

## **CRITICAL STUDY ON TAMBULA SEVANA - A REVIEW**

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### **ABSTRACT**

Ayurveda is a science of life and it is eternal. The goal of Ayurveda is to maintain the health of a healthy person and cure of the disease of a diseased. To achieve the primary goal of maintaining the healthy life, one should follow Dinacharya (daily regimen) which was explained in detail by our Acharyas. Tambula Sevana is one among them, which is very closely related and linked with Indian civilization and traditions. In the literature of Ayurveda it is clearly mentioned that chewing of betel leaves helps for the maintenance of perfect oral hygiene, for good taste and a prevention of disease of the oral cavity. It is also observed that Tambula Sevana has special effect on health if taken in a systematic way as explained in our classics. The rules that determine and prohibit the use of Tambula Sevana are also laid down in Brihatrayi and other authentic books of Ayurveda and which are still in vogue today. Here in the present study an attempt has been made to compile the valuable information on Tambula Sevana from the classical Ayurvedic literature and revalidated its benefits in the light of modern research findings as well as to reveal its importance in oral hygiene.

**Keywords:** Ayurveda, Dinacharya, Tambula Sevana, Oral hygiene

### **INTRODUCTION**

Chewing betel leaves is not new to humans and being practiced in India since antiquity (dating back to the 2nd century BC), and probably the Tantric Cults encouraged it and made it

widespread. It remains mandatory on festive occasions. The practice of paan chewing is also prevalent in other tropical countries like Thailand, Vietnam, Malaysia, New Guinea, Indonesia, South china,

Madagascar and Philippines; it is also popular in Burma and Srilanka. Chewing betel leaves (piper betel) with Arecanut (*TambulaCharvana*) after a meal is advised in *Ayurvedic* texts and it's widely practiced even today<sup>1</sup>.

*Ayurveda* described some of the important principles to preserve the health of the healthy individuals like *Dinacharya* (daily routine) and *TambulaCharvana* (chewing of betel leaves) is one among such healthy regimen where its preparations, benefits, as well as contraindications are explained. All these activities are advised to be followed constantly and daily by the intelligent persons who desirous of healthy life<sup>2</sup>. *Charaka* mentions that one who desirous of clarity in the mouth, taste and good smell of mouth should keep *Tambula* in mouth.<sup>3</sup>.

**MATERIALS AND METHODS:**

For the present study the prime source material is *Brihatrayi*, *Bhavaprakasha Samhita*, *Yogaratanakara* and the recent research journals. A thorough study has been carried out to reveal

the information related to *Tambula* for documentation of the ancient literature by consulting *Ayurvedic* works and to revalidate the advantages of *Tambula Sevana* with the latest research findings available from the research journals.

**OBSERVATIONS**

***TambulaCharvana* (chewing of pan)**

In the context of description of *Dinacharya*, it has been mentioned *TambulaCharvana* (chewing of betel) and its ingredients, benefits, indications as well as contraindications.

After *Anjana* procedure, the person should make use of *Navana* (nasal drops), *Gandusha* (mouth gargles), *Dhuma* (inhalation of smoke) and *Tambula*<sup>4</sup>. It is beneficial after getting up from Sleep, after meal, Bath and Vomiting<sup>5</sup>.

Those desirous of good taste, cleanliness and good smell of the mouth, may keep in the mouth tender leaves of *Tambula*. *Tambula* sevana is also good to the heart<sup>6</sup>. (Table1)

