

Assessment of Herbal Preparation (Irimedadi Taila) An Adjunctive in Treating Plaque Caused Gingivitis

AMBER FIDA, SHANZAY AZHAR QURESHI, FAKEHA MUMTAZ

ABSTRACT

Background: Since ancient times herbal / ayurvedic drugs used to treat diseases as well as periodontal disease. In periodontal therapy oral rinses which are made from herbal / ayurvedic medicines are used to control bleeding and decrease inflammation.

Aim: To assess the effectiveness of herbal preparation i.e. Irimedadi Taila on lessening of plaque induced gingivitis.

Methods: A total 200 numbers of patients with clinical symptoms of mild to moderate gingivitis were included in this study. These patients allocate to group-A in which only scaling done and group-B in which scaling including irimedadi taila used. The patients were directed to use 2 to 3 drops of irimedadi taila, a herbal preparation, after recording the clinical parameters. In group-B patients were instructed to massage the gums gently twice a day and oral hygiene directions were also giving to all patients. Through plaque index, Silness and Loe-1964, evaluation carried out of plaque and gingivitis, modified sulcular bleeding index and gingival index at baseline & at twenty one days post-treatment.

Results: To decrease gingival index and gingival bleeding index score irimedadi taila is effective as shown in results in comparison to only scaling and statistically values are significant with $p < 0.0001$.

Conclusion: In treatment of plaque induced gingivitis the irimedadi taila is effective and can be used effectively as adjunct to mechanical therapy.

Keywords: Herbal Preparation, Irimedadi Taila, Plaque Induced Gingivitis, Periodontal Diseases

INTRODUCTION

Among the most common diseases, periodontal diseases affect the human kind and can lead to cementum, gingival, periodontal ligament and alveolar bone destruction. The primary etiological factor in gingival is dental plaque as well as in periodontal illness.¹ Therefore, to stop the series of periodontal illness, we should control of dental plaque firstly. To control over the dental plaque measure include both mechanical i.e. floss, tooth brushes, inter-dental brushes and chemical methods i.e. mouth washes.² However, a huge population does not observe the motivation degree and ability to efficiently use mechanical method of plaque control, therefore, emphasize the adjunctive chemical plaque control importance.³ To decrease the plaque induced gingivitis chemotherapeutic formulations provided chemically significantly benefits. The gold standard anti plaque agent is chlorhexidine and since a long period of time chlorhexidine serve the dental profession. However, there are some unlikable side effects of chlorhexidine like taste disturbance, tooth staining etc².

The most attractive formulations are herbal formulations because they work without artificial preservatives, alcohol, colours and flavours. Herbal products show the fruitful outcomes with low side effects. The presence of natural occurred phytochemicals has an extra effect on inflammatory pathways and antioxidant potential, making them suitable to be used anti gingivitis effective agent. These herbal ingredients are available in a large quantity. Further these ingredients are easily accessible, culturally acceptable as well as economically feasible. They can be advised for a long term use due to minor side effects.

Green tea, ajwain, tulsi, neem and other several natural herbs can be effectively used to reduce the plaque accumulation and gingival inflammation.⁵⁻¹² There is a little or no incidence of side effects of majority of these products. In these products, irimedadi taila is one of these products which is lessened explored in treating gingival and periodontal illness.

An herbal/ayurvedic oil i.e. irimedadi tails used for well known method which is called gargling or oil pulling. Oil pulling is an old as ancient ayurvedic method which include swishing oil in mouth for oral as well as systemic health benefit.¹³

According to formula taila is prepared by boiling with prescribed decoction (Kasayas) & Kalkas of drug. This procedure ensures amalgamation of active therapeutic properties of the components used.¹⁴ Irimedadi taila is signify in almost danta rogas as well as stomatitis, dental caries, gingivitis, stain removal and gums hyperemia.¹⁵⁻¹⁷ However, many studies not conducted to assess the effectiveness of irimedadi taila on gingivitis and dental plaque.

This study was under taken to assess the clinical effectiveness of irimedadi taila to decrease of plaque induced gingivitis using modern parameters.

MATERIALS AND METHODS

This was a single blinded randomized clinical trial. Patients were selected for this study from Nishtar Institute of Dentistry, Multan and the period of study was 07.05.2017 to 22.12.2017. Age group of 20 years to 45 years patients were selected who diagnosed with plaque induced gingivitis and also fulfill the criteria; 20 teeth present without noticeable sign of untreated caries, patients who were not received periodontal therapy during the last six months and

House Officers, Nishtar Institute of Dentistry, Multan
Correspondence: doc_navidrafiq@yahoo.com 03006555274

presence of bleeding on probing. Pregnant female and lactating mothers were excluded from study who subjects on antibiotics coverage and any other drugs within last three years. Those patients were also excluded who used tobacco in smoke or smokeless form and with alcohol consumption history. Those with partial dentures, orthodontics appliances, periodontal packets of four mm or more and have allergy from chemical and any herbal product were also excluded. Two hundred patients were selected in this study and divided into two groups. Each group comprised 100 patients. Group A (oral prophylaxis treated patients) and group B (oral prophylaxis treated patients along with use of irimedadi taila).

