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A comparative study of *Dashana Samskara Choorna Pratisarana* and *Dashana Samskara* paste application in the management of *Sheetada* (Gingivitis)

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Abstract

Sheetada is the early stage of periodontal diseases. This occurs due to negligence of oral hygiene, changing life-style, habits, and addictions. It is *Kapha Rakta Pradhana Vyadhi.* In modern dentistry papillary or marginal gingivitis can be correlated with *Sheetada*, on the basis of similarities in symptoms, involvement of anatomical structure, etiology and prognosis. The epidemiological studies conducted by American Academy of Periodontology shows that gingivitis of varying severities is nearly universal. It is estimated that over 80% of the world's population suffers from gingivitis. In this clinical study, 106 patients were registered among them 103 completed the treatment and were randomly divided by lottery method into two groups. In Group-A, *Dashana Samskara* paste local application on gums and in Group-B, *Dashana Samskara Choorna Pratisarana* on gums was given. After enrollment of the patients in the study cardinal symptoms of *Sheetada* (gingivitis) such as, *Raktasrava*, *Krishnata*, *Prakledata*, *Mriduta*, *Mukhadaurgandhya*, and also the objective criteria such as oral hygiene index, Gingival Index (GI-S), and Gingival Bleeding Index (GBI-S) were studied before and after the treatment. While considering comparative effect on subjective parameters such as *Raktasrava*, *Dantamamsa Shiryamanata*, *Shotha* and *Chalata* statistically significant results were obtained in Group-A than Group-B. In objective parameters such as, GI-S and GBI-S also showed statistically significant results in Group-A. Observations in follow-up study confirmed that the recurrence rate in the Group-Awas significantly lesser than the Group-B.

Key words: *Dashana Samskara Choorna*, gingivitis, oral hygiene, *Pratisarana*, *Sheetada*

Introduction

The *Mukha* (oral cavity) is considered to be one of the most important parts of the *Urdhwajatru* (part above the clavicles). Being the gateway of the alimentary canal, it reflects the body health. *Acharya Sushruta* classified the diseases of *Mukha* according to the seven subsites – *Oshtha* (lips), *Dantamoola* (gingiva and tooth supporting structures), *Danta* (teeth), *Jihva* (tongue), *Talu* (palate), *Kantha* (throat) and *Sarvasara* (oral mucosa).[1]

Sheetada is a disease described elaborately in Ayurveda as a type of *Dantamoolagataroga* (periodontal disease). The symptomatology of *Sheetada* can be considered as general marginal and papillary gingivitis, which may progress into periodontitis if not treated properly. *Sheetada* occurs due to vitiated *Kapha* and *Rakta*. The clinical features of the disease are *Raktasrava* (bleeding gums), *Krishnata* (discoloration of gums), *Prakledata* (moistness), *Mriduta* (spongyness), *Shotha* (gingival swelling), *Mukhadaurgandhya* (halitosis) at the initial stage.[2] In a later stage, *Paka* (suppuration), *Dantamamsa Shiryamanata* (gum recession) and *Chalata* (tooth mobility) may be seen. For the management of this disease systemic therapy, such as *Nasya* (insufflation), and local therapies such as *Raktavisravana* (blood letting), *Pratisarana* (local application), *Gandoosha* (mouthwash), *Kavala* (gargle), and *Pralepana* (paste) are advocated.

Gingivitis is a similar entity in modern dentistry and it was recognized as a clinical disorder in the mid-19th century.[3] Gingivitis is non-destructive periodontal disease. If left untreated, it may progress to periodontitis, which is a destructive form.

