Preparation of Vachadi syrup: Treatment for Pratishaya

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Abstract
Among Nasagatha Rogas (Nasal disorders), most of the Acharyas described Pratishyaya (Rhinitis) with its complications which prove the seriousness of the disease. Acharya Sushruta mentioned that Pratishyaya is the disease condition in which Vata, Pitta and Kapha dusti were observed. The symptoms of Pratishyaya resembles to allergic rhinitis which is characterized by sudden and frequent attacks of sneezing profuse watery nasal discharge associated with nasal obstruction which is intermittent, watering of the eye, heaviness of head, respiratory distress and anosmia. Vachadi yoga is a medicine which is mentioned in Harita samhita, contains the ingredients like Vacha (Acorus calamus), Amalaki (Phyllanthus emblica), Vibhitaki (Terminalia bellirica) Haritaki (Terminalia chebula), Shunthi (Ginger officinale), Yavani (Trachyspermum ammi). In the context of treatment, method of preparation is of utmost importance. In this article Vachadi syrup is prepared by using modern pharmaceutical equipments and during the process of preparation, the method of preparation of syrup (sharkar kalpna) explained by Ayurveda Acharyas has been incorporated.

Keywords: Vachadi syrup, pharmaceuticals, pratishyaya, rhinitis, Sharkara

Introduction
In the modern day world, we don’t have time for anything that can slow our race to achieve our set goals. A widespread ailment that affects us all, adult and child, is Pratishyaya (rhinitis). Pratishyaya affects most of the population. Overall prevalence of rhinitis was 26.1% in school going children [1]. It happens to each individual, depending on their level of immunity. Pratishyaya by word itself indicates that it is recurrent in nature. Even in Ayurveda it is said that Pratishyaya let it be Ekadoshaja or Bahudoshaja, if not treated properly may lead to Dusta Pratishyaya and later Kasa, or even Kshaya [2]. Vata is the main dosha and kapha pitta and Rakta are associated doshas. The symptoms include cough, sore throat, runny nose, and congestion in the nasal passage, fever, loss of appetite, itching and headache [3]. This article highlights the different steps and stages of preparation of Vachadi syrup.

Materials and Method
Ingredients of the formulation [4]:
1. Vacha
2. Amalaki
3. Vibhitaki
4. Haritaki
5. Shunthi
6. Yavani
7. Sharkara (Sugar)

Vacha [5] (Acorus calamus Linn.)
Acorus calamus Linn belongs to the family Araceae. Vacha leaves have Beta-Asarone (27.4-45.5%), Rhizome- Acoren (20.86%) Root- Isocalamendiol (12.75%). Volatile oil contains an Asaryaldehyde, Terpenoids, Calamine, Eugenol, Acolalone, acorenone, acorgermacrone, calamine, cis- & trans-asarone, camphene, cadalene, azulene, acoric acid, eugenol, telekin, calamene preisocalamen-diol. Different part of Vacha have different properties like Rhizome and leaf have Anticarcinogenic and mitogenic towards human lymphocytes, Rhizomes have metal ailments, epilepsy, intermitted fever, cough, throat irritation etc. Extract used in memory disorder, learning performances, anti-aging effect etc.
Calamus oil have medical and insecticidal properties. Vacha also used in Unmada, apasmara, sthoulvy, murcha, agnimandya, ajima, krimi, jwara, swasa, kasa, vibandha, swarasada, atisara, mutradosha.

Properties and action of Vacha
Rasa - Katu, Tikta
Guna - Laghu, Teeksna
Virya - Usna
Vipaka - Katu
Dosha karma - Kapha-vata samaka
Prabhava - Medhya
Used part - Rhizome

Yavani [6] (Trachyspermum ammi)
Trachyspermum ammi Linn belongs to the family Apiaceae. Yavani have thymine, thymol, carvacrol, protein17.1%, Calcium1.52%, potassium 1.39%, minerals 7.9%, sodium 56%, fiber 21.2% riboflavin, nicotinicacid, tanin, floban, glycoside, essential oil and fixed oil, steroidal substances, volatile oil 2-4%, quercetin-3-rutinoside, r-terpinen. It is used in Aruchi, Pratishyaya, pliharoga, sitajwara, krimiroga, volatile oil 2-4%, quercetin-3-rutinoside, r-terpinen. It is used in Aruchi, Pratishyaya, pliharoga, sitajwara, krimiroga, volatile oil 2-4%, quercetin-3-rutinoside, r-terpinen.

Properties and action of Yavani
Rasa - Katu, Tikta
Guna - Ruksa, Laghu, Teeksna
Virya - Usna
Vipaka - Katu
Dosha karma - Kaphavatashamaka, Pittavardhaka
Part used - Fruit

Amalaki [7] (Emblica officinalis Linn.)
Emblica officinalis Linn belongs to the family Euphorbiaceae. Amalaki have gallic acid, tannic acid, sugar, albumin, calcium, vitamin c, Protein, fat, minerals, fiber, carbohydrate, nicotinic acid, procyanidin, lupeol, aldehyde. It’s used in Aruchi, Pratishyaya, pliharoga, sitajwara, krimiroga, tvagvikara, visa, vibandha, aptantraksa, kasa, swasa, arsha, udarshoola.

