontal problems have made the general population move to dental clinics with periodontal complaints. But there is a lack of awareness about correct management of periodontal complaints among general Dental Practioner. Most often prescribed medicines are not up to the mark. There are many previous studies on medicines prescribed in dental practise. Bhattacharya et al has done a study on assesment of prescription pattern of tooth ache and tooth extraction patients prescription. Yacob et al has done a Pharmaco epidemiological study of prescription pattern in outpatient clinic in Saudi Arab. Jain et al has done a cross sectional study on Drug prescription awareness among the 3rd year and final year dental students. Similarly Joana et al has done a study on

Prescription of Antibiotics for Periodontal Disease among Dentists in the Region of Tirana. But no study has been done to assess the medications prescribed for various periodontal complains in the district of Cuttack and Bhubaneswar.

So the purpose of this study was to assess the pattern of drug prescription for periodontal problems in patients visiting to private dental clinic in Cuttack and Bhubaneswar.

Drug prescription is often the end result of most medical prescription<sup>(1)</sup>. For the betterment of the patient, the dentist should adhere to good prescription writing by proper diagnosis and dispensing of medications<sup>(2)</sup>.

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Corresponding Author:

**Adrita Purkayastha**  
Associate Professor  
Dept of Periodontics,  
HI-Tech Dental College & Hospital,  
Bhubaneswar, Odisha

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Inappropriate prescribing habits lead to ineffective and prolongation of the therapy. Therefore, it is important to access the proper medication used and treatment given to patients with periodontal problems.

A prescription was a healthcare program implemented by physician or other medical practitioner in the form of instructions that governs the plan of care for an individual patients.

**Aims And Objective:**

So, the purpose of this study was to assess the pattern of drug prescription for periodontal problems in patients visiting to private dental clinics in Cuttack and Bhubaneswar.

**Materials And Methods :**

Prescription of patients visiting various private dental clinics in Cuttack and Bhubaneswar were assessed for their chief complaints and medications used.

Subjects were enrolled in the study according to the inclusion and exclusion criteria. The subjects were informed about the study procedure and about the

benefits of the study and after taking the written consent of the patients the subjects were enrolled in the study.

Data regarding the chief periodontal complain and medication given was collected from the prescriptions of patients. Around 242 prescriptions were assessed. Ethical committee clearance was taken.

**The inclusion criteria are :**

Subjects reporting to a dental clinic having only periodontal complaint.

Subjects ready to share the information in the prescription.

**The exclusion criteria are:**

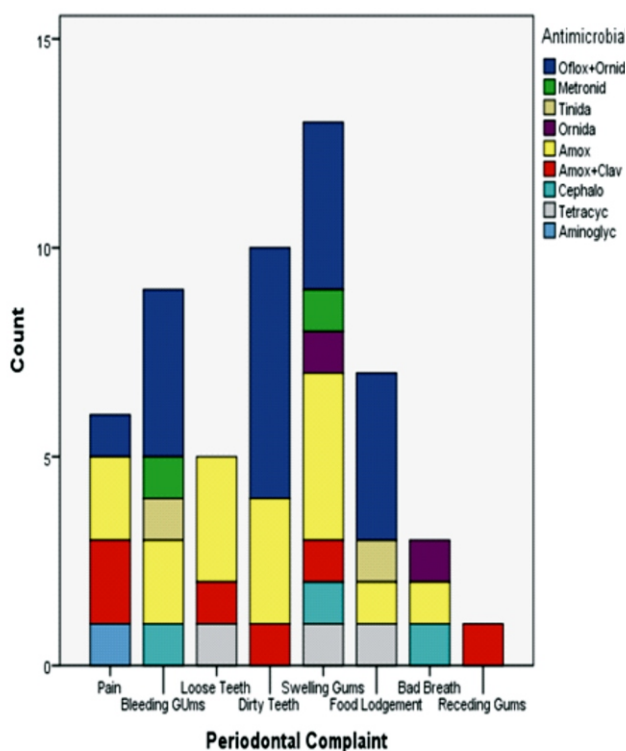
Subjects having chief complain not related to periodontal problems.