**Table 1. Ingredients of *Tambula***

<i>Caraka Samhita</i> <sup>7</sup>	Chew fruits of <i>Jati</i> ( <i>Myristicafragrans</i> ), <i>Katuka</i> ( <i>Hibiscus abelmoschus</i> ), <i>Puga</i> ( <i>Arecacatechu</i> ), <i>Kakkola</i> ( <i>Piper cubeba</i> ), <i>Sukshmaila</i> ( <i>Elettariacardamomum</i> ), Flowerstalk of <i>Lavanga</i> ( <i>Syzygiumaromaticum</i> ), fresh leaf of <i>Tambula</i> ( <i>Piper betel</i> ) and
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	the Extract of <i>Karpura</i> (Cinnamomumcamphora).
<i>Ashtanga sangraha</i> <sup>8</sup>	<i>Tambula</i> along with <i>Jatiphala</i> (Myristicafragrans), <i>Lavanga</i> (Syzygiumaromaticum), <i>Karpura</i> (Cinnamomumcamphora) <i>Kankola</i> (Piper cubeba), <i>Katuka</i> (Hibiscus abelmoschus) and <i>Puga phala</i> (Areca catechu).
<i>Susruta Samhita</i> <sup>9</sup>	<i>TambulaPatra</i> with powder of <i>Karpura</i> , <i>Jatiphala</i> , <i>Kakkola</i> , <i>Lavanga</i> , <i>Katukahvaya</i> , <i>Curna</i> (Slaked lime) and <i>Puga</i> .
<i>Yogaratnakara</i> <sup>10</sup>	<i>Tambula</i> is prepared with <i>Katu</i> , - <i>Tikta</i> substance like <i>Supari</i> , <i>Menthol</i> , <i>Kasturi</i> and <i>Jayapala</i> (mixed in <i>TambulaPatra</i> ).

### Benefits of *Tambula*

*Tambula* bestows cleanliness and good smell to the mouth, brilliant complexion and beautiful appearance to the face, removes dirt from the jaws, mouth, teeth, voice, throat and tongue; mitigates excess salivation is good for the heart (or mind )and cures diseases of the throat; it is beneficial soon after getting up from sleep, partaking meal, bathing and vomiting<sup>11</sup>.

### Method of *TambulaCharvana*

#### **Vidhi (Process of using Betel Leaf)**

In the early hours of the day *Puga phala* along with *Tambula Patra* should be chewed, during afternoon hours more *Khadira* should be mixed for chewing and in night more lime should use in the *Tambula*.

*Tambula* or pan leaf contains *Roga* in the *Mula*, *Papa* in *Agrabhaga*, middle portion decreases *Ayu*, and linings in pan decrease intelligence. Therefore these portions should be removed with scissors before making a pan.

While chewing pan one should spit out first and second rounds of oral secretions as these are *Vishopam*(toxic) and *Mehi*(may cause urinary problems) respectively and subsequent third, fourth round essence should be swallowed, as those are *Amruta* like (nectar)<sup>12</sup>.

In *Bhavaprakasha* it is mentioned that the first part of juice produced after chewing the leaves is similar to poison, the second part is difficult to digest and the third part like nectar. So the first two parts should not be swallowed<sup>13</sup>.

To minimize the increased *Kapha* after food, adopting to *Dhumapana* (medicated smoking) or sour fruits, or with drugs having astringent, pungent and bitter tastes like *Puga*, *Karpura*, *Kasturi*, *Lavanga* or other aromatic fruits or one can use fruits having Pungent and Astringent tastes which clear the oral cavity along with betel leaf<sup>14</sup>.

A combination of betel leaf, catechu and quick lime reduces all the three dosas<sup>15</sup>. *KhadiraSara* (catechu) reduces *Kapha* and *Pitta*, whereas *Curna* (quick lime) reduces *Kapha* and *Vata*. This brings fragrance odor and clarity in the mouth and causes brightness and steadiness. Hence, in the morning arecanut, at noon-catechu and at night –quick lime can be added more to the *Tambula*<sup>16</sup>.

In a betel leaf, life span resides in the apex, fame in the stalk and wealth in the midrib. So these three parts are to be separated before taking in from a leaf. In the same way the stalk cause diseases, the apex causes sin mid ribs decrease the life span and the otherwise spoil the intellect<sup>17</sup>.

