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Research Article

TRANSITION TO CREATE TRANSFORMATION- PRESCRIPTION PRACTICE OF CHLORHEXIDINE MOUTHRINSE AMONG THE DENTIST IN ERODE AND NAMMAKKAL AND BHAVANI DISTRICTS – A QUESTIONNAIRE STUDY

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ABSTRACT

Background: CHLORHEXIDINE is one of the widely used gold standard antiplaque and antigingivitis agent. Lack of knowledge on the mechanism of action of chlorhexidine and its adverse effects has led to the injudicious use of chlorhexidine. The practice of chlorhexidine prescription by dental practioners has to be improved.

Aim and objective: The present study was carried out to assess the knowledge, attitude and usage practice of chlorhexidine mouthrinse among the dental practioners in Erode and Namakkal districts

Materials and methods: A questionnaire of 15 multiple choice questions were given to general dental practitioners in Erode, Namakkal and Bhavani districts. A total of 120 dentists participated in the study whom were divided into 4 groups based on the years of experience. Group A included dentist with 1-2 years of clinical experience, while group B,C and D included 2-5 years, 5- 10 years and more than 10 years respectively. The questions were about the prescription of chlorhexidine mouthrinse in the regular dental practice. Statistical analysis of 15 questions were made.

Results: A overall analysis suggest that all dentists who participated in the study have good knowledge about prescription of chlorhexidine in regular dental practice. But the knowledge was good with increasing years of experience. Among all the groups in general a lack of awareness was observed with regard to brushing and chlorhexidine use.

Conclusion: The present study shows adequate knowledge and awareness on chlorhexidine prescription and use among dental practioners.

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INTRODUCTION

Dental plaque is the major etiological factor associated with the development of gingivitis¹. Mostly, efficient mechanical plaque control would be enough for the resolution of the gingival inflammation. Antimicrobial mouthrinses as adjuncts to daily plaque control is more beneficial than only brushing when individuals are unable to consistently maintain adequate levels of plaque control using mechanical methods alone [2, 3]. Chlorhexidine (CHX) mouthrinse as antimicrobial agent is considered as the gold standard in preventing the dental plaque formation and gingival inflammation due to its both antiplaque and antigingivitis effects [4, 5, 6, 7, 8].

Knowledge in the prescription practice of chlorhexidine mouthrinse is inevitably important for a general dental practitioners for a successful treatment outcome. Therefore knowledge associated with the prescription oh chlorhexidine

has been surveyed in the form of questionnaire among the general dental practitioners in erode, nammakal and bhavani districts.

MATERIALS AND METHODS

A Questionnaire based study was conducted by assessing the responses to selected basic questions about prescription practice of chlorhexidine mouthrinse among the general dental practitioners in 3 districts. Based on the years of clinical experience they were divided into 4 groups from group A to D. Group A included dentist with 1- 2 years of clinical experience. Group B included dentist with 2- 5 years of clinical experience Group C included dentist with 5-10 years of clinical experience while group D included dentist with more than 10 years of clinical experience.

The demographic data and a questionnaire with 15 structured questions were sent electronically to all the dentist who

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practicing in erode, nammakal and bhavani districts. A total of 120 responses has been obtained.

The first section contained questions on the respondents socio-demographic characteristics such as age, gender, qualification with speciality and years of clinical experience. The second section contained 15 questions regarding knowledge, attitude and practice of chlorhexidine mouth rinse. Results were obtained and statistical analysis has been made.

