

A Clinical Study to Evaluate the Efficacy of Drakshadi Avaleha in the Management of Pandu Roga

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Abstract: *Background:* Anaemia is a serious health problem causes general debility, lethargy, lassitude, poor work performance, mental retardation, poor intelligence and abnormal immune response. Anemia is considered as one of the most significant problem occurring due to nutritional deprivation which hinders the linear growth and development of children. The incidence rate of anemia is 46% globally 2 billion peoples are suffering from iron deficiency anemia i. e. approximate 1/3 of the whole population. Adolescents constitute more than 20% of Indian population and more than 50% of them suffer from iron deficiency anemia. NFHS - 5 (2019) suggest about the prevalence of anemia in Indian children is 68.4% having Hb<11gm/dl but its rate is also higher among the rural children. W. H. O. declared to iron deficiency anemia as a world health problem. In Ayurvedic classics the disease is described as "PANDU". The available treatment of IDA, are reported with unpleasant taste and gastrointestinal effects which leads to poor compliance in children. By looking at the magnitude of the problem in children, an Ayurvedic formulation Drakshadi Avaleha has been selected for the present study to evaluate the efficacy of this trial drug in iron deficiency anaemia.

Keywords: Anaemia, Ayurveda, Drakshadi Avaleha, Iron deficiency anaemia

1. Introduction

Anaemia is a widespread public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. It is a serious health problem causes general debility, lethargy, lassitude, poor work performance, mental retardation, poor intelligence and abnormal immune response. [1] Anaemia affects all age group however the most susceptible group is young children. In the milder form, anaemia is silent without symptoms and without treatment. Anaemia can worsen and becomes an underlying cause of chronic ill health such as impaired fetal development during pregnancy, delayed cognitive development and increased risk of infection in young children and reduced physical capacity in all people. Iron deficiency anemia is the commonest form of anemia in children. In 2015 WHO reported 24.8% of the world's population is affected by anemia, 42% were pregnant women, 30% non - pregnant women and 47% were preschool children. [2] According to Ayurveda anaemia can be correlated with Pandu Roga on the ground of its similar signs and symptoms. The meaning of word Pandu is pallor of the body [3] or resembling the colour of pollen of Ketaki flower along with yellow colour. [4] Pandu has been well described in Ayurveda since ancient times including etiology, pathogenesis, clinical features, prognosis, complications and management. The Ministry of Health and Family Welfare, Govt. of India has launched the Weekly Iron and Folic Acid Supplementation (WIFS) program on 2013 popularly known as "Solid Bano India - With just one Blue pill a week" under reproductive, maternal, newborn, child and adolescent health approach in National Health

Mission to cope up with the problems of high incidence and prevalence of iron deficiency anaemia amongst adolescent. [5]

All allopathic oral iron preparation are gastric irritant and common side effects include nausea, abdominal pain and constipation. Ferrous sulphate usually causes severe gastrointestinal side effects like gastritis, constipation and diarrhoea. Children also dislike the IFA tablet due to unpleasant taste.

Therefore considering the burden of anaemia in children and in the modern management like side effects and poor compliance of IFA supplementation and to increase the palatability and tolerance, present clinical study to determine the efficacy of Drakshadi Avaleha in the management of iron deficiency anaemia was conducted.

Selection of the drug:

द्राक्षा प्रस्थं कणाप्रस्थं शक राधतुला तथा ॥29॥
द्विपलं मधुकं शुण्ठं त्वक् {khjh च fopwf.kre |
/kk=hफलरसद्रोणे तत्व fक्षत्वा ysgoत्पचेत् ॥30॥
शlhrkन्मधुप्रस्थयुताद् फलहात् पाfणतलं ततः ।
हलहमक पाण्डुरोग कामलां च fuयच्छft ॥31॥
A.H.Chi.(16/29-31)

Drakshadi Avaleha has been mentioned in *Astanga Hridayam*

(chikitsa sthana 16/29 - 31)