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Periodontal disease is widely regarded as the second most common oral disease world-wide after dental decay.[4] In the United States, it is prevalent in 30-50% of the population, but only about 10% have severe forms.[5] Several population based studies have shown its high prevalence and risk in systemic health. Modern research suggests that systemic health may be affected by oral hygiene more than previously recognized. For example, a recent review discussed possible etiological associations between periodontitis and cardiovascular disease in general and infective endocarditis specifically as well as rheumatoid arthritis, pneumonia, and preterm birth and low birth weight.[6]

The epidemiological studies conducted by American Academy of Periodontology show that gingivitis of varying severities is nearly universal and it is estimated that over 80% of the world's population suffers from gingivitis.[7] Among children and adolescents the incidence rate is 52.03%. In the 3rd National Health and Nutritional Examination Survey, it was found that 50% of adults had gingivitis in at least 3-4 teeth.[8] In Gujarat, the prevalence of gingivitis was found to be 74.45%.[9]

In the present era prevailing treatment modalities, such as scaling and polishing, root planning, and gingivo plasty have their own limitations. Moreover, these modalities do not focus on regenerating and improving the health of the gingiva.

To overcome these problems, in Ayurvedic classics several treatment modalities such as *Pratisarana*, *Gandoosha*, and *Kavala* have been mentioned for the management of *Sheetada*.[10]

Among these, *Pratisarana* has been selected in this study and it is a kind of local application which mainly possesses therapeutic effects such as *Shodhana* (cleansing) and *Ropana* (growing). In *Pratisarana*, *Choorna* (fine powder) is mixed with lukewarm water to make a paste; the paste is taken on a fingertip and then massaged on the gums with mechanical pressure exerted in a specific direction. This process removes the food debris and plaque, which are the main causative factors of the disease. Further, *Pratisarana* helps to increase blood circulation and enhances gingival defense mechanism, giving strength to the gingival fibers to maintain the gingival, and the periodontal health.

Repeated advocacy of different *Acharyas* aroused an interest in a search for a better remedy for gingivitis from the medicinal heritage of Indian Materia Medica. An Ayurvedic formulation that is *Kapha-Pitta Shamaka* (pacifying *Pitta* and *Rakta*) and has *Shothahara* (anti-inflammatory), *Krimighna* (anti-microbial) and *Rasayana* (rejuvenation) properties is likely to be effective for the management of *Sheetada*.

Dashana Samskara Yoga formulation is documented in Ayurvedic literature.[11] It is a widely used classical formulation for treating all types of oral cavity disorders. It is mainly dominant with *Katu* (astringent) and *Tikta Rasa* (bitter taste); *Laghu* (light), *Rooksha* (rough), and *Tikshna* (stronge) *Guna* (properties); *Katu Vipaaka*; *Sheeta Veerya* (cold potency); and *Kapha Pitta Shamaka Karma*. Further, it's *Shothahara* (anti-inflammatory), *Lekhana*, *Shodhana*, *Raktasthambhana* (styptic), and *Krimighna* (anti-microbial) properties would help to remove the gingival pathology. Its *Rasayana* (immuno-promotive) property improves the gingival defence mechanism and helps to regenerate gingival tissues.

Although the *Choorna* (powder) form is a classical formulation, it has some demerits like short shelf life, greater chances of contamination, and inconvenience of application. Thus, patients were less likely to use it consistently and be satisfied with its benefits. To overcome these problems, a paste form of same the formulation was used. Pastes are widely used for dental disorders because they tend to be the most suitable and convenient formulation. It was in sterile form, and therefore has less likelihood of microbial contamination. It also has a longer shelf life.

After studying the classical references and results of previous research works,[12,13] this present study was planned to compare the effect of *Dashana Samskara Yoga* clinically in paste and powder forms.

Materials and Methods

Method of preparation paste

Nearly 30% hydroalcoholic extracts of each ingredient of *Choorna* (except *Karpoora* and *Khatika*) 25% w/w out of total *Choorna* was mixed with the base of gum acacia and sorbitol 48%. This paste was prepared at the ISO recommended pharmacy of K. P. Namboodiris Ayurvedics, R and D Laboratory, Vadakkekad, Thrissur.

In this *Dashana Samskara* paste preparation wet gum technique is used.

Process

- Step 1: Gum base is dispersed thoroughly in water and transferred to the contra rotary mixer and added sorbitol.
- Step 2: Added extracts of 1-8 and chalk powder and mixed thoroughly for 30 min until a homogenous mass is obtained.
- Step 3: Added powdered *Karpoora* and continued mixing for 20 min.