Patient's periodontal status was recorded by using standard parameters i.e. gingival index, plaque index and gingival bleeding index. In these selected patients after recording parameters by single blinded calibrated examiner, using ultrasonic scaler oral prophylaxis was carried out. Oral hygiene instructions were also advised to all patients on 21st day clinical parameters were re-assessed by the same blinded examiner.

In Group B, patients were instructed to take four to five (4/5) drops of irimedadi taila on finger tip and gently massage on gums for two minutes of both arches. The use lukewarm water was also advised to patients for rinsing. During the course of this patients study were recommended to use the herbal for twenty one days and also asked them to report if feel any distress in using taila. All statistical process was performed using SPSS 20.

RESULTS

In Group A, the mean age of patients were 22.5±3.4 years in which fifty four male and forty six were females. The mean age of patients in Group B was 23.8±1.8 years in which forty two males and fifty eight were females. Results of both groups A & B (p<0.0001) showing a notable decrease in gingival index, plaque index and gingival bleeding index scores as shown in Table 1. Moreover, a statistically notable decrease in all periodontal parameters with p<0.0001 in group B on inter-group comparison as shown in Table 2. However, comparatively decrease in mean plaque scores was more in group-A. Clinically condition improved from moderate to mild gingivitis along with statistically significant decrease in index scores. Therefore, herbal preparation irimedadi taila is effective as an adjunct to decrease gingival bleeding index score and gingival index comparison to scaling alone.

Table 1: Before and after treatment plaque index, gingival index and gingival bleeding index intra group comparison

	Before	After	p value
Gingival index			
Group-A	1.33 ± 0.41	1.003 ± 0.39	<0.0001
Group-B	1.14 ± 0.38	0.77 ± 0.26	<0.0001
Plaque index			
Group-A	1.39 ± 0.37	0.908 ± 0.36	<0.0001
Group-B	1.044 ± 0.414	0.77 ± 0.27	<0.0001
Gingival bleeding index			
Group-A	25.50 ± 8.74	19.78 ± 6.81	<0.0001
Group-B	23.3 ± 5.26	16.54 ± 4.75	<0.0001

Table 2: Mean difference of gingival index, plaque index and gingival bleeding index

Variable	Group-A	Group-B	p value
Gingival index	0.324 ± 0.02	0.37 ± 0.12	0.008
Plaque index	0.482 ± 0.01	0.274 ± 0.144	0.0001
Gingival bleeding index	5.72 ± 1.93	6.76 ± 0.51	0.0004

DISCUSSION

Due to dental plaque, periodontal diseases and dental caries are the two most general diseases. Chemical plaque control commonly measured as an adjunct to mechanical oral hygiene practices / exercise where agents are generally delivered in mouth rinse vehicle or toothpaste. A long time before to control bleeding and decrease inflammation and treat disease of periodontal herbal / ayurvedic drugs are being used. Irimedadi taila an herbal / ayurvedic drug is one such medicine which is very less investigated to measure its benefits regarding dental health. However, this study compared and assessed the effectiveness of irimedadi taila to decrease the plaque induced gingivitis. In small quantity the irimedadi taila was distribute in a container and given to all patients. After every week all the patients were recall along with container for the purpose to evaluate the usage of taila and after that the refill was provided as and when required. This practice continue running till 21st day. Advantages reinforcement of taila over other products helped in inspiring them to continue the use of taila thereby, during period of study ensuring patient's compliance.

In this study, patients who used irimedadi taila were observed and found significant decrease in gingival index and gingival bleeding index scores, which is effective in enhance the gingival health as compared to scaling alone. During course of our study, no sides as well as adverse effects were reported. The results of our study are similar to another study conducted by Rao et al¹⁷ where effectiveness of irimedadi taila in improving periodontal status more than 80% of patients. Simultaneous outcomes were observed by Mali et al¹⁸ in his study, who conclude that irimedadi taila equally effective to chlorhexidine gluconate as an adjunct to mechanical plaque control to prevent plaque accumulation and gingivitis. Studies conducted by Rahmani et al, Deshmukh, parwani and Aspalli compare the anti gingivitis and anti plaque effects of herbal mouth washes demonstrated similar outcomes to our study proving them to be similarly effective to chlorhexidine mouth wash^{8,19,20,21}. The ingredients containing in irimedadi taila are sesamum indicum, syzygium aromaticum, acacia catechu, rubia cordifolia, cassia flower/acacia farnesiana with different effective properties^{18,22,23}.

In group-B the improvement in gingival health might have been due to irimedadi taila ingredients. Furthermore, herbal contents benefits of irimedadi taila, gum massaging resulted into increased keratinization and flow of gingival blood improved thereby contributed to decrease in gingival inflammation.²⁴ In this study, herbal taila was effectively improving the gingival health, however, the patient's complaint for its bad taste which would pose a hurdle towards their long term usage compliance.

CONCLUSION

In this clinical study, it can be concluded that the herbal preparation irimedadi taila effectively control the plaque induced gingivitis when used as adjunct to mechanical plaque control measures. Moreover, it can also be used as natural alternative for patients who want to avoid alcohol and chlorhexidine mouth rinse's side effects.

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