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Research Article

Current Clinical Practices of Antimicrobials in Periodontal Disease: A Survey

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Abstract

Dental diseases are the most prevalent diseases affecting to mankind. It includes Periodontal Disease, dental caries, malocclusion and oral cancer. No national oral health survey has been conducted in the Maharashtra till date. However, some cross-sectional surveys have been conducted in various regions in the country at local level. This survey included various questionnaires to the patients in different clinics were conducted with the assessment of periodontal status were recorded. In this survey it was found that combination of antimicrobials are prescribed with analgesics, out of which Metronidazole and Ofloxacin are prescribed frequently, age group 41-60 are more prone to periodontal diseases and conventional dosage form like tablets and capsules are more widely prescribed in the treatment.

1.0 Introduction

Several specific diseases of the gingival and the tissues supporting the teeth are collectively termed as periodontal disease. Periodontitis is a more severe stage of periodontal disease, it collectively represents several diseases, but with some common causative organism¹; resulting in the breakdown of periodontal attachment apparatus². Gingivitis is a moderate stage of disease characterized by swelling, bleeding and redness of marginal gingiva³. Most putative periodontal pathogens are Gram-negative anaerobic rods⁴.

Epidemiological studies conducted in various countries report that 5-20% of any population will have severe forms of Periodontitis and moderate disease affects a majority of adults^{5, 6}. There is no national oral health data bank in India which reflects the prevalence of different oral diseases and risk factors responsible for them. No national oral health survey has been conducted in the country till date⁷. Studies conducted in India show that every second person above the age of 35 years has gum pockets and 35% of them have teeth extracted due to periodontal disease and various surveys from various parts of India reported a high prevalence of periodontal Disease^{8, 9}.

Mechanical debridement is conventional method and is essential in removing hard accretions on roots; sub gingival scaling and root planning are effective but is time consuming, unpleasant for patients and technically difficult to perform. Antimicrobial periodontal therapy, aims to identify efficient chemotherapeutic means to control sub gingival microbial colonization and periodontal infectious disease^{10, 11}.

Studies showed that people who are more prosperous have better oral hygiene and are more aware of oral health values¹²⁻¹³.

The purpose of the study was to determine the pattern of drugs in periodontal patients and to analyze the rationality of prescription pattern among dentists.

2.0 Material and Methods

The present study was conducted in private clinics in Kandivli, Dombivli, Kopar and Pravara Institute of Medical Sciences, Loni, Maharashtra. A total of 100 patients were selected by random systemic sampling from the daily consultations in clinics, during a period of one month study. A detailed Questionnaire regarding the diagnosis and various other aspects were recorded. The questionnaire consisted of Name, Age, Sex, Address, Diagnostic method, Prescribed antimicrobials, Dose, Strength, Duration, Dosage form and the type of microorganism was initiated. After the appropriate sampling, data was recorded and then analyzed.

3.0 Results and Discussion

In this conducted survey 61% of the patients were found to be male and 39% were female. The most common profile of disease / diagnosis is shown in Figure no.1. All patients from different age groups have being observed. The age group from 41-60 contributed major part of the analysis (57%) followed by 21-40 (38%), then 61 and above contributed only 5% of the total patients. The prevalence of disease in the children between the age group of 0-20 years was not found as shown in Figure no. 2. It was found that in all patients, analgesics and antimicrobials were prescribed along with some or other antacid. Figure no. 3 shows different antimicrobials drug and drug combinations which are prescribed frequently to treat patients. The commonly prescribed drugs are Metronidazole, Amoxicillin, Doxycycline, Tetracycline, Ofloxacin, ciprofloxacin, Levofloxacin, Ornidazole etc. The most widely prescribed drugs are of Metronidazole and with combination with other drug like Amoxicillin, and Cefadroxil is 38%, followed by Ofloxacin and its combination with Ornidazole, Tinidazole, and Amoxicillin is 22% and Tetracycline 18%. These drugs are prescribed in different types of dosage forms like gels,

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mouthwashes, tablets as shown in Figure no.4. The highly utilized dosage form was found to be tablet 83%.

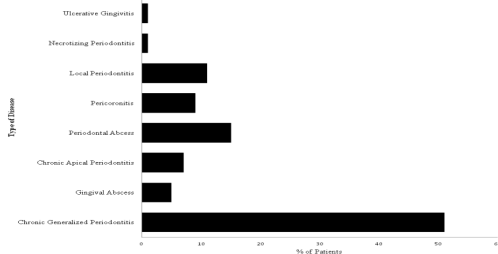


Figure-1: Profiles of disease observed

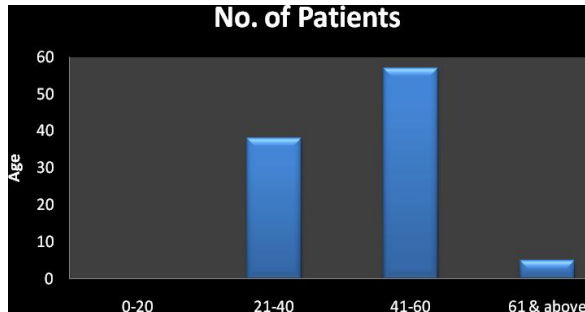


Figure – 2: Age Group of patients suffering from oral disease

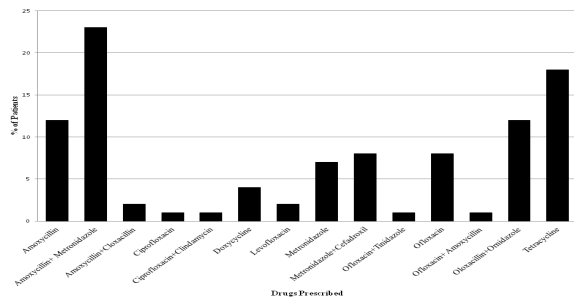


Figure-3: Different Prescribed Antimicrobials observed in the Survey

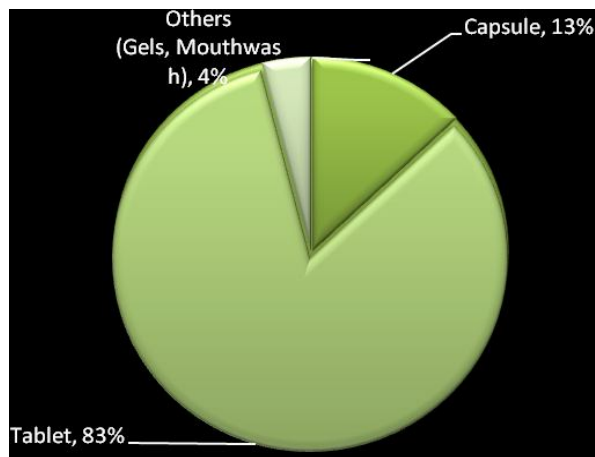


Figure-4: Different types of dosage forms

4.0 Conclusion

The survey indicates key parameters like design of new dosage form which will be beneficial to large group (41-60 years) like dental strip, in situ gel etc. Selection of a drug candidate with low dose and high potency like a group of Ofloxacin, Levofloxacin to be considered for the future research and clinical practices which will help to reduce microbial resistance observed for Metronidazole group now a days.

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