



Therapeutic Effects Of “Septilin” (Herbal Immunomodulator) Against Periodontal Manifestations: A Systemic Review

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Abstract

Background: The majority of periodontal manifestations present with inflammation caused due to immunological reactions. Host modulatory therapy has been one of the convincing treatments for periodontal diseases. Septilin (Himalaya Drug Company, Bangalore, India) herbal immunomodulator alters immune function's activity through cytokine regulation.

Aim: To assess the efficacy of Septilin in treating periodontal manifestations following periodontal treatments.

Methods: A literature review using PubMed, science direct, Cochrane, PubMed, CENTRAL, Science Direct, Lilacs, and Scopus using the Mesh term “Septilin AND periodontitis”. According to the Prisma guidelines, the mesh terms were altered in each search engine

Results: All the studies showed positive results in treating periodontitis using Septilin. Septilin administered after periodontal treatment gave satisfying results with reduced periodontal manifestations such as inflammation. It was safe to use and did not produce any adverse reactions.

Conclusion: In the available literature, septilin effectively treated periodontal manifestations among patients.

Keywords: Septilin, periodontal manifestations, periodontitis, Immunomodulator, host immunomodulatory therapy.

INTRODUCTION

Periodontal disease is defined as a specific group of diseases that affect the gingiva (gums), the supporting connective tissue (periodontal ligament), and the alveolar bone, which anchor the teeth in the jaws. ^[1] It is associated with inflammation and destruction of supporting tissues of the teeth (periodontal ligament). Microbial accumulation between the gingiva and teeth, initiates an inflammatory-immune response within the host. ^[2]

Earlier in the 1970s, it was believed that the only factor contributing to periodontal diseases was plaque bacteria causing tissue destruction. Later on, contrary to this belief, it was later found that some internal factors and host factors contribute to periodontal diseases. It was concluded that the host's immuno-inflammatory reaction and immune response to the presence of bacteria contribute to the tissue destruction and environmental factors, systemic factors, and genetic factors

that can influence this immune-inflammatory reaction by the host.^[3]

Knowing the role immune-inflammatory reaction plays in periodontal diseases, finding a therapeutic antidote for this response is important.

Host modulation therapy (HMT) is an emerging concept for treating periodontal diseases. HMT targets stability and regeneration of the periodontium by reducing the destruction of tissues.^[4] HMT can be given systemically and locally delivered by therapeutic drugs prescribed as a part of periodontal therapy.^[5]

However, Immunomodulators come along with a variety of side effects. Ayurvedic immunomodulators are being used to counter the problem of side effects. Herbal medicines and preparations comprise plant constituents professed to have therapeutic benefits. Herbal products are favoured over conventional drugs owing to extensive natural activity, advanced safety margin, and inferior costs.^[6] Additionally, modern drugs are known to cause several side effects. Moreover, continuous intake of non-herbal drugs has sometimes caused antibiotic resistance. Thereby, herbal medicines are being used gradually as dietary add-ons to combat or avert common ailments affecting the human body and oral cavity.^[7]

Septilin is a proprietary Ayurvedic product of The Himalayan Drug Company, Bombay, containing various herbs and minerals. It is used in the treatment of several acute/chronic infections. It has been demonstrated that Septilin stimulated phagocytosis and thereby helped control infections.^[8] The composition of Septilin involves various drugs, each with immunomodulatory properties.^[9]

Composition of Septilin

1. Extracts

- Maharnadi Quath: 130 mg
- Guduchi (Tinospora cordifolia): 98 mg
- Manjistha (Rubia cordifolia): 64 mg
- Amalaki (Embllica officinalis): 32 mg
- Shigru (Moringa Pterygosperma): 32 mg

- Yashtimadhu (Glycyrrhiza glabra): 12 mg

2. Powders

- Guggulu (Balsamodendron mukul)
- Oleo-Gum-Resin: 0.324 g
- Shankh bhasma: 64 mg

Key ingredients-

-Indian Bdellium (Guggulu) has anti-inflammatory properties, which soothe a sore throat, help reduce inflammation and help maintain overall health.^[10]

-Licorice (Yashtimadhu) enhances immunity and regulates macrophage function. It is also used as an antiviral agent and clinical expectorant. It also reduces inflammation.^[11]

-Tinospora Gulancha (Guduchi) is a potent antimicrobial with immunomodulatory properties, which helps increase antibodies' levels. Guduchi helps in building up the body's immunity to resist infections.^[12]

Mechanism of action of Septilin:

Some factors play a major role in inducing inflammation caused due to activation of macrophages and other immunocompetent cells. Lipopolysaccharide is one of such factors, leading to the production of various inflammatory mediators, for example, tumour necrosis factor α (TNF- α), interleukin 1 (IL-1), IL-6, IL-8, nitric oxide (NO), a prostaglandin. These mediators cause cellular and tissue damage leading to inflammation. Septilin has proven to be an effective inhibitor for such mediators. In addition, Septilin regulates the production of proinflammatory mediators. For example, lipopolysaccharide-stimulated macrophage and monocyte cell lines (TNF- α , IL-6, IL-8, NO, COX-2 and PDE4).^[13]

MATERIALS AND METHODS

STUDY DESIGN: A systematic review of randomized controlled trials.

ELIGIBILITY CRITERIA:

INCLUSION CRITERIA;

- Randomized controlled trials and pilot studies from 1982 onwards till the recent update.
- Full-text articles available in search engines mentioned in the search strategy were

included.

- studies showing that septilin was used as an immunomodulator in controlling periodontitis
- a wide range of patients presenting with periodontitis were chosen and administered septilin and monitored at time intervals.

EXCLUSION CRITERIA;

- Studies in which septilin was used for purposes other than oral health.

A randomized control trial was organized with Forty systemically healthy patients aged between 25 and 55 years of age and with chronic periodontitis who were administered Septilin tablets for two weeks.

A randomized control trial was designed with patients required to be non-smokers in the age group of 30–60 years without systemic

illnesses, allergies, pregnancy, history of any drug intake, and have been in periodontal treatment in the past six months. The subjects were classified into two groups (30 patients in each group) and were administered septilin.

SEARCH STRATEGY:

Published literature assessing the effectiveness of Septilin's immunomodulatory action against periodontitis. Original articles and research papers in databases such as PubMed, CENTRAL (Cochrane Central Register of Controlled Trials), Science Direct, Lilacs, and Scopus were taken for study for review.

SEARCH ENGINE:

- PubMed
- CENTRAL
- Science Direct
- Lilacs
- Scopus

FIGURE 1: Prisma table showing the number of studies identified, screened, assessed, for eligibility, excluded, and included in the systematic review.

