

Pediatric Dental Care in Ayurveda

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ABSTRACT

Every child has to face dental issues and hence they have always been an important concern in pediatric practice. Also, owing to the peculiarities of children, management of dental conditions is more challenging in children than adults. In *Ayurvedic* texts, although the pediatric dental care has been described at various places, but the subject matter is largely found scattered and hence an attempt has been made here to concisely present the available descriptions in a systematic manner.

Keywords: *Ayurveda*, Children, Dental care, *Gandusha*, *Kavala*.

INTRODUCTION

Oral diseases have always been a major health problem for the human beings. Of these, the dental issues are an important concern, especially in children, as they have to essentially face them, even though the severity of symptoms may vary and the issues may range anywhere from physiological changes to pathological lesions. Hence, prevention and treatment of dental diseases in children are an essential component of the pediatric practice. Also, owing to the peculiarities of children, management of dental conditions is more challenging in children than adults. Hence, *Kashyapa Samhita* has a chapter dedicated to dentition, whereas in modern dentistry, pedodontics is now an established branch of pediatric dentistry. However, apart from a few exceptions as *Kashyapa Samhita*, in *Ayurveda*, the subject matter related to pediatric dental care is largely found scattered. This makes practice and/or research in this realm a difficult job. Hence, an attempt has been made here to concisely present the available descriptions in a systematic manner.

MATERIALS AND METHODS

A careful review of the *Ayurvedic* reference books was done to search for the available subject matter regarding pediatric dental care. Also, related modern studies were collected from the journals and websites.

DISCUSSION

The ancient Indian medical system had been managing problems related to the oral cavity, plaques and infections, even before the establishment of modern dentistry. There are umpteen numbers of indigenous natural medicinal products which deserve recognition for their contribution in the improvement of oral health.^[1] Also, *Ayurveda* not only mentions treatments with specific herbs and minerals to cure various oral diseases, but also recommends some specific daily therapeutic procedures for the prevention and maintenance of oral health which have also been proven to be safe and effective. Management of dental issues in children has always been a challenge for obvious reasons and a judicious incorporation of *Ayurveda* with modern pedodontics can pave the way to effective and wholesome dental care in children. This is why WHO also

recommends incorporation of the traditional systems of medicine like *Ayurveda* into the primary health care system, especially for those communities where it is accepted. However, subject matter related to pediatric dental care is largely found scattered, making the practice and/or research in this realm a difficult job. Hence, an attempt has been made here to concisely present the available descriptions related to pediatric dentistry in *Ayurveda* in a systematic manner, as follows-

Preventive aspects

- *Ayurveda* has clearly stated that quite similar to other features, many of the aspects of dentition also follow genetic trends. [2]
- Also, *Vata* vitiation should be prevented in pregnant mother, as it can lead to teeth abnormalities in her child. [3]
- Injury to teeth should be prevented because injured/diseased tooth do not erupt again. [4]
- A *Vata prakriti* (a phenotype as per *Ayurveda*) child should especially be kept away from *Vata* vitiating *rookshadi* (dry) diet, which can cause 'dantagharshana' or 'dantashabda' (bruxism). If it occurs, Chakradutt recommends local application of *Karkatshringi* (*Pistacia integerrima*) *churna* or *ghrita/taila paka* (medicated oils), whereas Vrinda madhav has indicated *Padabhyanga* (foot massage) for the same. [5]
- Special care is required during the period of dentition, as children are prone to many diseases during this phase. [6] Vitiation of *Vata*, followed by vitiation of other *doshas*, in turn vitiating all *dhatu*s (tissues) and *malas* (metabolic waste products) is the basic underlying pathology and hence symptomatic management needs to be done as per the disease appearing in the specific case. [7]
- However, diseases in children due to dentition do not last long and subside spontaneously after the phase of dentition is over. [8]

