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Efficacy and Effectiveness of HiOra Ayurvedic Mouth Wash In Generalised Chronic Gingivitis Patients.

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ABSTRACT

To assess the efficacy and effectiveness of Hiora mouthwash in patients with generalised chronic gingivitis visiting Saveetha Dental College. Ayurvedic drugs have been used since ancient times; oral rinses made from these are used by patients with periodontal disease. Ayurvedic mouthwash has antimicrobial, antiplaque, antiseptic and refreshing properties. The active herbal ingredients act against common strains of oral bacteria and fungi and prevents the progression of gingival and tooth disease. This study includes 15 patients with generalised chronic gingivitis. Scaling and root planing is to be done on the first day and will be prescribed with Ayurvedic mouthwash. The plaque and gingival index will be evaluated on 15th and 30th day. The results will be formulated. There are several pathogens in periodontally compromised patients and several agents have been used to eradicate these pathogens. Thus is it essential to learn about the efficacy of herbal mouthwash in the oral cavity.

Keywords: Ayurvedic drugs, antiplaque, antiseptic, periodontal disease.

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INTRODUCTION

Periodontal diseases affect the surrounding tissues of the teeth. Gingivitis, the mildest form of periodontal disease is generally caused by insufficient oral hygiene. [1] Gingivitis is characterized by inflammation and bleeding of the gums. Plaque is the primary etiological factor in gingival inflammation. Oral hygiene failure results information of pathogenic plaque. [2] Therefore, plaque control represents the basis for good oral hygiene practice. [3] Ayurvedic drugs have been used since ancient times to treat diseases including periodontal diseases. It aims at ensuring a healthy mind and healthy body by not only providing cure of illness, but also elaborating the method for maintenance of proper health.[4] Oral rinses made from ayurvedic medicines are used in periodontal therapy to control bleeding and reduce inflammation. As a main stay to maintain oral hygiene, mechanical plaque control measures are used like tooth brushing, flossing and interdental flossing. In adjunct to mechanical measures mouthwashes are used to complete the process of mechanical plaque removal.[5] This study was carried out to see the efficacy of herbal plant mouthwash containing *Pilu (S. persica)*, *Bibhitaka (T. bellerica)*, *Nagavalli*, *Gandhapura taila*, *Ela (Cardamomum)*, *Peppermint satva*, and *Yavani satva* in treatment of gingivitis as an adjunct to scaling.

MATERIALS AND METHOD:

The study was carried out in generalised chronic gingivitis patients visiting Saveetha Dental College. The study included 15 patients of age ranging from 20 to 60years. Materials used were HiOra herbal mouthwash Manufactured by the Himalaya Drug Company.

Inclusive Criteria considered patients diagnosed with mild to moderate type of gingivitis, Patient presenting with bleeding on probing, Patient who had not received any periodontal therapy for the past 6 months. Exclusive Criteria included Subjects taking antibiotics or any other drugs within last 3 months, Medically compromised patients, smokers, Patient with a known history of allergic to chemical or any herbal products. Clinical Parameters measured in this study are plaque and gingival index. Prior to scaling, the patient was subjected to assessment of the clinical parameters. After recording the parameters in the selected patients a thorough scaling was done and were prescribed with HiOra Ayurvedic mouthwash. The patients were instructed to use the mouth twice daily after food morning and night. Oral hygiene instructions were given to all patients. The clinical parameters were assessed on the 15th day and the data was tabulated.

RESULTS

The data was analysed using SPSS. The results showed that there was significant reduction in plaque and gingival index scores in all the patients following scaling.

TABLE 1 – GINGIVAL INDEX		
S.NO	BEFORE	AFTER
1	1.2	0.3
2	0.8	0.3
3	1.1	0.5
4	1.3	0.5
5	0.6	0.3
6	0.8	0.4
7	0.7	0.4
8	0.5	0.4
9	0.9	0.3
10	0.7	0.3

11	0.8	0.4
12	0.8	0.3
13	0.6	0.4
14	0.8	0.5
15	0.5	0.3
MEAN VALUE	1.06	0.53

TABLE 2 – PLAQUE INDEX		
S.NO	BEFORE	AFTER
1	1	0.8
2	1.2	0.5
3	1.5	0.8
4	1	0.3
5	1	0.4
6	1.3	0.6
7	1	0.5
8	0.8	0.5
9	0.6	0.5
10	0.9	0.6
11	1	0.4
12	0.6	0.2
13	0.8	0.4
14	1.5	0.7
15	1.7	0.8
MEAN VALUE	0.8067	0.3733

TABLE 3 - GINGIVAL INDEX		
EFFICACY OF HiOra MOUTHWASH	MEAN VALUE	P VALUE
Before using the HiOra mouthwash	1.06	0.001
After using the HiOra mouthwash	0.53	

Gingival index

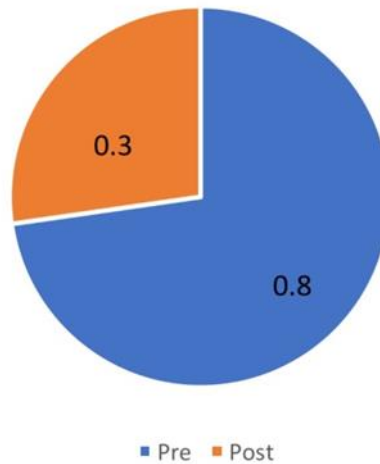
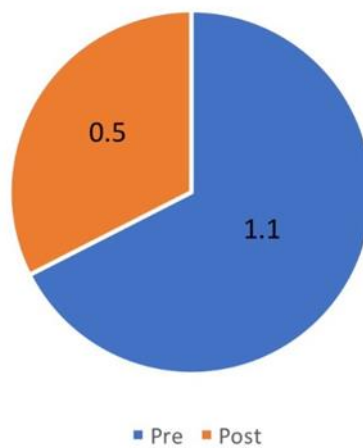