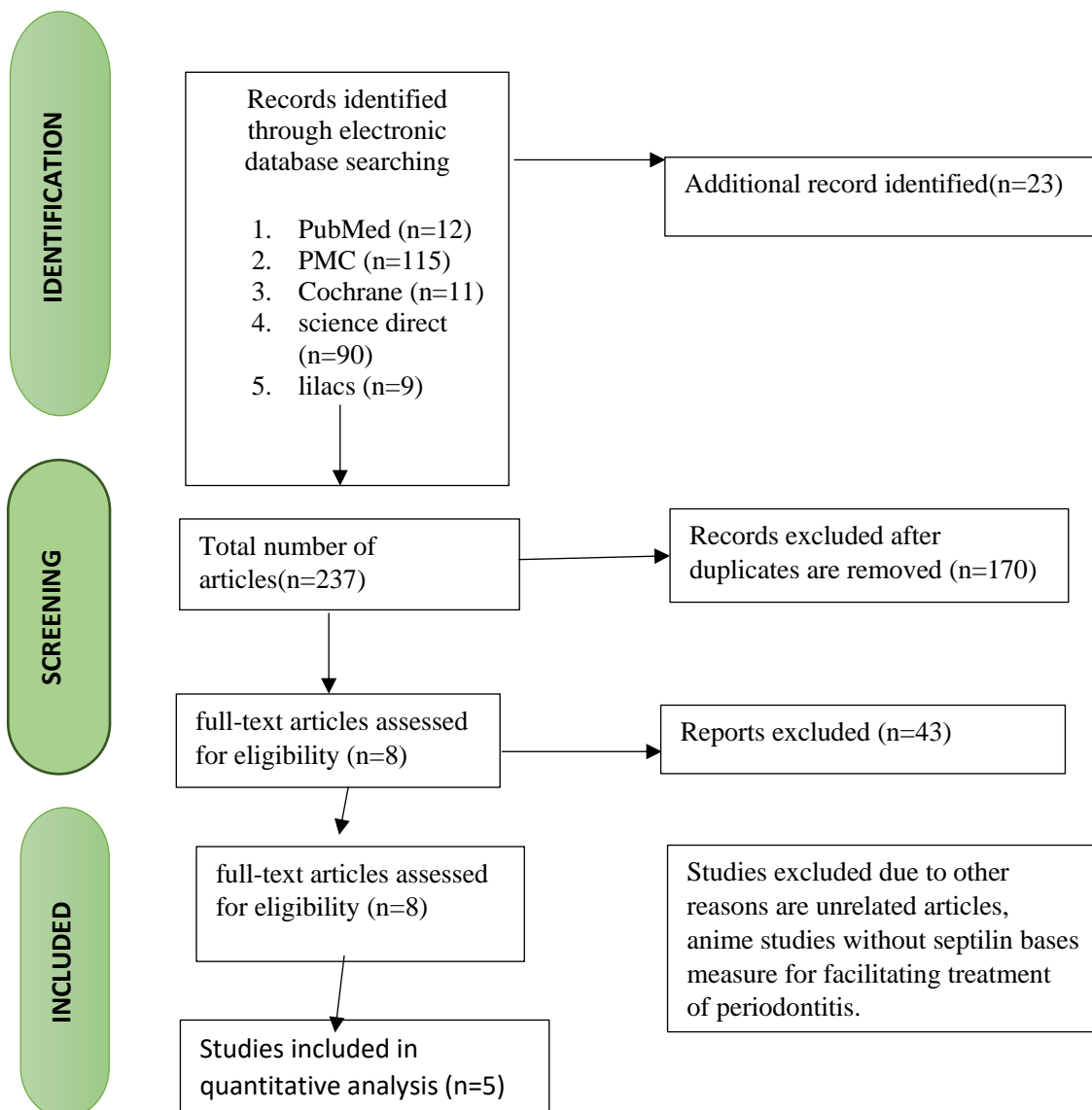


TABLE 1: CHARACTERISTICS OF INTERVENTIONS IN THE STUDY

AUTHOR NAME	YEAR	SAMPLE SIZE	DURATION	INTERVENTIONS
Girish D. Deore [4]	2014	60	Six weeks	Study group- SRP followed by Septilin Control group- Placebo
Shreya Shetty [14]	2015	96	Six months	study group- group 1 septilin group 2 probiotic tablets group 3- control group
Jain R.C [15]	1982	100	Three weeks	Study group- septilin Tab Group 1- above 25 years of age Group 2-below 25 of age
Amit Nagar [16]	1993	25	7-10 days	Study group- all subjects were given septilin
Shetty S [17]	2013	40	Six months	Study group- Group 1- septilin + SRP Group 2-control- SRP only

Table 1 shows the highlights and features of the studies chosen through a systematic review. The following features were studied; Name of the author, year of the study, a sample number of the given research including their details such as gender and the interventions involved in the study. All the included studies in the table

were randomized controlled trials conducted strictly in the oral cavity. Compared with other immunomodulatory drugs and treatments, septilin has been used as the test group for assessing the treatment of patients with periodontitis. (Control group-placebo)

TABLE 2: OUTCOME OF THE DATA AS REPORTED IN INCLUDED STUDIES

AUTHOR NAME	YEAR	EFFECT MEASURES	RESULTS
Girish D. Deore ^[5]	2014	-Recording of CAL, PIM GI, SBI -Laboratory tests: CRP was assayed using a highly sensitive CRP turbilatex kit (CRPCAL, Spinreact, Girona, Spain)	Administering septiclin after SRP aided in improving periodontal treatment outcomes. Septilin is safe and has shown beneficial effects on the clinical and biological markers of periodontal disease
Shreya Shetty ^[14]	2015	-Recording of -GI, BBI, PD. -Saliva and GCF samples for IL-6 using ELISA Kit by the passive drooling method. -GCF was collected with micro-capillary pipettes. - statistical analysis using Z- test with SPSS software version 13.	Periodontal treatment followed by HMT using a septiclin immunomodulator showed strong, promising results in patients with periodontitis than in the ones who had only been given periodontal treatment (without septiclin)
Jain R.C ^[15]	1982	Subjects with pyorrhoea and acute periodontitis participated. In addition, Bleeding gums were taken into consideration.	Cases with acute periodontitis showed a good response. The pain was relieved in 3 to 5 days. Ninety-one subjects showed satisfactory results to septiclin. However, 9 with chronic severe suppurative periodontitis for more than five years did not give results up to the mark.
Amit Nagar ^[16]	1993	The detailed history of all the subjects was recorded (dietary habits, systemic diseases, if any. Pregnant women were excluded.) Clotting and bleeding time were recorded to	22 out of 25 subjects had no bleeding gums after the therapy. Mild gingivitis was seen in only 2. A significant change in Gingival Index was found.

		exclude subjects with any bleeding disorder. -Gingival index was recorded according to the Loe Silness index.	
Shetty S, Bose A ^[17]	2013	Recording- GI, GBI. -saliva samples for TNF- α analysis done by ELISA kit. -Blood samples for CRP were analyzed by immunoturbidimetry. Statistical analysis using the student's t-test, Wilcoxon signed rank test and Mann-Whitney test.	Following SRP, septilin was administered, which aided in improving periodontal treatment outcomes. In addition, the drug is safe and has beneficial effects on periodontal disease's clinical and biological markers.