After the paste formed, it was filled in 40 g aluminum tubes and packed under aseptic sterile conditions.

Patient's selection

Patients attending the Out Patient Dispensary of Department of Shalakya Tantra, with signs and symptoms of *Sheetada* (gingivitis) were registered irrespective of their sex, religion, occupation, education, etc., Total 106 patients were recruited for the study. An elaborative case taking proforma was specially designed for the purpose of incorporating all aspects of the disease in Ayurvedic and modern parlance. Patient's information sheet was prepared and Informedconsent was taken from all the registered patients for the trial.

Sampling technique

A total of 106 registered patients were divided into two groups (Group-A 54 patients, Group-B 52 patients) using the random sampling technique by lottery method to maintain the uniformity in both groups.

Grouping and posology

- Group-A: *Pratisarana* with *Dashana Samskara* paste, 1 g twice a day
- Group-B: *Pratisarana* with *Dashana Samskara Choorna*, 1 g twice a day

- *Kala*: 15 min after meals
- Duration: 1 month
- Follow-up: 2 months after the completion of course of treatment.

Inclusion criteria

Patients having signs and symptoms of *Sheetada* (gingivitis) described as per the Ayurvedic and modern science of 16 to 60 years age were included. In this study, five subjective parameters as per Ayurvedic features and three objective parameters as per modern parameters were considered as inclusion criteria of all patients.

Exclusion criteria

- Patients having any systemic diseases, i.e., diabetes mellitus, hypertension, hematological disorders, which causes gingivitis.
- Patients using any other systemic drugs which may alter the results of the study.
- Pregnant woman.
- Patients below 16 years and above 60 years.

Investigations

Following investigations were carried out in order to rule out any systemic disease:

- Routine hematological: Hb%, Total Count (TC), Differential Count (DC), Clotting Time (CT), Bleeding Time (BT), Platelet count and Erythrocyte Sedimentation Rate (ESR)
- Biochemical: Blood sugar (R)
- Urine: Routine and microscopic
- Stool: Routine and microscopic
- Microbiological examination: Gingival crevicular fluid swab culture before and after treatment of 20 patients in each group

Method of *Pratisarana*

For *Pratisarana Karma* all the patients were advised to follow the given instructions, viz.:

- Patients were advised to do *Pratisarana* for 2 times morning and evening after proper cleaning of mouth
- *Dashana Samskara Choorna* should be taken in 1 g quantity and mixed with very little amount of luke warm water and make the *Choorna* in paste form
- It should be taken on tip of the index finger and applied all over the gingiva smoothly with gentle pressure for 3-5 min in clockwise, round direction. Finally with slight pressure massage toward the gingival margin should be done and drug should remain on gingiva for 20-30 min
- After that proper rinsing was advised with luke warm water
- Same procedure was instructed for the paste and also application has been adopted by using tip of the finger.

Instructions to the Patient

All the patients were advised to follow the instructions during therapy and in follow-up period:

- Oral hygienic methods and their importance in the reversal of the disease were explained
- Proper brushing by using soft brush 2 times a day morning and evening after meals by using "Bass" method was advised
- Instructions regarding *Ahara* and *Vihara* were given, i.e. fibrous, non-sticky, less sweeten, etc., and proper mastication by using both sides
- Proper mouth rinse after each meal/food item.