Table2. Properties of *Tambula*

Serial No.	<i>Guna</i>	<i>Karma</i>
1) <i>Tambula</i> <sup>19</sup>	<i>Tambula</i> is said to have <i>Tikshna</i> , and <i>Ushnaguna</i> (Penetrating and heating properties) best among <i>Rochana</i> drugs (intensifies taste perception), <i>Sara</i> (mobilizing property) and has taste of bitter,alkaline and pungent.	It enhances libido and causes bleeding disorders and is <i>Laghu</i> (light). It is enchanting,relieves <i>Kapha</i> ,badodor,intestinal gas and tiredness.It causes clarity of oral cavity,fragrance,brightness and charm.It rectifies dirt(tartar) from teeth and jaws and cleanses tongue.It controls regurgitation and throat diseases <sup>19</sup>

Table3. Properties of *Tambulapatra*(new and old leaves)

	New leaf	Old leaf
<i>Tambula patra</i> <sup>20</sup>	If fresh, it is sweet in taste, followed by astringent, Heavy to	Old leaves are not pungent,thin and small with

### ***TambulaGuna* (Properties)**

#### **Thirteen**

#### **Propertiesof *TambulaCharvana***

*Katu*(pungent), *Tikta*(bitter), *Ushna*(hot), *Madura* (sweet), *Kshara*, *Kashaya* ( astringent), *Vatanasaka*, *Kriminasaka*, *Kaphanasaka*,*Mukhadurgandha hara*(remove the foul smell from mouth), *Abhushana* (decorating mouth), *Mukha-visuddhi* (cleans up mouth), *KamaJatharagni* *Dipana* (arousessexual desire and increases *Agni*); these thirteen are the special qualities of pan. These qualities are not prevalent even in *Swarga* (the heaven)<sup>18</sup>.(Table 2,Table 3 and Table 4)

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(according to <i>Bhavaprakasha</i> )	digest and produces <i>Kapha</i> , similar to the properties of leafy vegetables.	yellowish white color with good therapeutic actions. If the color is less and very tender, the intensity of qualities is also less.
<i>Tambula patra</i> <sup>21</sup> (according to <i>Yogaratanakara</i> )	Just harvested new pan leaves are <i>Madura</i> , followed by <i>Kashayarasa</i> , <i>Guru</i> likely to increase <i>Kapha</i> and the general qualities stated for leafy vegetables.	The old leaves contain less <i>Katurasa</i> . The small leaves are very thin having <i>Panduvarna</i> (pale). The new leaves are inferior to old leaves in quality <sup>21</sup> .

Table4. Properties of *Pugaphala*

<i>Pugaphala</i>	<i>Guna</i>	<i>Karma</i>
According to <i>Bhava-prakasha</i> <sup>22</sup>	<i>Puga phala</i> (areca nut) is heavy (to digest), <i>Hima</i> (cold), <i>Ruksha</i> (dry), <i>Kashaya</i> (astringent) and reduces <i>Kapha</i> and <i>Pitta</i>	It causes <i>Moha</i> (giddiness), increases appetite, taste and removes distaste. Areca nut is hard in the middle and prepared by boiling it removes all the three <i>Doshas</i> . If fresh and juicy it is heavy (to digest) and obstructs the channels, while decreasing the digestive fire.
According to <i>Yogaratanakara</i> <sup>23</sup>	<i>Superior Puga phala</i> is heavy, cold and dry in nature. It is astringent in taste <i>Kapha</i> and <i>Pittahara</i>	It is <i>Mohanam</i> , <i>Dipanam</i> , appetizer and removes tastelessness of the mouth. The boiled bigger variety <i>Supari</i> is <i>Tridosha Samana</i> . Thinner variety is heavy and <i>Abhishyandi</i> (indigestible), therefore harms <i>Jatharagni</i> .

### Indications of *Tambula Sevana*

Cherishing betel leaf with other aromatic drugs is suggested during Intercourse, after awakening from sleep, after bathing, Eating, Vomiting, while fighting amongst scholars and in the king's court<sup>24</sup>. Chewing of pan is especially useful in condition like *Alasya*, *Upajihwika*, *Vidradhi*, *Talu*, *Dantaroga*, *Arbuda*, *Kantharoga*, *Galaganda*, *Apachi*, *Talusosha* and other *Kapha roga*<sup>25</sup>.