Questionnaire Regarding Prescription Practice of Chlorhexidine Mouthrinse among the Dentists

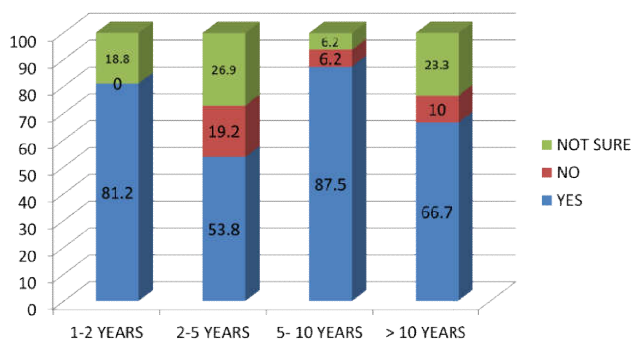
Questions

1. Is it essential to prescribe chlorhexidine as a pre procedural mouthrinse to prevent aerosol contamination?
2. The side effects of chlorhexidine include:
3. What are the available concentrations of chlorhexidine mouthrinse?
4. Are you aware of other forms of chlorhexidine, other than mouthrinse?
5. Chlorhexidine is available as an over the counter drug.is it a matter of concern to you?
6. Do you think chlorhexidine mouthrinse will be effective if prescribed prior to oral prophylaxis?
7. Can chlorhexidine mouthrinse be used as a substitute for tooth brushing?
8. Do you prescribe chlorhexidine mouthrinse to all the patients who report to the dental clinic?
9. Do you prescribe chlorhexidine mouthrinse to patients who complain of halitosis?
10. Do you prescribe chlorhexidine mouthrinse to patients who complain of bleeding gums?
11. Do you advise your patients to dilute the chlorhexidine mouthrinse before using?
12. When do you advise your patients to use a chlorhexidine mouthrinse?
13. How long do you advise your patients to use chlorhexidine mouthrinse?
14. How many times a day do you advise your patients to use a chlorhexidine mouthrinse?
15. How long do you advise your patients to swish the chlorhexidine mouthrinse?

RESULTS

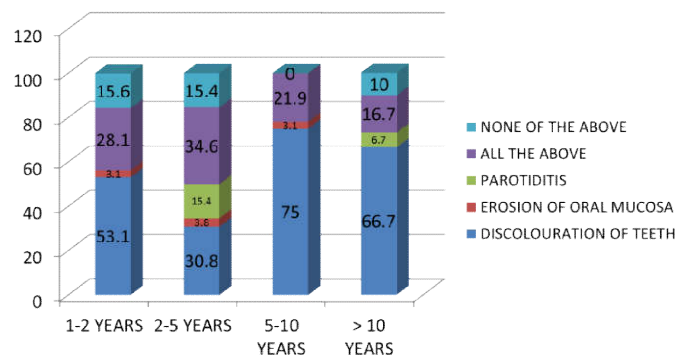
The results of this survey research were compiled and graphically represented in the form of bar diagrams below:

1. Is it essential to prescribe chlorhexidine as a pre procedural mouthrinse to prevent aerosol contamination?



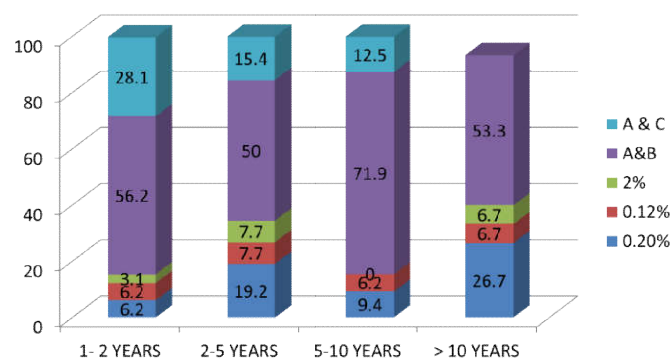
About 81.2% of dentist in group A and 53.8% of dentist in group B were aware about preprocedural mouthrinse for aerosol contamination comparing to group C had awareness around 87.5% and group D had awareness around 66.7%. Comparatively awareness was higher in dentist with least experience was found.