Assessment criteria

Subjective criteria	Score
Akasmata Rakta Srava (bleeding)	
Absence of bleeding	0
Slight bleeding on brushing or occasional bleeding	1
Moderate bleeding on brushing or eating hard articles	2
Severe bleeding on brushing or even on chewing food	3
Spontaneous bleeding	4
Shotha (inflammation)	
Absence of inflammation	0
Mild inflammation, slight change in color and in texture of the marginal or papillary gingival unit	1
Moderate inflammation, glazing redness, edema of the marginal or papillary gingival unit	2
Severe inflammation, marked redness, edema of the marginal or papillary gingival unit	3
Shiryamana Dantamamsa (gingival recession)	
At CE junction	0
At cervical 1/3rd	1
At middle 1/3rd	2
At apical 1/3rd	3
Krishnata (discoloration of gums)	
Normal (pinkish red)	0
Slight discoloration of gums, reddish	1
Moderate discoloration of gums, reddish blue	2
Severe discoloration of gums, bluish red, or blue	3
Mukhadaurgandhya (halitosis)	
Absence of bad odor	0
Slight bad odor which decreases after mouth wash	1
Moderate bad odor rarely decreases after mouth wash	2
Persistent bad odor even after repeated mouth wash	3
Vedana (pain)	
Absence of pain	0
Occasional pain with low intensity-dullache	1
Frequent pain with moderate intensity-continuous dullache	2
Continuous pain with severe intensity-which increases during mastication-lancenating pain-radiating type of pain	3
Dantamamsa Mriduta (spongyness)	
Absence of spongy gums	0
Slight spongy gums	1
Moderate spongy gums	2
Severe spongy gums	3
Dantamamsa Prakledata (moistness)	
Absence of moistness	0
Slight moistness is visible	1
Moderate moistnessis visible	2
Severe moistness is visible	3
Paka (pus discharge)	
Absence of pus discharge on examination	0
Slight pus discharge on digital examination	1
Moderate pus discharge on digital examination	2
Severe pus discharge on digital examination	3

Chaladanta (tooth mobility)

Absence of mobility	0
Noticeable movement in its socket with in a range of 1 mm	1
Movement of a tooth with in a range of 2 mm	2
Movement of a tooth with more than 3 mm	3

Objective criteria
- Oral Hygiene Index (OHI-S)
- Gingival Index (GI-S)
- Gingival Bleeding Index (GBI-S).

Overall effect of therapy

The total effect of therapy was assessed considering the overall improvement in signs and symptoms.
- Cured: 100% reliefs in the signs and symptoms and no recurrences during follow-up
- Marked improvement: 76-99% relief in the signs and symptoms
- Moderate improvement: 51-75% relief in the signs and symptoms
- Mild improvement: 26-50% relief in the signs and symptoms
- Unchanged: Up to 25% relief in the signs and symptoms

Statistical analysis

The information gathered on the basis of observations was subjected to statistical analysis. Chi-square test and unpaired Student "*t*-test" were carried out to observe the comparative effect of therapies on subjective and objective parameters.

Observations and Results

Total 54 patients were registered in Group-A; among them 53 patients were completed the treatment. In Group-B, out of 52 registered patients, 50 patients completed the treatment.

In the present study, majority of the patients, i.e., 45.28% were from the age group of 31 to 45 years, 66.04% were females. Maximum, 49.06% of the patients were house wives. Maximum i.e. 61.32% patients were belonged to rural area, 34.91% were educated up to secondary education level. 48.11% patients were having *Pitta-Kapha Deha Prakriti*, 49.06% were taking *Madhura Rasa* dominant diet. Maximum i.e. 54.72% patients were having *Mandagni*.

Majority of the patients i.e., 50.9% were found to have moderate gingivitis and 40.57% were reported chronicity between 6 to 12 months.

Regarding oral hygienic measures, majority of patients, i.e., 90.57% were using tooth brush and 95.28% were using tooth paste as a cleansing material and 77.36% patients were cleaning their teeth once a day.

Maximum number of patients, i.e. 100% were having *Raktasrava*, *Krishnata*, *Prakledata*, *Mriduta*, and *Dantamamsa Shiryamanata*. *Mukhadaurgandhya* was presented in 90.57% of patients, *Shotha* was observed in 98.11%, *Vedana* in 60.38% and *Chalata* were reported in 23.58% patients. Before treatment the observations on objective parameters indicate that 42.45% patients had fair oral hygiene. On GI-S shows 50.95% patients with moderate gingivitis and 55.66% patients with moderate gingival bleeding.

