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Preparation of Jwarahara syrup: Treatment for fever

Shravya Chiplunkar, Chethan Kumar VK and Sharashchandra R

Abstract

The most susceptible age for infection being the Paediatric age group and the commonest presentation of this age being Jwara (fever). Jwara affects both shaareera (physically) and manas (mentally). Deha-santapa and Mana-santapa are the cardinal features of the disease Jwara.

The drugs in the Jwarahara syrup contain Sariva (*Hemidesmus indicus*), Patha (*Cyclea peltata*), Manjistha (*Rubia cordifolia*), Draksha (*Vitis vinifera*), Pilu (*Salvadora persica*), Parushaka (*Grewia asiatica*), sharkara (*Saccharum officinarum*), Haritaki (*Terminalia chebula*), Vibhitaki (*Terminalia bellarica*) and Amalaki (*Emblica officinales*), taken from the Jwarahara Dashemani of Charaka Samhita Shad virechan ashatahitiya Adhyaya. In the context of treatment, method of preparation is of utmost importance. For a longer shelf-life and good palatability especially for the paediatric age group, these drugs will be administered in the form of Sharkara Kalpana (Syrup). The preparation of the syrup is done by using modern pharmaceutical equipments and the methods of preparation of Sharkara Kalpana explained in the classics have been incorporated.

Keywords: Jwara, Jwarahara, syrup, modern pharmaceutical, Sharkara

Introduction

The significance of the disease Jwara can be understood by its various synonyms viz. Athanka (to cause fear), Yakshma (causes many chronic diseases if neglected), Vikara ^[1] (affects the shareera and manas equally) etc. Jwara is also explained under the heading of Nidanarthakara Rogas ^[2], where improper management of Jwara leads to Rakta-pitta then to Sosha consequently. Jwara is also one such condition which gets resolved within a week or when neglected can even cause death. All these descriptions tell us that the physician has to be thorough with the concepts of Jwara mentioned in the classics. Considering the pediatric group, since they have Aparipakwa-dhatu, Aklesha-saha, Asampoorna-bala ^[3], the physician has to be even more cautious when the child is brought with the symptoms of Jwara. This article highlights the different steps involved in the preparation of Jwarahara Syrup.

Materials and Method

Ingredients of the formulation ^[4]

1. Sariva
2. Patha
3. Manjistha
4. Draksha
5. Pilu
6. Parushaka
7. Sharkara
8. Haritaki
9. Vibhitaki
10. Amalaka

Sariva ^[5] (*Hemidesmus indicus* R.Br.)

Air dried roots yield essential oil 0.225 percent, containing p-methoxy salicylic aldehyde (m.p. 42°) as the major component constituent (C. 80%). The aroma of the drug is attributed to this aldehyde. Other constituents present in the roots are: β -sitosterol, α - and β -amyrins (both free and as esters), lupeol, tetracyclic, triterpene alcohols, small amounts of resin acids, fatty acids, tannins, saponins, a glycoside and a ketone.

Properties and action of Sariva

Rasa- Madhura, Tikta

Guna- Guru, Snigdha

Virya- Sheeta

Vipaka- Madhura

Dosha karma- Tridoshahara

Used part- Root

Patha ^[6] (*Cyclea peltata* Lam (Hook) &Thoms.)

The root yielded tetrandrine as the major alkaloid. Tetrandrine (0.1 g/day) was found effective in the treatment of chloroquine resistant malaria. Tetrandrine possesses cytotoxic and properties and is indicated in the treatment of chronic inflammatory diseases. It shows antihypertensive, cardiac depressant and vasodilator effect. It also exhibits antiallergic activity.

Properties and action of Patha

Rasa- Tikta

Guna- Laghu, Teekshna

Virya- Usna

Vipaka- Katu

Dosha karma- Kapha- pittahara

Used part- Root

Manjistha ^[7] (*Rubia cordifolia* Linn.)

The plant *Rubia cordifolia* Linn. (Manjistha) contains various chemical components which belong to the anthraquinone group. Saponins and some naphtheneclerivatives are also isolated. It contains Alizarin, pseudoparapurins, Rubiadin along with its glucoside, Iucidin, Asperuloside, purpuirin and Manjisthin.

Properties and action of Manjistha

Rasa- Tikta, Kashaya, Madhura

Guna- Guru, Ruksha

Virya- Usna

Vipaka- Katu

Dosha karma- Kapha Pitta Shamaka

Used part- Root

Draksha ^[8] (*Vitis vinifera* Linn.)

Fruit juice contains malic, tartaric, and racemic acid, along with 0.05 percent of ash. Fruits contain glucose and other substances.

Properties and action of Draksha

Rasa- Madhura

Guna- Guru, Snigdha, Mridu

Virya- Sita

Vipaka- Madhura

Dosha karma- Vata-pittashamaka

Used part- Fruit

Pilu ^[9] (*Salvadora persica* Linn.)

Root bark contains resin, coloring matter, tannin, saponin and alkaloids salvadorine, tri-methyl-amine, salts having chlorides in good proportion. Fruits contain sugar, fat, colouring matter and an alkaloid. Ash content is 27 percent.