2. The side effects of chlorhexidine include:

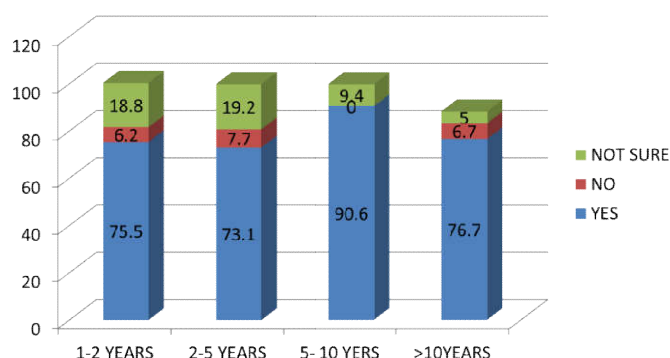


53.1% in group A, 30.8% in group B, 75% in group C and 66.7% in group D were about discolouration of teeth as a side effect of long term usage of chlorhexidine while they lack knowledge about parotiditis and erosion of oral mucosa. Only very few dentist in all the group were aware about all the side effects of chlorhexidine. A lack of knowledge about side effects of chlorhexidine among all the groups of dentist is evident

3. What are the available concentrations of chlorhexidine mouthrinse?

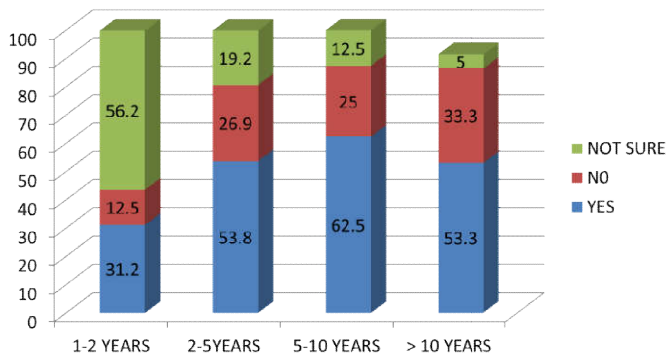


4. Are you aware of other forms of chlorhexidine, other than mouthrinse?



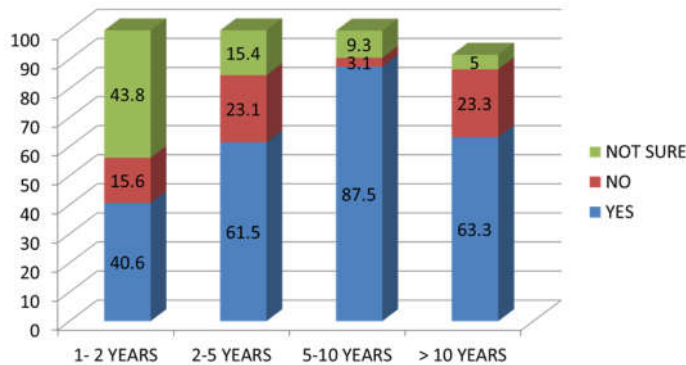
Maximum number of dentist in all groups were aware about concentrations and other forms of chlorhexidine available in market.

5. Chlorhexidine is available as an over the counter drug. is it a matter of concern to you?



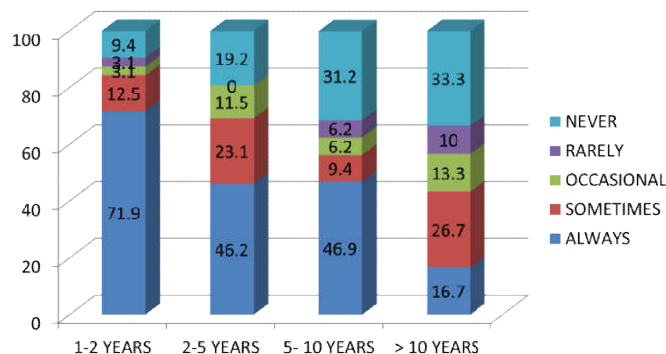
Chlorhexidine if available as a OTC drug may lead to injudicious use. Lack of awareness about the side effects and the usage guidance of chlorhexidine among the people restricts it as an OTC drug. But a few percentage of least experienced dentist (31.2 %) suggest it as a matter of concern comparing to group D in which 53.3% of dentist suggest it as a matter of concern.