### Contraindications of *Tambula Sevana*

Table5. Contraindications of *Tambula Charvana*

Samhita	Contraindications
<i>Susrutasamhita</i> <sup>26</sup>	It is not suitable for persons suffering from Bleeding disease, Consumption, Severe Thirst and Fainting, Dry and Debilitated

	Persons and Those having dryness of the mouth.
<i>Bhavaprakasha</i> <sup>27</sup>	Those who are suffering from effects of poison, unconsciousness, drowsiness, wasting and hemorrhagic diseases should not eat <i>Tambula</i> .
<i>Yogaratraakara</i> <sup>28</sup>	Pan chewing is prohibited in diseases like conjunctivitis, <i>Raktapitta</i> (bleeding condition), <i>Kshata</i> (injuries), <i>Daha</i> , Poison affect condition, <i>Sosha</i> , Alcohol intoxication, <i>Moha</i> (stupor), <i>Murcha</i> and <i>Swasa roga</i>
<i>Ashtanga Sangraha</i> <sup>29</sup>	It is harmful to those suffering from bleeding disorders, injury to the chest, emaciated, eye disease caused by increase of dryness, poisonous fainting ,intoxication and tuberculosis
<i>Ashtanga Hridaya</i> <sup>30</sup>	<i>Tambula</i> (betel chewing) is unsuitable to those suffering from wounds bleeding disease, dryness and redness of the eyes, poisoning, unconsciousness, intoxication and even from consumption.

### **Tambula Ati-Sevana (Excessive use of Pan chewing)**

Excessive intake of *Tambula*(pan) is not good for health and which results in the impairment of *Deha*, *Drishti*(vision), *Danta*(teeth), *Jatharagni*, hearing ability, color, complexion and strength. Further excess pan chewing is also causes *Sosha*, *Pitta Vikara*, *Vata Vikara*, and *Rakta Vikara*<sup>31</sup>.

### **Discussion**

- *Tambula Charvana* (Pan chewing) is one of the parts of ancient Indian traditional customs and which is in practice since antiquity. *Acharyas* of *Ayurveda* were specially recommended *Tambula* should be taken after getting up from sleep, after dinner, after talking and after vomiting therapy.

- Most of the drugs which are used in the *Tambula* are having *Tikta*, *Katu rasa*(bitter and pungent) which is opposite to the *Kapha dosha*. *Katu* (pungent) *Rasa* reduces excessive *Kapha* in the mouth as well as helps in cleansing the oral cavity.
- Because of its *Krimihara*(bactericidal) properties it directly acts on oral microbes, and stimulates secretion of saliva, and also helps in maintenance of normal pH level, and prevents the growth of bacteria.
- Because of *Laghu*, *Ruksha*, *Tikshna*, *Tiktarasa*, *Katuvipaka* and *Ushna Virya* (lightness, roughness, bitterness) nature it is beneficial for the *Aruchi* (distaste), *Mukha Dourgandhya hara*, *Mukha Vaisadya* (removes bad odor and smell in oral cavity).