TABLE 4 - PLAQUE INDEX		
EFFICACY OF HiOra MOUTHWASH	BEFORE	AFTER
Before using the HiOra mouthwash	0.8067	0.001
After using the HiOra mouthwash	0.3733	

Plaque index



DISCUSSION

Plaque is the primary etiological factor for gingivitis. Improper Oral hygiene results in accumulation of pathogenic plaque leading to the progression of disease[6]. The plaque biofilm has been attributed to as one of the main etiologic factor for the two most common oral diseases; dental caries and periodontal diseases. The chemical plaque control is generally considered to be an adjunct to mechanical oral hygiene practices: Agents being most commonly delivered in toothpaste or mouthrinse vehicles. [7]

Several anti-plaque chemical agents such as chlorhexidine are available in the market, their cost, unfavorable side effects, rise in bacterial resistance to antibiotics and the need for an affordable anti-plaque agent has led to the development of other classes of antimicrobial agents.[8] Ayurvedic drugs have been used since ancient times to treat diseases including periodontal diseases. Oral rinses made from ayurvedic medicines are used in periodontal therapy to control bleeding and reduce inflammation.[9]

The HiOra mouth wash used in this study is extracted from herbs such as Pilu (*Salvadora persica*), Bibhitaka (*Terminalia bellerica*), Nagavalli (*Piper betle*), Gandhapura taila (*Gaultheria fragrantissima*), Ela (*Elettaria cardamomum*), Peppermint satva (*Mentha spp*), Yavani satva (*Trachyspermum ammi*) helps in prevention of dental plaque accumulation and subsequent gingival inflammation. The anti plaque effect of hiora is due to *S. persica* which contains trimethyl amine, salvadorine, chlorides, high amounts of fluoride and silica, sulphur, vitamin C, small amounts of tannins, saponins, flavonoids and sterols. The anti-inflammatory and immunity booster due to the presence of *Terminalia bellerica*. [10,11]

This study showed significant reduction in plaque and gingival score after the use of HiOra ayurvedic mouthwash in generalised chronic gingivitis patients. The mean gingival score value is 1.06 pre-operatively and 0.53 post-operatively. Plaque index value is 0.8067 pre-operatively and 0.3733 post-operatively and the reduction in plaque index score are highly significant with the p value of 0.001.

The reduction in gingival score was highly significant with p value of 0.001. Earlier studies shows evidence of usage of herbal mouthwashes such as Turmeric neem and triphala showed a significant reduction in plaque indices scores and gingival indices scores as in the present study with a value of plaque index (PI) <0.0001 and gingival index (GI) <0.0014. [12,13]

The plaque and gingival inflammation seen before using the HiOra ayurvedic mouth wash by using plaque index is 80% and that after using the mouthwash was around 32%. The plaque and gingival inflammation seen before using the HiOra ayurvedic mouthwash by using gingival index is 106% and after using the mouth wash was around 53%. This showed reduction in plaque and gingival inflammation after using the HiOra ayurvedic mouthwash.

CONCLUSION

The anti-plaque and anti-inflammatory effect of HiOra ayurvedic mouthwash helps in preventing progression of gingivitis thus it concludes that herbal mouthwash can be used as adjunct to mechanical plaque control. Further, clinical and *invitro* studies are required to clarify and broaden our understanding of the role of this herbal mouthwash in periodontal disease.

REFERENCES

- [1] Kumar P, Ansari SH, Ali J. Recent Pat Drug Deliv Formul. 2009;3:221–8.
- [2] Sikka G, Dodwad V, Chandrashekar KT. J Oral Health Community Dent 2011;5:110-2.
- [3] Malhotra R, Grover V, Kapoor A, Saxena D. J Indian Soc Periodontol 2011;15:349-52. Back to cited text no. 2
- [4] Waghmare PF, Chaudhari AU, Karhadkar VM, Jamkhande AS. J Contemp Dent Pract. 2011;12:221–4.
- [5] Jahangirnezhad M, Amin M, Montazeri AM, et al. Afr J Microbol Res 2012; 6(6):1262-64.
- [6] Page RC. Gingivitis. J Clin Periodontol 1986;13:345-59.
- [7] Yates R, Shearer BH, Huntington E, Addy M. J Clin Periodontol. 2002;29:519–23.
- [8] Rao NJ, Subhas KR, Kumar KS. J Pharmacol. 2012;8:1–5.
- [9] Anupama D, Anil M, Surangama D. Indian J Dent Adv. 2010;2:243–7.
- [10] Prabuseenivasan S, Jayakumar M, Ignacimuthu S. BMC Complement Altern Med ,6(39): 1-8,(2006).
- [11] Chatterjee A, Saluja M, Singh N, Kandwal A. J Indian Soc Periodontol. 2011;15:398–401.
- [12] Tiwari S, Sarkar B, Dubey G, Jain A. Asian J Pharm Life Sci. 2011;1:133–6.
- [13] Alali F, Lafi T. GC-MS Nat Prod Res, 17 (3): 189-194,(2003).