6. Do you think chlorhexidine mouthrinse will be effective if prescribed prior to oral prophylaxis?



63.3% of dentist in group D suggest to prescribe chlorhexidine prior to oral prophylaxis comparing to group A in which 40.6 % of dentist recommend to prescribe it prior to oral prophylaxis. Improvement in the awareness of prescribing the chlorhexidine mouthrinse is needed in experienced dentist

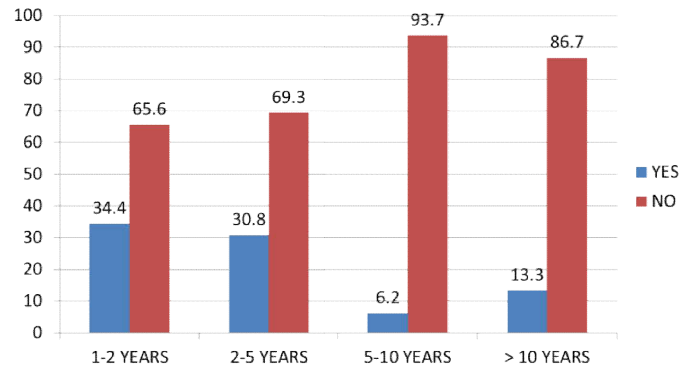
7. Can chlorhexidine mouthrinse be used as a substitute for tooth brushing?



Complete or effective removal of plaque is the key for any periodontal management. Usage of only chlorhexidine mouthrinse without tooth brushing of non removal of plaque will not have any improvement in treatment effectiveness of any periodontal procedure. But 16.7% of dentist in group D recommend to use chlorhexidine mouthrinse as a substitute for

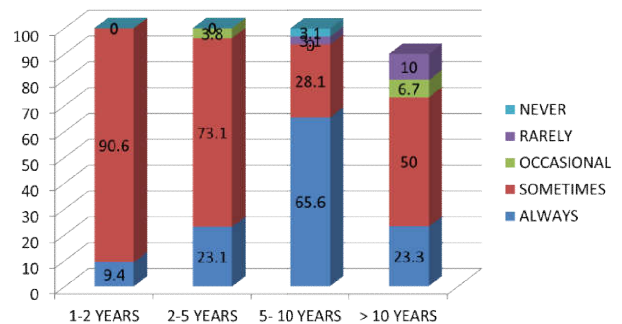
tooth brushing suggest us the lack of knowledge among experienced dentists

8. Do you prescribe chlorhexidine mouthrinse to all the patients who report to the dental clinic?



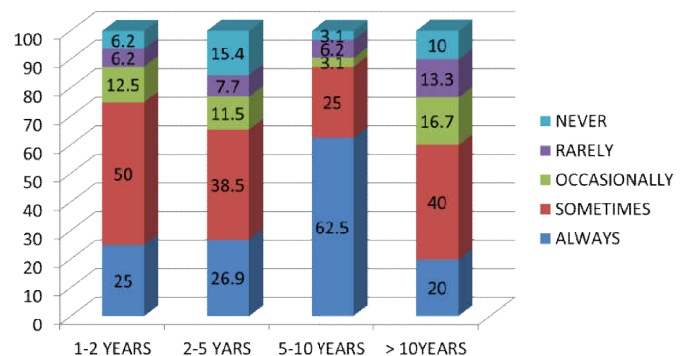
Only 13.3% of dentist of group D agrees with this question while 34.4% of dentist in group A recommend chlorhexidine mouthrinse to all the patients who report to dental clinic suggest lack of knowledge among least experienced dentist.

