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TITLE

Uramarunnu - A Traditional Ayurvedic Paediatric Practice

AUTHORS

Indu Sabu*, Krishna Rao S¹

^{*, 1} Research Officer ,National Ayurveda Research Institute for Panchakarma,
Cheruthuruthy; Thrissur (Dist); Kerala, India

CORRESPONDING AUTHOR

Dr. Indu Sabu

Research Officer ,National Ayurveda Research Institute for Panchakarma,
Cheruthuruthy; Thrissur (Dist); Kerala, India

Email:

indusabu87@gmail.com

QR Code



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ABSTRACT

BACKGROUND: Appropriate development of children is a prime necessity for a health future of a country. *Uramarunnu* (medicines administered after rubbing) is one of the traditional practices in Southern part of India which is a modification of *Lehana* (drugs administered in lickable form) and *Prasana* (small quantity of food or medicine which is contained in between the thumb and the index finger when taken). **AIM:** To explore the scientific aspect regarding the use of *Uramarunnu*. **MATERIALS AND METHOD :** Data from various Ayurveda classics, Ayurveda Pharmacopeia of India and online database was reviewed for the work. **OBSERVATIONS:** The drugs of *Uramarunnu* were found to be possessing digestive stimulant, immunomodulator and nervine tonic properties. Thus practise of *Uramarunnu* covers a three dimensional aspects in health care of a child i.e. Gastrointestinal protection; Stimulation of the central nervous system and immunomodulation. **CONCLUSION:** The review suggests that the *Uramarunnu* is having positive relation with Gut-Brain axis and can be used for safe and effective baby care under proper guidance of a physician.

Keywords: Children, Digestive Stimulant, Immunomodulator, Nervine Tonic, Uramarunnu

Introduction

Every child should be able to achieve their optimal development at various stages of their life. In order to achieve that appropriate childhood development is of prime importance, it includes not only physical but also socio-emotional, cognitive as well as motor development between the age of 0-8 years. So every health care system gives utmost importance to the prevention of illness and promotion of health of children. Health problems as well as treatment should be dealt with great caution in the case of children, as they are *Soukumarya* (tender), *Alpakayativa* (small in size) and *Sarva anna anupasevana* (not used to intake of different kinds of medicine as well as food) [1]

In this paper a traditional practice - *Uramarunnu* that is being practised in various parts of India has been reviewed with respect to commonly used drugs, their posology, mode and frequency of administration, their action on the GI Tract, CNS and immunity.

Materials and Methods

A thorough search was done in the Ayurveda classics, Ayurveda Pharmacopeia of India and database of Google Scholar; Pubmed, NCBI for getting relevant data from literature and research papers. Mostly the research articles published in English language was considered. A detailed review of the common drugs used in *Uramarunnu* in various parts of South India were reviewed in parlance with the Classical texts.

Observations

Uramarunnu is one of the traditional practices prevailing in the southern part of India, especially in Kerala, Karnataka and Tamil Nadu. *Uramarunnu* has derived its name from the method in which it is administered i.e. *Ura* refers to rub and *Marunnu* - medicine. Thus it represents a wide range of drugs which are administered to infants by rubbing. They include drugs possessing digestive stimulation (*Deepana* and *Pachana*), promoting proper movement of tissues inside the body (*Vatanulomana*), producing strength (*Balya*) and that which promotes the intellect (*Medha*). *Uramarunnu* is a traditional therapeutic modification of *Lehana* and *Praasana* (variety of licking) explained by *Acharya* in various *Samhithas*.

The drugs in *Uramarunnu* are rubbed one by one (with honey/breast milk/cow's milk/butter generally as the medium) on a flat stone called *Chaana*. The resultant fine paste is applied to the tongue of the infant or to the nipple of the mother (*Sthanalepanam*) and the child is allowed to feed. The time gap between two doses is usually once in a week, but in case of any ailments the frequency of administration and the number of rubs of each ingredient can be modified. Common examples that are practised by traditional paediatric practitioners are; in case of constipation *Hareethaki* (*Terminalia chebula*); in abdominal pain and flatulence *Lasuna* (*Allium sativum*) are given in more proportion or given more number of rubs.

Age of administration: Usually administered after 28 days from birth till 1- 2years.