**Following parameters are studied in each prescription:**

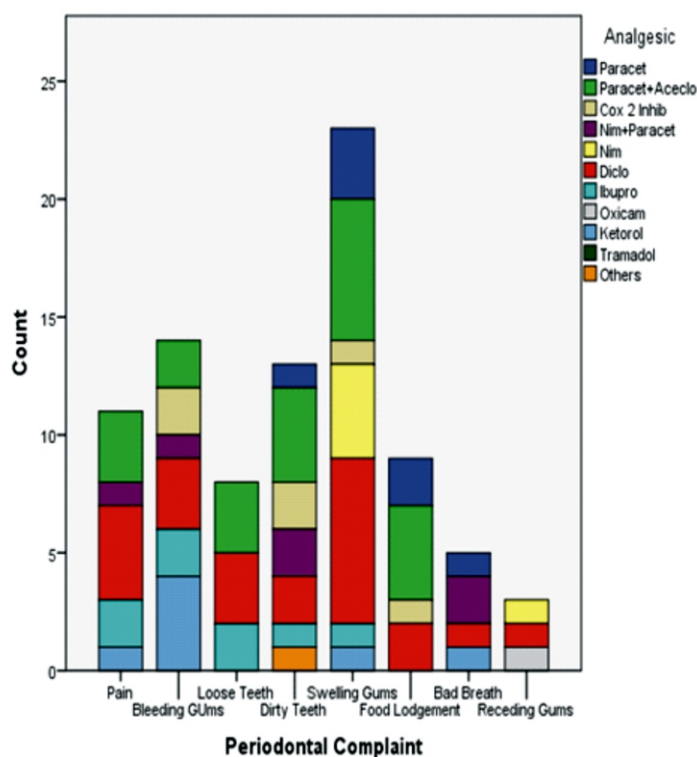
Chief complaint of the patient.

The medications given along with its composition and dosage.

**Result :**

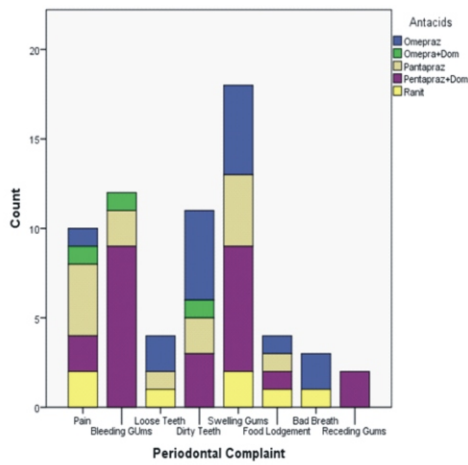


Graph 1

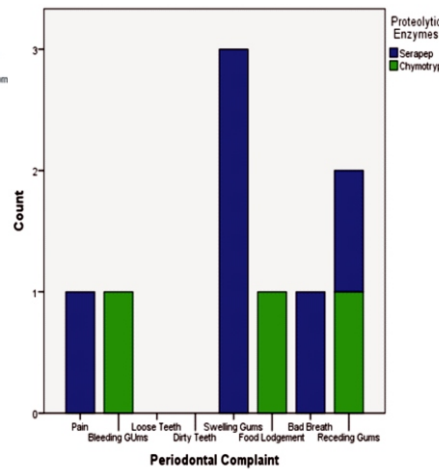


Graph 2

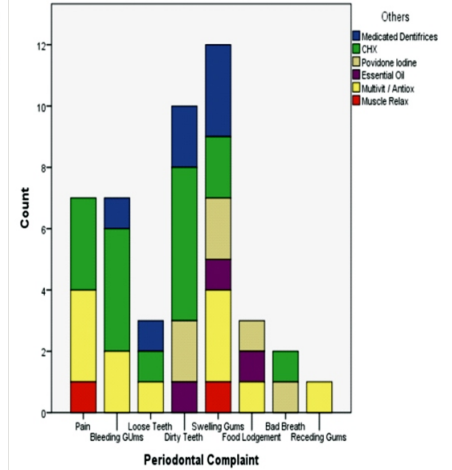
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Graph 3



Graph 4



Graph 5

	N	N%	Number of Medications / Prescription	
			Mean	SD
Pain	29	12.0	2.83	0.38
Bleeding Gums	17	7.0	2.94	0.75
Loose Teeth	14	5.8	2.79	0.89
Dirty Teeth	45	18.6	2.78	0.60
Swelling Gums	45	18.6	2.91	0.56
Food Lodgement	29	12.0	2.72	0.45
Bad Breath	35	14.5	2.91	0.56
Receding Gums	28	11.6	2.64	0.73