Basic principle in management (and prevention) of dental diseases

In (almost) all the dental diseases, treatment should be directed towards pacification of *Vata* and adequately hot *Kavala* of oil (oil pulling) prepared from *vata* pacifying drugs should be taken. [9]

Kavala has been used extensively as a traditional Indian folk remedy for years to prevent dental decay, halitosis, bleeding gums, cracked lips and for strengthening teeth and gums. Dr. F. Karach refamiliarized the concept of oil pulling in 1990 in Russia. [10] Ashoken (2008) had shown significant reduction in *Streptococcus mutans* count in saliva and plaque after oil pulling therapy which in turn will reduce the incidence of dental caries. [11]

General recommendations in dental diseases, especially for their prevention

- Acidic fruits, cold water, dry diet and excessively hard foods should be avoided by individuals suffering from dental diseases. [12] It has also been stated that individuals with *Vata* dominant *prakriti* may develop atrophic and receding gums and are recommended to use chewing sticks with bitter, sweet or astringent *rasa* (taste), e.g. liquorice, black catechu. [13]
- Daily use of 1 *pala* (48 grams approximately) black sesame with cold water nourishes body and makes teeth strong until death. [14] Sesame seed oil has a high concentration of polyunsaturated fatty acids which are good source of fat soluble vitamins. [15,16] Antioxidants present in the sesame are sesamin, sesamol and sesaminol. These lignans have certain actions on the living tissues like detoxification of toxins, antioxidant effect, potentiates the action of Vitamin E. Sesamin has also been shown to inhibit the absorption of cholesterol as well as its production in the liver and reduces lipogenesis and has antibiotic effect too. [16] Sesame oil is relatively high in unsaponifiable substances, which probably protect the

oral cavity from infection and inflammation by its antioxidant property. [10]

- Research has shown that *Danta pawana* (chewing sticks/toothbrushes) described in *Ayurveda* have medicinal and anti-carcinogenic properties. [17] However, *Danta pawana* is contraindicated in children, [18] as it can cause local vitiation of *vata* leading to dental diseases. Hence in them, teeth should be cleaned directly with the indicated *churna* (powdered medicine) or *kalka* (medicine in paste like consistency). *Churna* of *Pippali* (*Piper longum* Linn.), and *Dhataki* (*Woodfordia frutiosa* Kurz.) flowers with honey has specially been indicated for *Pratisarana* (rubbing on teeth and gums) in children; also other *churnas* have been indicated here for use in children undergoing dentition. [19] Venugopal et al. had found that the children of one to four year of age using *Neem datuna* (*Azadirachta indica* A. Juss.) were less affected with dental caries. [20]
- Most of the recommended *Ayurvedic* herbs have tannins and resins, which supposedly have an astringent effect on the mucous membrane and form a layer over enamel thus providing protection against dental caries. [21]
- Oral, dental and throat diseases are due to *Kapha* and *Rakta* and hence in diseases due to these (and for their prevention too), *Rakta mokshana* (blood-letting) should be done. [22]

Management of teething disorders

- **Local measures:** Rubbing the *churna* of *Pippali/Dhatki/Amalaki* (*Embllica officinalis*) with honey, [23] and use of *Vachadi* (*Acorus calamus*) *ghrita*, [24] has been recommended. Importance of *Amalaki* is scientifically evident also as it is a good source of Vitamin C, which acts as a cofactor in the conversion of proline into hydroxyproline which is one of the essential constituent of connective tissue.