9. Do you prescribe chlorhexidine mouthrinse to patients who complain of halitosis?



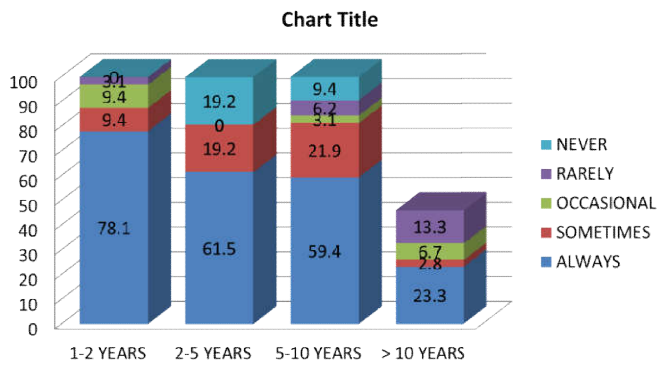
90.6% of dentist in group A preferred to prescribe chlorhexidine for halitosis while 28.1% of of group C recommended for halitosis, suggesting that dentist with least experience lack knowledge

10. Do you prescribe chlorhexidine mouthrinse to patients who complain of bleeding gums?



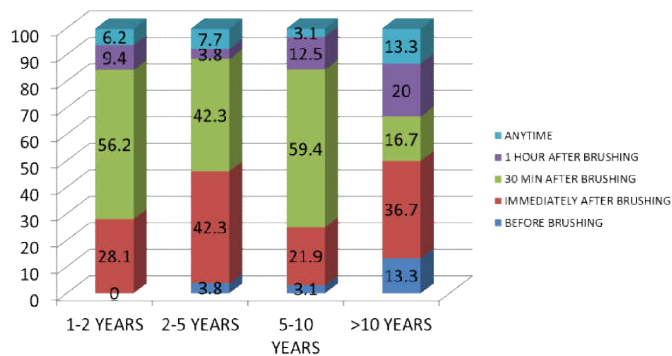
25% of group A dentist and 20% of group D dentist prefer chlorhexidine mouthrinse for bleeding gums. Etiological factor of bleeding gums such as local factors or systemic factors has to be evaluated first and removal of etiology has to be done. Usage of chlorhexidine mouthrinse may have an additional effect but cannot treat the bleeding gums.

11. Do you advise your patients to dilute the chlorhexidine mouthrinse before using?



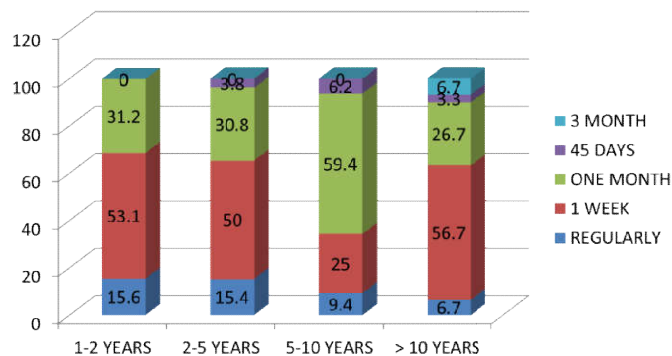
78.1% of dentist in group a recommend to dilute chlorhexidine while 59.4% in group C prefer diluting which suggest lack of knowledge among least experienced dentist.

12. When do you advise your patients to use a chlorhexidine mouthrinse?



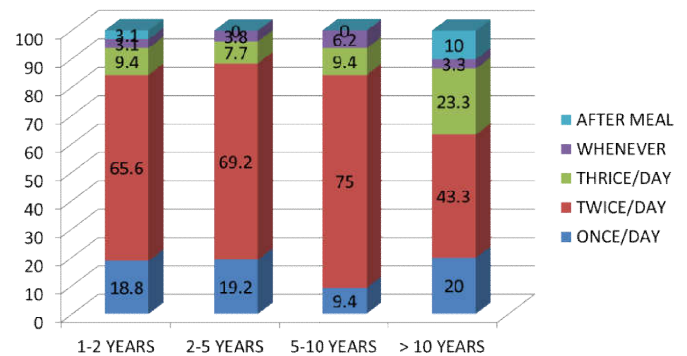
56.2% in group A ,42.3% in group B,59.4% in group C and a very few dentist of around 16.7 % of dentist in group D prefer using chlorhexidine mouthrinse 30 minutes after brushing.