Table 1

	Pain	Bleeding Gums	Loose Teeth	Dirty Teeth	Swelling Gums	Food Lodgement	Bad Breath	Receding Gums	Total
<b>Antimicrobial</b>									
None	21	8	4	43	18	5	5	2	106
Ofloxacin+Ornidazole	1	1	0	27	9	11	0	0	49
Metronidazole	0	2	0	5	0	0	0	0	7
Tinidazole	0	2	0	0	0	5	0	0	7
Ornidazole	0	3	0	0	1	0	1	0	5
Amoxycillin	6	0	6	12	12	6	4	0	46
Amoxycillin+Clavulanic acid	0	0	3	4	1	0	0	2	10
Cephalosporin	0	1	0	0	1	0	3	0	5
Tetracycline	0	0	1	0	3	2	0	0	6
Aminoglycoside	1	0	0	0	0	0	0	0	1
Subtotal	29	17	14	91	45	29	13	4	242

<b><i>Analgesic</i></b>									
None	0	1	0	8	1	0	0	0	10
Paracetamol	0	0	0	2	0	2	4	0	8
Paracetamol+Aceclofenac	6	1	6	26	10	15	0	0	64
Cox 2 Inhibitor	0	0	0	7	2	2	0	0	11
Nimesulide+Paracetamol	1	2	0	7	0	0	5	0	15
Nimesulide	0	0	0	0	9	0	0	1	10
Diclofenac	14	6	5	19	9	7	1	1	62
Ibuprofen	8	2	3	3	4	0	0	0	20
Peroxycam	0	0	0	0	0	0	0	2	2
Ketorolac	0	5	0	9	3	0	3	0	20
Tiamadol	0	0	0	2	7	3	0	0	12
Others	0	0	0	8	0	0	0	0	8
Subtotal	29	17	14	91	45	29	13	4	242
<b><i>Proteolytic Enzymes</i></b>									
None	25	16	14	91	39	26	10	2	223
Seratiopeptidase	4	0	0	0	6	0	3	1	14
Chymotrypsin	0	1	0	0	0	3	0	1	5
Subtotal	4	1	0	0	6	3	3	2	19
<b><i>Antacids</i></b>									
None	2	4	7	18	12	13	3	1	60
Omeprazole	3	0	2	7	17	5	7	0	41
Omeprazole+Domperidon	0	0	0	4	0	0	0	0	4
Pantoprazole	14	0	3	23	4	6	0	0	67
Pantoprazole+Domperidon	4	13	0	34	12	2	0	2	67
Ranitidine	6	0	2	5	0	3	3	0	19
Subtotal	27	13	7	73	33	16	10	2	181
<b><i>Other Medications</i></b>									
None	15	6	6	46	24	22	8	2	129
Medicated Dentifrices	0	0	3	7	6	0	0	0	16
Chlhexidine	10	7	2	19	0	0	2	0	40
Povidone Iodine	0	0	0	10	3	2	3	0	18
Essential Oil	0	0	0	6	0	2	0	0	8
Multivitamins/Antioxidants	4	4	3	3	10	3	0	2	29
Muscle Relaxants	0	0	0	0	2	0	0	0	2
Subtotal	14	11	8	45	21	7	5	2	113

Table 2

**Results:**

Total prescription taken into account was 242 out of which 109 males and 133 females. The mean age of the patients was found to be 35.86 years.

Graph 1 shows different antibiotics prescribed in different periodontal complaints. Most commonly used antibiotics are a combination of Ofloxacin and Ornidazole followed by Amoxicillin whereas the least used antibiotics was Metronidazole.

Graph 2 shows various analgesic used in different periodontal complaints. Diclofenac was found to be the most commonly used analgesic followed by a combination of Paracetamol and Aceclofenac.

Graph 3 shows various H<sub>2</sub> blockers and Proton pump inhibitors used. It was found that a combination of Pantoprazole and Domperidone was highly used.

Graph 4 shows various proteolytic enzymes used. It was found that Seratiopeptidase was most commonly used.

Graph 5 shows that apart from the above mentioned medications other medications prescribed are medicated Dentrifices, Chlorhexidine, Essential oils, Multi-vitamins. The use of Chlorhexidine was found to be common in many of the periodontal; complaints.