Results of microbiological examination

Before starting the treatment, in Group-A, 15 samples were isolated with *Escherichia coli* bacilli and 5 samples with *Streptococci*. In Group-B, 13 samples were isolated with *E. coli* bacilli and 7 samples with *Streptococci*. After treatment in both the groups, all samples of gingival crevicular fluid were found free of pathogens.

Effect of therapies

Group-A:

In clinical features, 93.4% relief was found in *Raktasrava*, 100% in, 87.9% in *Krishnata*, 98.3% in *Mriduta*, 91.7% in *Dantamamsa Shiryamanata*, 100% in *Prakledata* and *Paka*, which are statistically highly significant ($P < 0.001$). In associated symptoms, *Mukhadaurgandhya* was relieved by 73.3%, *Shotha* by 94.9%, *Vedana* by 96.3% and *Chalata* by 91.7%, which are statistically highly significant ($P < 0.001$) [Figures 1 and 2].

On objective criteria, all objective parameters that is OHI-S, GI-S and GBI-S were improved by 77.3%, 90.6%, and 97.1% respectively and the results being statistically highly significant ($P < 0.001$) [Figure 3].

Group-B:

In clinical features, 77.3% relief was found in *Raktasrava*, in *Krishnata* 66.7%, in *Prakledata* 86.7%, in *Mriduta* 90.5% and *Dantamamsa Shiryamanata* 54.4%, which are statistically highly significant ($P < 0.001$). In associated symptoms, *Mukhadaurgandhya* was relieved by 59.3%, in *Paka* 96%, in *Shotha* 68.7% and in *Vedana* 97.1% relief was obtained, which are statistically highly significant ($P < 0.001$). Statistically insignificant improvement ($P > 0.05$) was found in *Chalata* only [Figures 1 and 2].

On objective criteria, OHI-S was improved by 72.2%, GI-S by 84.7% and GBI-S was improved by 88.2%, which are statistically highly significant at the level of $P < 0.001$ [Figure 3].

Comparative effect of therapies

Effects of *Dashana Samskara* paste and *Choorna* on chief complaints of *Sheetada* (gingivitis) shows that, statistically significant difference was obtained in four of the chief complaints that is *Raktasrava*, *Dantamamsa Shiryamanata*, *Shotha*, and *Mukhadaurgandhya* in Group-A, with comparison to Group-B. Data reveals that Group-A has been shown better effect on these clinical features than Group-B. The comparative effect on objective parameters reveals that Group-A shown statistically significant difference to that of Group-B. In two indices that is GI-S and GBI-S, the results were significant statistically with the P value at less than 0.05 level.

Comparative effect was obtained in GBI-Sand GI-S, which was statistically significant at the level of $P < 0.01$.However, in OHI-S it was statistically insignificant at the level of $P > 0.10$.

During the clinical study period, no any adverse effect was observed in any of the groups. This indicates that *Dashana Samskara Yoga* is safe and non-toxic in both the forms.

Clinical observations of patients after follow-up

After completion of the clinical trial of 1 month, the patients were followed-up for further 2 months in both groups. During this period, some patients have reported the recurrence or