- **Internal medications:** Intake of specific medicated *ghritas* (butter oils) as *Vachadi ghrita* or *Samangadi ghrita* or *Kumarkalyana ghrita* (Vangsen) or *Kashyapa ghrita* has been indicated. [25] *Mamsa rasa* (protein rich diet) should be given. [26]
- *Pippalyadi vati* has been recommended both for internal use and local application on teeth and gums. [27]
- **Daivavyapashraya chikitsa (divine treatment):** E.g., wearing of root of white *Sindhuvar* (*Vitex negundo* Linn.) in neck for easing off the pain of dentition; *Maruti ishti*, *Prajapatya ishti* for various teething disorders and anatomical teeth abnormalities. [28]

Management of Dental caries

Ayurveda has described it in the name of *Krimidanta*. As per Vagbhatt, it occurs due to vitiation of mainly *Vata* in *dantamoola* (root/base of teeth), leading to absorption of *dantmajja* (dentine), where the food particles collect, ultimately leading to pus formation and infestation. [29] Its management can be classified as follows:

If affected teeth is not loose- [30]

- *Bloodletting* after *Swedana* (hot fomentation), followed by use of *Vata* pacifying *Avapida nasya* (nasal drops of squeezed herbs), unctuous *gandusha* (oil pulling), diet, etc.
- The cavity should be filled with jaggery or wax and burnt with a heated *shalaka* (rod like instruments).
- Filling this cavity thereafter with *Satawana* (*Alstonia scholaris* R.Br.) or *Arka* (*Calotropis procera* R.Br.) *dugdha* relieves the pain in the affected tooth. Use of *Mustard* or *Karanja* (*Pongamia pinnata*) oil has also been recommended.

If affected teeth is loose-

- Sushruta has named such a condition as '*Chaladanta*' and recommends removal of such a tooth, followed by *Dahana* (cautery) of the site. Thereafter, *nasya* of *Vidarigandhadi siddha taila* should be taken. [31]

Management of *Dantaharsha* (sensitive teeth)

- Aim for pacification of *Vata*. *Ksheerpaka* of *Sesamum* and *Mulethi* (*Glycyrrhiza glabra* Linn.) should be taken as *gandusha*.^[32] Sushruta has also indicated various drugs, diet, etc. all of which are basically *Vata* pacifying in nature.

Management of *Dantashoola*^[33]

- Powder of *Hingu* (*Ferula narthex*), *Katphala* (*Myrica negi*), *Kasisa*, *Sarjikakshar*, *Kutha* (*Saussurea lappa* CB Clarke) and *Vayavidanga* (*Embelia ribes* Burm f.) packed in a fine cloth should be kept on the affected teeth.
- *Gandusha* of oil prepared from: *Hingwadi* OR *Eranda* (*Ricinus communis*), *Kateri* (*Solanum xanthocarpum*) and *Bhukadamba* (*Sphaeranthus indicus* L.).
- *Nasya* with oil prepared from *Vidari* (*Puraria tuberosa*), *Mulethi* (*Glycyrrhiza glabra*), *Shringataka* (*Trapa bispinosa*) and *Kaseru* (*Scirpus grossus*).

Apart from all above, other methods of dental care advised for dental care in grownups may also be judiciously used in children (e.g., *Gandusha* is recommended after six years of age). E.g., *Dashansanskara churna*, *Irimejadi taila*, *Khadiradi vati*, *Mukhrognashaka Pitaka* and *Kalaka Churna*,^[34] use of *Datuna/Dantapavana* (herbal brushes) as per season and/or *dosha*,^[35] *Jihwanirlekhani* (tongue cleaner), *Kavala* (gargling) etc. Under the *Dinacharya* (daily routines) segment, various procedures for maintaining oral hygiene are also well explained in all classical texts of *Ayurveda*.

CONCLUSION

WHO recommends incorporation of the traditional systems of medicine like *Ayurveda* into the primary health care system, especially for those communities where it is accepted. A large number of dental care drugs and methods for children have been described in *Ayurvedic* texts.

However, their scattered description makes the practice and/or research in this realm a difficult job. With the help of aforesaid pediatric dental care methods descriptions in *Ayurveda*, their scientific validations may be furthered easily. Thereafter, in conjunction with modern pedodontics, integrated protocols for management various pediatric dental conditions may be developed, thus ensuring a wholesome care of its subjects.

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