Dose: Given in a dose of 1 pinch or 1 *Vidangaphala* dose and increased as per age to a maximum dose of size of an *Amalaki* (*Embilica officinalis*) [2]

Discussion

While dealing with *Uramarrunu* there are three important aspects that needs to be taken into consideration with respect to its action. They are,

1. Gastro-intestinal tract protection
2. Central Nervous System stimulation
3. Immunomodulation

The infants and children are mentioned as possessing tender constitution and the age is *Kapha Dosha* predominant. Children's diet is predominantly sweet and unctuous as they are mostly fed with breast milk, ghee, butter etc. [3] There is always probability for derangement in the digestive fire (*Agnimandya*) which can lead to Gastro Intestinal Tract dysfunctions (*Grahaneedooshana*) and production of Undigested metabolites (*Ama*). As a child is unable to perform all activities as adults; derangement in the function of *Vata Dosha* (*Vatavaigunya*) is another concern as the movement (*Gati*) of *Vayu* is not always downwards (*Anuloma*), so there are symptoms like frequent vomiting, abdominal pain. [4] There is a primary need for maintaining a healthy gastro-intestinal tract by the

administration of *Deepana-Pachana-Vatanulomanadravya*.

The nervous system in a child is in the phase of development. It can be stimulated in the stage of infancy and childhood for better levels of intelligence and cognitive functions as well as to prevent neuro degenerative disorders in future. Ayurveda aims at development of all aspects of intellect viz *Grahaana Shakti* [5] (grasping power), *Dharana Shakti* [5] (retention power), *Vivechana Shakti* [5] (discrimination power) and *Smriti* [5] (recollection). So there is a need for the administration of drugs that promotes the intellect (*Medhya*) with suitable medium or vehicle (*Anupana*) that promotes the development of the Central Nervous System.

Children and new-born have only passive immunity which has been obtained from the maternal immunoglobulins and colostrum. As children are in a stage of under developed body tissues (*Aparipakva Dhathu*), there is a need to boost the neuro-endocrine-immune axis of the body which can be called as Innate strength (*Bala*) / Vitality (*Ojus*) / Immunity (*Vyadhikshamatwa*), so as to help children and neonates resist and overcome the attack of diseases.[6]

Some of the most common Ingredients used in *Uramarunnu* and their properties are listed in the table 1.

Table 1:- Common Ingredients of Uramarunnu and their properties

Sanskrit Name	Botanical Name	Family	Part used	Rasa	Guna	Veerya	Vipaka	Karma
Vacha [7]	<i>Acorus calamus</i>	Araceae	Rhizome	Katu- Thiktha	Laghu-Theekshna (Light-sharp acting)	Ushna	Katu	Deepana, Medhya & Kantiya (Voice promoters)
Hingu [8]	<i>Ferula Asafoetida</i>	Apiaceae	Resin	Katu	Theekshna	Ushna	Katu	Deepana-Pachana, Ruchiya (Promotes taste)
Harithaki [9]	<i>Terminalia chebula</i>	Combretaceae	Seeds; fruits	Pancha Rasa (Five tastes)	Laghu-Ruksha (Light-Dry)	Ushna	Madhura	Vata-pittaharra, Rasayana (Rejuvenating), Anulomana
Lasuna [10]	<i>Allium sativum</i>	Liliaceae	Bulb	Katu-Madhura	Guru-Snigdha-Theekshna	Ushna	Katu	Deepana, Balya, Medhya
Haridra [11]	<i>Curcuma Longa</i>	Zingiberaceae	Rhizome	Thiktha -katu	Ruksha	Ushna	Katu	Kapha-Pittahara, Vishaghna (cures poisonous effect), Varnya (Improves complexion)
Jathiphala [12]	<i>Myristica fragrans</i>	Myrtaceae	Seed	Thiktha -katu	Laghu-Theekshna	Ushna	Katu	Deepana, Grahi (Absorbing)
Bakuchi [13]	<i>Quercus infectoria</i>	Fabaceae	Seed	Thiktha -katu	Ruksha	Seetha	Katu	Kapha-Pitta, Grahi
Chandana [14]	<i>Santalum album</i>	Santalaceae	Heart wood	Thiktha - Madhura	Laghu-ruksha	Seetha	Katu	Pitta-Kaphaghna
Ela [15]	<i>Elettaria cardamomum</i>	Zingiberaceae	Whole fruit	Katu-Madhura	Laghu	Seetha	Madhura	Rochana (Promotes taste), Deepana, Anulomana
Jyothishmathi [16]	<i>Celastrus paniculatus</i>	Celastraceae	Seed	Katu-Thiktha	Ushna-Theekshna	Ushna	Katu	Vathaghna, Deepana
Yastimadhu [17]	<i>Glycyrrhiza glabra</i>	Fabaceae	Root	Madhura	Guru -Snigdha	Seetha	Madhura	Vata-Pitta, Balya
Vidanga [18]	<i>Embelia ribes</i>	Myrsinaceae	Fruit	Katu -thiktha	Laghu-ruksha	Ushna	Katu	Deepana, Anulomana, Krimighna
Sunti [19]	<i>Zingiber officinale</i>	Zingiberaceae	Rhizome	Katu	Laghu-Snigdha	Ushna	Madhura	Deepana, Pachana, Anulomana
Pippali [20]	<i>Piper longum</i>	Piperaceae	Fruit, Root	Katu	Laghu-Theekshna	Ushna	Katu	Vataghna, Deepana, Pachana
Maricha [21]	<i>Piper nigrum</i>	Piperaceae	Fruit	Katu-Thiktha	Laghu-ruksha	Ushna	Katu	Kaphaghna, Ruchiya, Deepana
Mustha [22]	<i>Cyperus rotendus</i>	Cyperaceae	Rhizome root	Katu-Tikta	Laghu -ruksha	Ushna	Katu	Kapha-Vatahara, Deepana, Pachana, Grahi