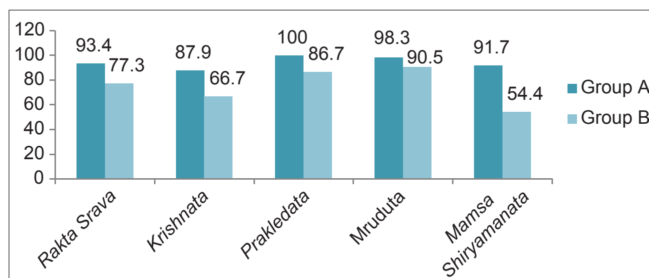

Figure 1: Effect of therapies on clinical features I

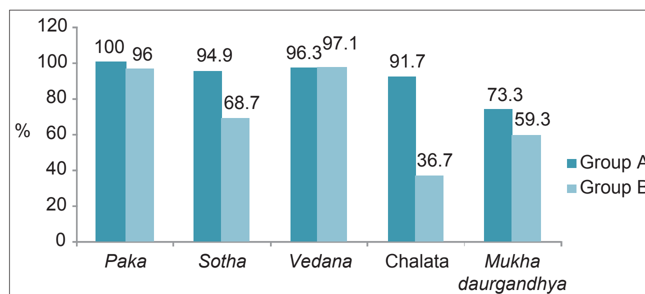

Figure 2: Effect of therapies on clinical features II

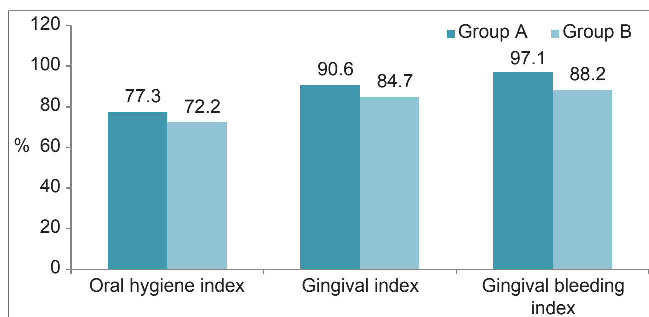

Figure 3: Effect of therapies on indices

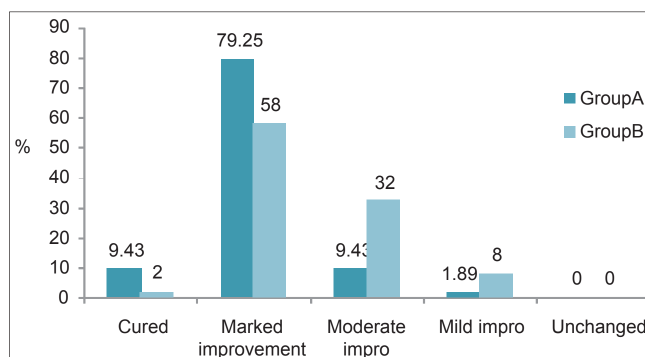

Figure 4: Over all effect of therapies

aggravations of the complaints. In Group-A, during follow-up study 19% patients were reported with altered OHI, followed by 2% patients reported with altered GI-S as well as GBI-S. In Group-B, maximum number of patients that is 50% were reported with altered GBI-Sduring follow-up period followed by altered GI-S in 24% patients and altered OHI-S was found in 40% patients.

Overall effect of therapy

In Group – A, 9.43% patients were cured, 79.25% patients had marked improvement and 9.43% patients were moderately improved followed by one patient was observed under mild improvement category. In Group - B, 2% patients were found under cured category, 58% patients in marked improvement, 32%) patients in moderate improvement and 8% patients were recorded in mild improvement category. None of the patients in both the groups were found under unchanged category [Figure 4].

Discussion

Gingivitis can occur at any age group. The epidemiological studies show that the prevalence rate is high among children and adolescences,[14] because of age related changes and lack of awareness. In this study, majority of patients (42.28%) were reported in the age group of 31-45 years that is the late phase of adolescence. Data clearly implies that above group of patients were under sub-clinical stage during their adolescence age and presented with *Sheetada* in our OPD in the late adolescence phase.

Global studies show that prevalence of gingivitis is more common among males.[15] However, maximum patients observed in the present study were females. This may be because of general trend of the female patients attending the hospital. As day time male patients may be engaged with their professional duties. Another factor may be females are careless about their oral health because of lack of time and awareness. In this study, among female patients, 57% were under premenopausal stage. It also could be the reason that majority of patients were females because studies also claim that hormonal imbalance have a direct role to play in the pathogenesis of gingivitis.[16]

It was observed in the present clinical study that maximum numbers of patients were belonged to rural area. This finding is supported by several previous research works.[17] They have proved that in general, the prevalence and severity of periodontal disease are slightly higher in rural areas than in urban areas. It may be due to lack of awareness and poor oral hygienic practice. The previous studies show that periodontal disease is inversely related to increasing levels of education.[18]

Maximum that is 48.11% of patients registered in this study, were having *Kapha-Pitta Prakriti* (constitution) and all of them presenting with moderate grade of gingivitis. Owing to the involvement of *Kapha Dosha* and *Rakta Dhatu* in *Sheetada*, *Kapha-Pitta Prakriti* is more prone to this disease due to the *Aashrayashrayi Bhava*. The majority of the patients were having moderate gingivitis, which indicates that maximum patient's gingival status can be regained to normal condition with proper management with early diagnosis.