Properties and action of Amalaki
Rasa - Amlapradhana Panchrasa (lavanarasarahit)
Guna - Laghu, ruksa, shita
Virya - Shita
Vipaka - Madhur
Dosha karma - Kaphavatashamaka, Pittavardhaka
Part used - Fruit

Haritaki [9] (Terminalia chebula Linn.)
Terminalia chebula belongs to the family Combretaceae. Chemical constituents are present in haritaki are tanin, chebulic acid, corilagin, chebulinic acid, amino acid, sugar, kwinic acid.

Properties and action of Haritaki
Rasa - Kashaya pradhana Panchrasa (lavanarasarahit)
Guna - Laghu, ruksa
Virya - Usna
Vipaka - Madhur
Dosha karma - Tridoshhara
Part used - Fruit

Shunti [10] (Zingiber officinale Linn.)
Zingiber officinale Linn belongs to the family Zingiberaceae. Chemical constituents of Shunti are dried rhizome of ginger contains approximately (1-4)% of volatile oils. These are the medically active constituents of Shunti. They are also responsible for its characteristic odour and taste. The aromatic principles include Zingiberene & Bisabolene, while the pungent principles are known as gingerol and shagaols. Volatile Oil Components can vary greatly, depending on the country of origin. Main component of the volatile oil are zingiberene & arcurcume, neral, geranial, zingeberol, arylalkalane. Oil & resin are found just beneath the skin. Gingerol does not evaporate with oil. Its used in shoola, aamvata, adhyamana, atisar, slipada, kasa, swasa, hridroga, Shopha, arsha, hakka, vibandha, jwar, kustha, agni-madya etc. Licking ginger juice with honey relieves hiccup & cold. It can help in the management of allergies & asthma by offsetting the effect of the platelet activating factor (PAP). PAP initiates inflammatory processes in allergy conditions.

Properties and action of Shunti
Rasa - Katu
Guna - Laghu snigdha, tiksna
Virya - Ushna
Vipaka - Madhur
Dosha karma - Vata-kapha, deepana, bheda
Part used - Rhizome

Sharkara [11] (Saccharum officinarum Linn.)
Saccharum officinarum Linn belongs to the family Gramineae. Raw cane sugar contains Sucrose 96-97%, Reducing sugars-0.75-1.0%, Moisture – 0.75%, Ash – 0.5%. Sugar is direct source of Carbohydrate. 100 grams of sugar provides 400Kcal. It is advised that there is no specific nutritional or metabolic need for the addition of sugars to baby foods, as ingredients containing natural carbohydrates / sugars already provide enough energy for use as weaning food.

Properties and action of Sharkara [12]
Rasa : Madhura
Guna : Guru, Snidha
Virya : Sheeta
Vipaka : Madhura
Dosha karma : Vata pitta hata, Kaphakakara
Rogaghnata : Daha, Raktavikara, Jwara, Chardi, Moorcha
Karma : Deepana, Shukrala
Part used : Root, juice, crystalline sugar, sugar powder

Collection and authentication of raw drugs
The raw drugs are collected from the SDM Pharmacy of Ayurveda, Udupi, Karnataka state, India. The drug analysis
and standardization was done at SDM centre for Research in Ayurveda and Allied Sciences, Udupi, Karnataka state, India

**Method of preparation**

The dried (Figure. 1–6) drugs are collected, with a quantity 1.33kg each. The drugs were soaked in cold water for overnight (Figure 7), next day kwatha (decoction) of drugs was prepared by adding 32ltr of water, boiled and reduced to 1/4th part and filtered, remnant is 8ltr (Figure 9), to this 5.6 kg of sugar is added & boiled (Figure11) on mild flame till 1thread consistency obtained (Figure 13). Total quantity of suspension obtained is 9ltr which is cooled down n bottled, into 200ml each. They are packed in plastic containers which are then sealed. Then the containers are labeled and made ready for distribution (Figure14).
Precautions to be taken
1. Temperature is maintained in moderate fire 100 degree C.
2. The Syrup should be in single thread consistency form.
3. The syrup is packed on the cold stage.

Temperature noted at different intervals
Initial stage- 100 °C
Material differentiate stage 10.15am – 70-80 °C
Sugar mixing stage - 80-85 °C
Last stage - 45 °C

Organelic parameters of finished product
- Colour: Dark brown colour
- Consistency: liquid form
- Smell: specific odour
- Taste: sweet with little pungent.

Discussion
More practical approach must be incorporated in the field of Ayurvedic medicine manufacture even though the introduction of modern expertise in pharmaceutical sector has amplified the effectiveness of such medicinal formulations including those of Ayurveda. The finished product, Vachadi syrup was dark brown in color and liquid in consistency which establishes the optimum presentation of syrup type of preparations. The specific odour of syrup is attributed to the properties of Vacha. The cumulative effect of Vacha, Amalaki, Vibhitaki, Haritaki, Shunti, Yavani, Sharkara, establishes the sweet with little pungent taste of syrup. A child who is suffering with rhinitis or cough, we can use Vachadi syrup.

Conclusion
The special care should be taken to ensure that the finished products are completely safe and natural. The Ayurvedic Pediatric medicines manufactured should undergo strict quality tests according to the standards for ensuring complete safety in consumption by infants.

References
1. www.childlineindia.org.in dated on 07/03/16.