- Because of *Vata shaman* properties the betel leaf controls the *Vata dosha*, and arecanut control the secretion of the *Kaphadosha*, *Khadira Sara* which controls the *Pitta dosha* and because of *Sugandha dravyas*, *Tambula* enhances freshness as well as coolness in oral cavity.
- Because of *Ruksha*, *Sita*, *Kashaya* properties *Puga* acts as *KaphaPittahara*, stimulate digestive fire, improves tastes perception, removes bad odor from the oral cavity.
- Other ingredients like *Jatiphala*, *Ela*, *Lavanga* and *Karpura* etc. *Sugandhadravys* remove bad odor of the mouth. They increase taste perception and cause *Agnidipana* and *Vatanulomana*. They have *Katu*, *Ushna* properties which check microbial growth, thereby maintaining the oral hygiene.
- *Tambula* leaf is rich source of vitamins and mineral including calcium, vitamin C, niacin, thiamine, carotene and riboflavin. Other leading betel phytochemicals are allylpyrocatechol, 4-hydroxycatechol, betacaryophyllene, methyleugenol, carotenes, starch, diastases, and an essential oil containing hydroxychavicol<sup>32</sup>.
- Hydroxychavicol is a phenolic compound which is responsible for anti-proliferative activity in prostate cancer and also been shown to impede cell-cycle progression of prostate cancer and oral carcinoma cells. Further it alleviates indomethacin-induced stomach ulceration leading to gastric cancer. Hydroxychavicol also inhibits some factors which enhance tumor growth. Chavibetol, along with hydroxychavicol, acts as a radio protectant, and exhibits substantial immune modulatory and free radical scavenging activities. Chlorogenic acid is another active ingredient of betel leaves, which helps to eliminate cancerous cell without harming normal cells. Further Shetty et al. demonstrated the advantage of betel leaf in maintaining salivary ascorbic acid levels in humans. Salivary ascorbic acid may help prevent carcinogenesis in the oral cavity<sup>32</sup>.
- As per *Ayurveda Mahodadhi* arecanut is used for the purpose of *Tambula* should be at least 3 months old. The nut that which exceeds the third month will have the constituents of arecanut in their fullest form and is

considered to be cardiac and pleasant to mind<sup>33</sup>.

- Anti-microbial study; Varying concentration of Areca catechu L. nut ethanol extract were tested for antimicrobial activity against 0.5 McFarland of mixed-oral flora and eight gram-negative clinical isolates by agar well diffusion method. All concentrations were shown to inhibit growth in all mixed-oral flora models with zones of inhibition ranging from 7mm to 18mm<sup>34</sup>.
- Antioxidant, Analgesic, Anti-inflammatory activity of Betel leaves; The study conducted to evaluate the antioxidant, analgesic and anti-inflammatory activities of the methanolic extract of Piper betel leaves have confirmed the significant use of this plants for inflammatory and pain alleviation along with its potent antioxidant activity<sup>35</sup>.
- In the study the antioxidant activity of Indian traditional Paan and its ingredients was determined by using DPPH stable free radical scavenging assay. The study shows the presence of Antioxidant activity in betel leaves along with most of its ingredients and supports its ethno medical use in India, which might be due to its antioxidant activity.
- The bacteria primarily responsible for dental decay in man are Streptococcus mutants. The stickiness of the plaque is caused by dextran, which is produced by the fermentation of dietary sucrose by Streptococcus mutants. The plaque bacteria, particularly Streptococcus mutants action dietary fructose to produce lactic acid, which cause enamel decalcification (at below or above 5.5pH). The aqueous extract of betel leaves inhibits the different acid producing oral pathogens which changes in the ultra-structure of the enamel and its properties like Streptococci, Lactobacilli, and Staphylococci, Corinne bacteria, Porphyromonas gingivalis and Treponema denticola. Thus consumption of betel leaves provides best oral hygiene<sup>36</sup>.
- Increased consumption of areca nut and slaked lime along with betel leaves in daily usage causes increased collagen synthesis, cellular turnover, ROS production, DNA and fibroblast and chromosomal damage<sup>37</sup>. *Ayurveda Acharyas* have also mentioned effects like loss of hearing ability, color, complexion and

strengthen and diseases which reduces the immunity.

**CONCLUSION:**

*TambulaSevana* (chewing betel leaves) which is a traditional daily practice is very much safe and good for health if taken in an appropriate way as explained in our *Ayurvedic* classical texts.

It has got beneficial effects such as cleaning of mouth, produce good smell, improve complexion, and clean the throat, tongue and cures the disease of oral cavity. When it is used in proper quantity it is not only prevent different disease but also helps in the health maintenance.

Recent research findings have also substantiated the statements of ancient works with the scientific evidences. Moreover antioxidant, analgesic, anti-inflammatory and anti-carcinogenic activities of betel leaf have also been evaluated.

Thus it can be safely concluded that rational use of *TambulaSevana* is good for the maintenance of oral hygiene.

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