It is a known fact that general condition of GIT favors the normal nourishment and health of the body tissues. It was observed that majority of the patients i.e., 54.72% were having *Avara Jarana Shakti* (low digestive power) and *Mandagni* (low biological fire). These may favor the formation of *Ama* (undigestive food) and initiation of *Samprapti* (aetio patogenesis) of *Sheetada*.

Present study shows that majority of patients had chronicity between 6 months and 12 months. It indicates that the disease is chronic in nature. Because of patient's unawareness of their

oral health, they were not able to detect bleeding from gums as early symptom.

Nearly 54% of patients presented with fair oral hygiene. This may be due to lack of awareness of oral hygienic measures.[19] Maximum patients were using brush as a cleansing tool. This reveals that in this modern era it is a common tool for cleansing teeth. It is proved that with brush one can clean the interdental areas, pits, and fissures on the teeth. However, most important thing is which method of brushing is used. In this study, maximum patients were using horizontal brushing pattern. It is an improper pattern by which debris at inter dental area, pits, and fissure areas and more or less at cervical areas may not be removed, which plays major role in initiation or progression of the disease, not only that, but also improper technique and hard bristles damages the gingiva and its frequent use leads to increased friction leading to gingivitis or it may injure the enamel and cause abrasion of tooth surface. Nearly 95.28% patients were using tooth paste as a cleansing material. It indicates the changed trend of cleaning material, particularly in urban area, which prevents the gums and teeth from microbes. Because of the traditional *Datuna* (tooth stick) and tooth powder are not much in practice in urban area.

Nearly 77.36% of the patients found cleaning their teeth only once in a day, in morning and before breakfast. It indicates lack of importance of oral hygiene after taking food. It results in bacterial growth at the place of food collection resulting in dental plaque.

Maximum patients were vegetarians i.e., 83.02% who were taking *Madhura Rasa* dominant diet that is 49.06%. Protein rich diet is mainly responsible for the integrity of the periodontium and plays main role in the promotion and maintenance of gingival and periodontal health. Majority of vegetarian diets are rich in carbohydrates and fibrous content. It shows that lack of proteinous diet may have a role to play in gingival disorders. *Madhura Rasa* is responsible for vitiation of *Kapha Dosha* leads to initiation of *Samprapti* of *Sheetada*. Further, in modern dentistry, it is mentioned that sweet food items more frequently initiates dental plaque formation.[20]

Comparative effect of therapy on clinical features

Although considering comparative effect on clinical features such as *Raktasrava*, *Dantamamsa Shiryamanata*, *Shotha* and *Chalata* statistically significant results were obtained. This was confirmed that, Group-A *Dashana Samskara* paste has been shown better results in above clinical features than *Dashana Samskara Choorna*. Though maximum ingredients of both forms of *Dashana Samskara Yoga* have same pharmacodynamic properties such as *Katu* (pungent), *Tikta* (bitter), *Kashaaya* (astringent) *Rasa* (taste), *Laghu* (light), *Ruksha* (rough), *Tikshna* (sharp) *Guna* (properties), *Sheeta Veerya*, and *Kapha Pitta Shamaka* in nature predominant with *Srotoshodhana*, *Lekhana*, *Sthambhana* (checking), *Krimighna* and *Shothahara* actions and also with proven pharmacological actions such as anti-inflammatory, analgesic, styptic, and anti-microbial activities. However, paste has been shown more effect, which may be due to its quick absorption power enhanced by hydro-alcoholic nature with fineness, more penetrating capacity and equally dispersing ability on gingival epithelium.