13. How long do you advise your patients to use chlorhexidine mouthrinse?



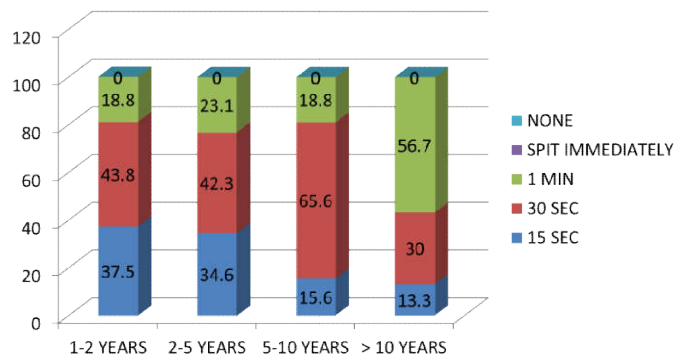
53.1 % of dentist in group A and 56.7% of dentist in group D suggest to use chlorhexidine mouthrinse for one week.

14. How many times a day do you advise your patients to use a chlorhexidine mouthrinse?



Dentists in group A had a better knowledge comparing to group D but the difference is not much significant

15. How long do you advise your patients to swish the chlorhexidine mouthrinse?



A rinse time of 30 seconds appears to be effective and acceptable although 60-second rinse times are also advocated (Bonesvoll 1974; Keijser 2003).Comparitively average number of dentist in all the group suggest to rinse chlorhexidine mouthrinse for 30 seconds.

DISCUSSION

The prior use of 0.12% chlorhexidine as mouthwash significantly reduced the aerosol contamination during dental prophylaxis.⁹ Side effect of chlorhexidine mouthrinse includes Brown discoloration of the teeth and some restorative materials and the dorsum of the tongue. Lang *et al* (1988) suggested that long term usage of chlorhexidine mouthrinse gives food and drinks with a bland taste. Oral mucosal erosion due to idiosyncratic reaction. Unilateral or bilateral parotid swelling in a rare condition. Enhanced supragingival calculus formation due to the precipitation of salivary proteins on to the tooth surface, thereby increasing pellicle thickness and/or precipitation of inorganicsalts on to or into the pellicle layer.¹⁰ SEGRETO *et al* (1986) conducted a study and concluded that 0.12% chlorhexidine mouthrinse provided the same ciinical benefits as a 0.20% chlorhexidine mouthrinse when used under a twice daily regimen.¹¹ Chlorhexidine if available as a OTC drug may lead to injudicious use. Lack of awareness about the side effects and the usage guidance of chlorhexidine among the people restricts it as an OTC drug. Any periodontal management without scaling and root planing is ineffective. So chlorhexidine if prescribed prior to oral prophylaxis does not have any effect on neither reducing the gingival inflammation

nor improving the periodontal health.¹² Substantivity or persistence of action of chlorhexidine in the mouth of at least 12 hours (Schiott *et al.* 1970). Thus using chlorhexidine mouthrinse twice a day will be effective in maintaining the substantivity. A rinse time of 30 seconds appears to be effective and acceptable although 60-second rinse times are also advocated (Bonesvoll 1974; Keijser 2003)

CONCLUSION

An overall analysis suggests that all dentists who participated in the study have good knowledge about prescription of chlorhexidine in regular dental practice. But the knowledge was good with increasing years of experience. Among all the groups in general a lack of awareness was observed with regard to brushing and chlorhexidine use. The present study shows adequate knowledge and awareness on chlorhexidine prescription use among dental practitioners.

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