Table 1 shows the drug utilization pattern per prescription. A total of 242 prescriptions was analysed. Out of the total number of prescriptions 29 prescription has chief complain of pain, 17 prescriptions has chief complain of bleeding gums, 14 prescriptions has chief complain of loose teeth, 45 prescription each of dirty teeth and swelling gums, 29 prescription has chief complain of swelling gums, 35 prescription has chief complain of bad breathe and 28 prescription has chief complain of receding gums. The average number of drugs per prescription was found to be 2.81%.

Table 2 describes briefly the various types of periodontal complaints and various medications prescribed for the above mentioned complaints. The most common prescribed Antibiotics was a combination of Ofloxacin and Ornidazole (49 prescriptions) followed by Amoxicillin (46 prescriptions), Amoxicillin and Clavulinic acid (10 prescriptions), Metronidazole and Tinidazole (7 prescriptions each), Tetracycline (6 prescriptions), Cephalosporin and Ofloxacin (5 prescriptions each). The most common prescribed Analgesic Was a combination of Paracetamol and

Aceclofenac (64 prescription), Diclofenac (62 prescription), Ibuprofen and Ketorolac (20 prescriptions each), Nimesulide and Paracetamol (15 prescription). As a proteolytic enzyme Seratiopeptidase was prescribed in 14 prescriptions followed by Chymotrypsin in 5 prescriptions. Among Antacids use of Pantoprazole (67 prescriptions) and Pantoprazole and Domperidone (67 prescriptions) was found to be maximum. Other used antacids are Omeprazole (41 prescriptions), Ranitidine (19 prescriptions), Omeprazole and Domperidone (4 prescription). Other prescribed medications include various mouthrinses. Chlorhexidine was prescribed in 40 prescriptions followed by Povidine iodine in 18 prescriptions. Multivitamins and Antioxidants are prescribed in 29 prescriptions.

**Discussion:**

This study deals with the type of medications used in different periodontal problems in the private dental clinic of Cuttack and Bhubaneswar. The different types of periodontal complaints are Bleeding teeth, Swelling gums, Dirty teeth, Receding gums. Upon analysis of the prescriptions it was found that the maximum used Antibiotic in periodontal complaints was a combination of Ofloxacin and Ornidazole followed by Amoxicillin. Whereas the least prescribed drug was Metronidazole. This is in contrast to various studies that shows that Amoxicillin along with Clavulinic acid is the preferred drug of choice in periodontal problems. And also Metronidazole if given along with the above prescribed drug has a better action. As periodontal infection contain a wide diversity of bacteria, therefore the choice of drug should be a combination of drugs rather than a single drug<sup>(5)</sup>.

The Use Of Analgesic And Proteolytic Enzymes Was also found to be used in these prescription. Diclofenac was widely used followed by a combination of Aceclofenac and Paracetamol. And Seratiopeptidase been the Proteolytic enzymes used. According to various literature the use of above mentioned drugs was found to be unnecessary in various periodontal complaints like dirty teeth, receding gums. These prescription also suggested the use of various H<sub>2</sub> blockers and proton pump inhibitors like combination of Pantoprazole and Domperidone, which was found to be necessary to be used while using the above analgesics.

Evidence shows that there is a lack of knowledge for a Drug prescription patterns and duration of therapy in dentists in the region of Cuttack and Bhubaneswar. The increasing resistance problems of recent years are probably related to the over-or misuse of above mentioned Drugs. There is a clear need for the development of prescribing guidelines to encourage the rational and appropriate use of medications in dentistry, especially periodontal problems.

While the use of medications in periodontal treatment will probably always be controversial, the position paper of the American Academy of Periodontology contains valuable guidance for their use, and we would recommend their application in everyday practice by dentists.

The present study was an attempt to find about various drug prescribed in various periodontal complaints in the district of Cuttack and Bhubaneswar. Further study with greater number of prescriptions need to be carried out for a better view.

### **Conclusion :**

Our study shows Drug prescription patterns for periodontal disease by dentists in Cuttack –Bhubaneswar for the first time. Most of the dentist , prescribes Antibiotics in those periodontal complaints where there was only need of professional oral prophylaxis. Perceptible discrepancies were observed between recommendations and practice. Therefore, these observations highlight the need for dentists to improve Drug prescribing practices for periodontal problems.

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