Probable mode of action:

On a closer evaluation of the drugs that are used in *Uramarunnu* the drugs are bitter and pungent (*Tikta-Katu Rasa*) predominant, light in nature (*Laghu Guna*), Pungent in post digestion phase (*Katu Vipaka*) and a combination of hot and cold (*Ushna -Seetha*) potency.

Tikta Rasa is *Akasa + Vayu* (Space + Air) *Mahabhuta* predominant and *Katu* is *Agni + Vayu* (Fire + water) *Mahabhuta* predominant there by making the drugs *Laghu* by their nature. Being *Laghu Guna* predominant it will be easy to digest for the children and the combination acts as *Agni Deepana*, [23] *Pachana*, *Vatanulomana*. Thus the *Agni* in proper state and *Vayu* in its *Anuloma Gathi* (moving in its normal course) they promote the smooth functioning of the entire system

of the child. Among the six *Rasas*, *Tikta* is said to be *Medhya* [24] in nature thereby acting on the brain and neurological tissues and promoting the CNS development in children. Once the system is corrected it help in the production of *Prakrutha* (with all normal qualities) *Doshas - Vata, Pitta, Kapha*. This *Prakrutha Avsatha* of *Doshas* itself is *Bala* (immunity), [25] which in turn develops a good immune system in children to fight and prevent diseases.

On analysing the *Rasa, Guna, Veerya, Vipaka* and *Prabhava* of the drugs used it is clear that the combinations direct site of action is Gastro intestinal tract thereby on *Agni* which further improves the innate strength and further immunity and the wellbeing of the human body.