Comparative effect of therapy on Indices

On assessing comparative effect objectively on the basis of improvement in all three indices, only GI-S and GBI-S have been shown statistically significant improvement at the level of $P < 0.01$. It was confirmed that Group-A shows better improvement in GI-S and GBI-S than Group-B. It may be due to quick absorption power, equally dispersing ability on gingival epithelium like qualities in paste and synergistic action of the paste base.

Conclusion

Dashana Samskara Yoga in *Choorna* and paste form found to be effective in treating the features such as *Raktasrava*, *Mriduta*, *Krishnata*, *Prakledata*, *Shotha*, *Dantamamsa Shiryamanata*, and *Mukhadaurgandhya*. Paste formulation showed comparatively better results in the features such as *Raktasrava Shotha*, *Dantamamsa Shiryamanata*, and *Chalata*. During follow-up, the recurrence rate was minimum seen in the patients treated with paste formulation. Both the forms were found to be effective in controlling the oral microbes.

Recurrence of *Sheetada* (gingivitis) was minimal among the patients who were treated with the paste form of *Dashana Samskara Yoga*. Evidence drawn from clinical and follow-up studies have been confirmed that *Dashana Samskara* paste is more effective and appropriate to control the disease "*Sheetada*" in comparison to *Choorna*.

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हिन्दी सारांश

दशन संस्कार चूर्ण प्रतिसारण एवं दशन संस्कार पेस्ट एप्लीकेशन का शीताद (जिन्जीवाइटिस) में तुलनात्मक अध्ययन

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शीताद, दन्तवेष्ट के रोगों की शुरु की अवस्था है । शीताद मुखगुहा के स्वास्थ्य का ठीक से ध्यान नहीं रखना, जीवन शैली में परिवर्तन, बुरी आदतें एवं व्यसन से होता है । यह कफ – रक्त प्रधान व्याधि है । आधुनिक दंत शास्त्र के अनुसार पेपीलरी अथवा मारजिनल जिन्जीवाइटिस के भेदों को हेतु, लक्षण एवं संप्राप्ति के अनुसार शीताद के अन्तर्गत रखा जा सकता है । अमेरिकन एकेडेमी ऑफ पेरीयोडोन्टोलोजी के द्वारा किया गया एपीडेमियोओलोजीकल अध्ययन में पाया गया कि जिन्जीवाइटिस समान रुप से सभी देशों के लोगों में पाया जाता है और लगभग ८0% जनता इससे पीड़ित रहती है । इस चिकित्सीय अध्ययन में १0६ आतुरों का नामांकन किया गया जिसमें से १0३ आतुरों ने चिकित्सा पूर्ण की और उनको यद्दच्छा लोटरी विधि से दो वर्गों में विभाजित किया गया । वर्ग–'अ' में दशन संस्कार पेस्ट को मसूड़ों पर लगाने के लिए एवं वर्ग–'ब' में दशन संस्कार चूर्ण को मसूड़ों पर प्रतिसारण करने के लिए दिया गया । आतुरों को अध्ययन में समाविष्ट कर शीताद के लक्षण जैसे रक्तस्त्राव, कृष्णता, प्रस्वेदता, मृदुता, मुखदुर्गन्ध आदि एवं ओब्जेक्टिव क्राइटेरिया जैसे ओरल हाईजीन ईन्डेक्स, जिंजाईवल ईन्डेक्स एवं जिंजाईवल ब्लीडींग इन्डेक्स आदि का चिकित्सा पूर्व एवं चिकित्सा पश्चात अध्ययन किया गया । आतुर संवेद्य लक्षण जैसे रक्तस्त्राव, दन्तमास शीर्यमाणता, शोथ एवं चलता में वर्ग– 'बी' की अपेक्षा वर्ग– 'अ' में अधिक लाभ प्राप्त हुआ । वैद्य संवेद्य लक्षणों में जैसे जिंजाईवल इन्डेक्स एवं जिंजाईवल ब्लीडींग इन्डेक्स में भी वर्ग–'अ' में अधिक लाभ प्राप्त हुआ । साथ में यह भी देखा गया कि रोग की पुनरावृति भी वर्ग–'बी' की अपेक्षा वर्ग– 'अ' में बहुत कम रही ।