Properties and action of Pilu

Rasa- Tikta, Madhura

Guna- Laghu, Snigdha, Tikshna

Virya- Usna

Vipaka- Katu

Dosha karma- Kapha- vatashamaka

Used part- Fruit

Parushaka ^[10] (*Grewia asiatica* Linn.)

Fruits contain acid (as citric) 2.8% sugar (as sucrose) 11.7% and vitamin C-trace. The pectin content is low. The fruit juice content ranges from 55 to 65% in Parushaka.

Properties and action of Parushaka

Rasa- Madhura, Amla, Kashaya

Guna- Laghu

Virya- Sita

Vipaka- Amla, Madhura

Dosha karma- pitta-shamaka

Used part- Fruit

Sharkara ^[11] (*Saccharum officinarum* Linn.)

It contains sugar, water-, mucilage, resin, fat, albumin, guanin and calcium oxalate.

Properties and action of Sharkara

Rasa- Madhura,

Guna- Guru, Snigdha

Virya- Sita

Vipaka- Madhura

Dosha karma- Vata- pittashamak

Haritaki ^[12] (*Terminalia chebula* Retz.)

Fruit contains tannin up to 30 percent, chebulinic acid; and it also contains gallic acid, resin etc., and some purgative of the nature of anthraquinone. It contains tannic acid 45 percent, rich gallic acid, mucilaginous and colouring matter; its content chebulinic acid disintegrates into tannic and gallic acids on boiling in water.

Properties and action of Haritaki

Rasa- Kashayap radhan apancharasalavanavarjita

Guna- Laghu, Ruksha

Virya- Usna

Vipaka- Madhura

Dosha karma- Tridoshahara

Used part- Fruit

Vibhitaki ^[13] (*Terminalia bellarica* Roxb.)

The fruits contain beta-sitosterol, gallic and ellagic acids, ethyl gallate, galloyl glucose, chebulagic acid and a cardiac glycoside, bellaricanin. The fleshy fruit pulp contains 21.4% tannin, both condensed and hydrolysable types.

Properties and action of Vibhitaki

Rasa- Kashaya

Guna- Laghu, Ruksha

Virya- Usna

Vipaka- Madhura

Dosha karma- Tridoshahara

Used part- Fruit

Amalaka ^[14] (*Emblica officinales* Gaertn.)

Fruit is a rich source of Vitamin C. Seeds contain fixed oil, phosphatides and an essential oil. Fruit, leaves and bark are rich in tanning fruits contain gallic acid, tannic acid, resinous matter, glucose, albumin, cellulose and minerals specially calcium, other than good content of Vitamin C and other substances.

Properties and action of Amalaki

Rasa- Amlapradhana pancharasa alavana

Guna- Laghu, Ruksha, Sita

Virya- Sita

Vipaka- Madhura

Dosha karma- Tridosahara

Used part- Fruit

Collection and authentication of raw drugs

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

Method of preparation

The dried (Fig. 1 –10) drugs are collected, with a quantity 500g each. The drugs were soaked in cold water overnight, next day kwatha (decoction) of drugs was prepared (Fig. 11 and 12) by adding 40 litres of water, boiled and reduced to 1/4th part and filtered, remnant is 12 litres (Fig. 13), to this 10 kgs of sugar is added & boiled on mild flame till one-thread consistency was obtained. Total quantity of suspension obtained is 12 litres which is cooled down and bottled, into 60 ml each. They are packed in plastic containers which are then sealed. Then the containers are labelled and made ready for distribution (Fig. 14).



Fig 1: Sariva



Fig 2: Patha



Fig 3: Manjistha



Fig 4: Daksha



Fig 5: Pilu



Fig 6: Parushaka



Fig 7: Sharara



Fig 8: Haritaki



Fig 9: Vibhitaki



Fig 10: Amalaki



Fig 11: Preparation of kwatha



Fig 12: Raw drugs after filtration of kwatha



Fig 13: Filtration using a muslin cloth



Fig 14: Final product- Jwarahara Syrup

Precautions to be taken

1. Temperature is maintained in moderate fire 100 degree Celsius.
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 differentiating stage - 70-80 °C
- Sugar mixing stage - 80-85 °C
- Last stage – 45 °C

Organoleptic parameters of finished product

- Color: Dark brown color
- Consistency: liquid form
- Smell: specific odour
- Taste: sweet with little astringent.

Discussion

The syrup is prepared based on the Ayurvedic classical formulation of Sharkara Kalpana ^[15]. More modern practical approaches can be inculcated for better extraction of the active principles from the raw drugs. The finished product of Jwarahara Syrup was dark brown in color and liquid in consistency which are optimum characteristics for a syrup. The specific odour of the syrup is attributed to the properties of Sariva. The cumulative effect of the Dashemani drugs establishes sweet with a little pungent taste of the syrup. In a child suffering from jwara, we can use Jwarahara Syrup as an Antipyretic drug.

Conclusion

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 products should be safe and genuine for consumption.

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