Table 2 shows the data from the results of septilin in the included studies, i.e., the test

is taken to analyze the efficiency of septilin in treating periodontitis in patients.

TABLE 3: BIAS ASSESSMENT AS INCLUDED IN THE STUDIES

+ = low risk of bias; - = high risk of bias; ? = unclear risk of bias

Table 3 shows the study's bias analysis, categorized as low risk, high risk, and unclear risk bias.

Author name, year	Random sequence generation	Allocation concealment	Blinding of outcome	Incomplete outcome data	Selective reporting
Girish D. Deore ^[5] 2014	+	+	+	+	+
Shreya Shetty ^[14] 2015	+	+	+	+	+
Jain R.C ^[15] 1982	+	-	?	-	+
Amit Nagar ^[16] 1993	+	?	-	+	+
Shetty S Bose A ^[17] 2013	+	+	+	+	+

DISCUSSION:

This systematic review found promising results of the use of septilin in patients presenting with periodontal manifestations or diseases. These five studies indicate a decrease in inflammation of the gingiva, periodontitis, and bleeding. An overall increase in periodontal health.

The study by Girish D. Deore ^[5] reported that administering septilin after scaling and root planning improved periodontal treatment outcomes. The outcome was determined by comparing the before and after values obtained by recording CAL, GI, and SBI. Laboratory tests: CRP was

assayed using a highly sensitive CRP turbidatex kit (CRPCAL, Spinreact, Girona, Spain). The preparation is safe and has shown beneficial effects on periodontal disease's clinical and biological markers. A systematic review which investigates the intervention of topical fluorouracil treatment on actinic keratosis was found to be effective. ^[18]

The study was conducted by Shreya Shetty ^[14] in 2015 by Recording of - GI, BBI, PD. Saliva and GCF samples were collected for IL-6 using ELISA Kit by the passive drooling method. In addition, GCF was collected with micro-capillary pipettes. Statistical analysis was done using Z- test with SPSS software version 13. As per the study, Periodontal treatment followed by HMT using sepiplin immunomodulator showed strong, promising results in patients with periodontitis than in the ones who had just been given periodontal treatment (without sepiplin).

The study conducted by Amit Nagar ^[16] showing declining in bleeding gums after sepiplin therapy. The detailed history of all the subjects was recorded (dietary habits, systemic diseases if any. Pregnant women were excluded.), and clotting time and bleeding time were recorded to exclude subjects with any bleeding disorder. The gingival index was recorded according to the Loe Silness index. 22 out of 25 subjects had no bleeding gums after the therapy. Mild gingivitis was seen in only 2. A significant change in Gingival Index was found.

A study by Shetty S ^[17] showed results that the drug is safe to use and has demonstrated beneficial effects on the clinical markers of periodontal diseases. The assessment of biological markers was done by Recording-GI, GBI. Collecting of saliva samples for TNF- α analysis done by ELISA kit. The collection of Blood samples for CRP was analyzed by immunoturbidimetry. The Statistical analysis was made using the student's t-test, Wilcoxon signed rank test and Mann-Whitney test. The study concluded That following SRP, sepiplin was

administered, which aided in improving periodontal treatment outcomes.

The study by Jain R.C ^[15] gave satisfying results where Subjects with pyorrhoea and acute periodontitis were taken and showed satisfactory results with sepiplin. Cases with acute periodontitis showed a good response. The pain was relieved in 3 to 5 days.

CONCLUSION

This systematic review concludes that sepiplin can be used as an effective immunomodulatory to reduce inflammation clinically seen in periodontal manifestations. It has been seen to reduce bleeding gums, clinical attachment loss, and periodontitis and improve the gingival index. It is safer to use with minimal side effects compared to non-herbal immunomodulators. The optimum results are noted when Host Immunomodulatory Treatment (HMT) uses sepiplin after periodontal treatment.

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