Table 2 :- Drugs in *Uramarunnu* and their action on GIT and CNS

Name Of The Drug	Action On GIT	Action On CNS
<i>Vacha</i>	It is carminative, stomachic, laxative, anthelmintic, [27] abdominal colic, dysentery.	Promotes Intellect, anticonvulsant, nerve tonic, tranquilizing, sedative. It is used in epilepsy, delirium, is anti-inflammatory, immunomodulatory and neuro-protective. [27]
<i>Hingu</i>	It is antispasmodic, carminative, laxative, digestive, anti-helminthic, used in flatulence, dyspepsia. It is anti-hepatotoxic, anti-inflammatory [28]	Nervine tonic, used in hysteria, epilepsy, psychopathy.
<i>Harithaki</i>	It is carminative, digestant, laxative, anthelmintic. Used in stomatitis, anorexia, flatulence.	Used in cephalgia, neuropathy, debility [29]
<i>Lasuna</i>	Digestive, carminative, laxative, anti-helminthic. Used in colic, flatulence, constipation. It shows antimicrobial activity against gram positive and negative bacterial. [30]	CNS stimulant, tonic, in facial paralysis, hysteria and weakness of brain.
<i>Haridra</i>	Appetizer, carminative, stomachic, laxative, anti-helminthic. It is used in constipation, flatulence and dyspepsia.	CNS stimulant and used in epilepsy, debility [31]
<i>Jathiphala</i>	Digestive, carminative, stomachic, laxative, anti-helminthic, antispasmodic. It is used in dyspepsia, flatulence, diarrhea, vomiting	CNS stimulant, used as an anticonvulsant and used in insomnia [32]
<i>Bakuchi</i>	It is anti-helminthic, antipyretic, used in management of skin diseases and it is immunostimulant. [33]	--
<i>Chandan</i>	It is antifungal, antibiotic, antiviral and a potent antioxidant	It produces a sedative effect [34]
<i>Ela</i>	It is gastro protective, anti-inflammatory, analgesic, antispasmodic and used as an antioxidant [35]	--
<i>Jyothishmathi</i>	It is an analgesic, anti-inflammatory and antioxidant.	nervine tonic, enhances cognitive function, hearing and memory [36]
<i>Vidanga</i>	It has analgesic, antihelminthi, antibiotic and antioxidant property.	It is an anticonvulsant [37]
<i>Sunti</i>	It is anti-inflammatory, antiemetic, antioxidant. It is GIT protective, improves Gastro Intestinal mobility and Immunomodulatory. [38]	--
<i>Pippali</i>	It is anti-inflammatory, antioxidant, anti-asthmatic, immunomodulatory and hepatoprotective in nature. [39]	--
<i>Maricha</i>	It is anti-inflammatory; antimicrobial, antidiarrheal, antispasmodic and antipyretic in nature [40]	--
<i>Mustha</i>	It is astringent, diuretic, analgesic, antispasmodic, carminative, antitussive, vermifuge, antiemetic, gastroprotective. It inhibits gastric mobility, anti-diarrheal.	It acts as a tranquilizer, anticonvulsant. [41]

According to Ayurveda, *Agni* is the basis of strength of all human beings which in turn promotes the *Bala*. This principle is like the recent theory of Gut Brain Axis in the body. The concept of the Gut-Brain axis, is used to describe the complex bi-directional communication system that exists between the central nervous system and the gastrointestinal tract and which is vital for maintaining homeostasis of human body. [26] As children are more susceptible to *Agnimaandya*, which is the root cause for all disease, the drugs of *Uramarunnu* by virtue of their property improves *Agni*, promote *Amapachana* and the *Anulomagathi* of *Vayu*, which in turn helps in proper movements or circulation of *Dosha*, *Dhathu* etc. and thus maintaining homeostasis of various body tissues.

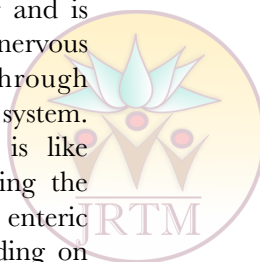
The pharmacological studies already reported on the individual drugs also favours the effect on Gastro Intestinal tract and Central Nervous System as listed in table 2. Enteric nervous system is a subdivision of autonomic nervous system. It is embedded in the mucosal lining of the gastro intestinal lining and is described as the second brain. The enteric nervous system communicates with the CNS through sympathetic and parasympathetic nervous system. The support cells of the enteric nervous is like astroglia of brain. The capillaries surrounding the ganglia is similar to blood brain barrier The enteric nervous system can alter its response depending on the bulk and nutritive content of the food materials and medicaments.

This bidirectional gut-brain axis is a communication that integrates the gut and central nervous system activities. Gut-brain axis influences a range of diseases, influence the behaviour, links the emotional and cognitive centres of the brain with the intestinal function. Moreover, the enteric nervous system influences the central nervous system via neural, endocrine and metabolic pathways by producing inhibitory, inflammatory and anti-inflammatory cytokines. [26]

Thus the drugs of *Uramarunnu*, clearly promotes the gut health of the children and thereby improve overall growth both physically and mentally. The healthy gut thus helps the body to develop a strong immune system to fight and resist diseases. It covers multiple positive aspects of the gastro intestinal tract, such as the effective digestion and absorption of food, the absence of gastro intestinal illness, normal and stable intestinal microbiota, effective immune status and a state of well-being itself.

Conclusion

Uramarunnu is a traditional practice which acts primarily on the Gastro intestinal tract. It has a three dimensional impact i.e. Gastro Intestinal Tract protection, Immunomodulation and Central Nervous System stimulation. *Uramarunnu* also acts on Gut-Brain Axis and satisfies the concept of native vaccine to a greater extent. The number of drugs used can be increased or decreased or modified according to the condition of health and disease. The study concludes that *Uramarunnu* can be used for safe and effective baby care under proper guidance of a physician. Research works to promote and establish scientifically these traditional health care practices are to be done in future.



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