Rasapanchaka - drakshavaleha

S. No	Drug	Rasa	Guna	Virya	Vipaka	Doshagnata	Karma
1	Amalaki	Lavanavarjita Pancharasa	Guru, Rooksha	Sheeta	Madhura	Tridoshaghna	Vrshya, Rasayani, Mrduvirechaka, Mutrala, Yakutejaka, Deepana, Stambhana, Dahaprashmana, Cakshushya, Medhya, Anulomana, Hrda, and Garbhasthapan
2	Yashtimadhu	Madhura	Guru, snigdha	sheeta	madhura	Vatapittahara	Shonittasthapan, Rasayana, Balya, Jeevaneeya, Chaksushya, Vajikarana, and Varnya.
3	Pippali	Katu	Laghu, snigdha, tikshna	Anushna sheeta	Madhura	Kaphavataghna	Deepana, Hrda, Ruchya, Vajikarana, Rechana, Rasayana, and Balya
4	Shunti	Katu	Laghu, snigdha	ushna	Madhura	vatakaphahara	Svarya, Rochana, Hrda, Vrshya, Deepana, Ruchya, and Pachana
5	Draksha	Madhura	Guru, snigdha, mridu	Sheeta	Madhura	vatapittahara	Balya, Vajikarana, Brmhana, Cakshushya, Virechanopaga, and Kanthya
6	Vanslochana	Madhura, Kashaya	Ruksha, laghu, teekshana	Madhura	vatapittahara		Brumhana, Vrshya, Balya, and Vranahara
7	Sharkara	Madhura	Guru, snigdha	Sheeta	madhura	pittahara	Snehana, Tarpana, Mardavkara, Hrda, Sleshmanisaraka, and Indriya prasdana, Anulomana, Sarvathatu vardhaka, Ayushya, Balya, Jeevana, Stanyajanana, Vrshya, Mutrala, and Brimhana
8	Madhu	Madhura, ruksha	Laghu, sookshma	Ushna	katu	Tridoshagnata	Agnivardhaka, Shrotoshodaka, and Yogavah

Effect of Drakshadi Avaleha -

Drugs	Effect
<i>Draksha (Vitis vinifera)</i>	Antioxidant, [24] Antifungal, [25] Hematinic, [26] Cardio protective, [27] <i>Raktavridhikara</i> , [28] <i>Rasayana</i> [29]
<i>Amalaki (Emblica officinalis)</i>	Source of vitamin C, [30] Antioxidant, [31] Free radical scavenging abilities, [32] Hematinic, [33] Immunomodulatory, [34] <i>Rasayana</i> , [35]
<i>Pippali (Piper longum)</i>	Antioxidant, [36] Antiinflammatory, [37] Hematinic, [38] immunomodulatory, [39] Bioavailability enhancer [40]
<i>Yastimadhu (Glycyrrhiza glabra)</i>	Antioxidant [41] Immunomodulatory, [42] <i>Rasayana</i> [43]
<i>Shunthi (Zingiber officinale)</i>	Antioxidant, [44] Immunomodulatory, [45] hepatoprotective [46]
<i>Vamsalochana (Bambusa arundinacea)</i>	Antioxidant, [47] Antibacterial, [48] Anti - inflammatory, [49] Anthelmintic, [50]
<i>Sharkara (Saccharum officinarum)</i>	Antioxidant, [51] Immunomodulatory [52]
<i>Madhu (Honey)</i>	Antioxidant, [53] Immunomodulatory, [54] Anti - inflammatory [55]

2. Discussion about the Mode of Action of Drug

Pachana makes the Doshanirama, as explained by Hemadri stating that it makes the Doshaspakva. Deepana makes the Doshas free from the Dhatu, Shrotasa and Aashaya. It help in the digestion of Ama, Mala, Rasa, Amata and Gaurava in the sequences from Aamashaya, Pakvashaya and Hridaya thus making the person Laghukostha.

In group A we have selected Drakshadiavaleha to treat the patients. This formulation constitutes the following raw drug:

In Drakshadiavaleha majority of ingredients are having Tridosahara property, so it becomes helpful in treating Tridoshajavyadhi Pandu. Analysis of pharmacodynamic property of Drakshadiavaleha shows that maximum ingredients are having Katu and Tikta rasa and predominant in Laghuguna.

These Tikta and Katu rasa perform Agnideepana karma which increase the metabolism and reduces the formation of Ama. These all properties assist in vighatana of Panduroga.

Ingredients of Drakshadiavaleha are Draksha, Amalaki,

Pippali, Mulethi, Shunti, Vamshalochana, Sharkara, Shahada. These all having properties like Deepana, Pachana, Ruchya etc. So drug augments Jatharagni as well as Dhatwagni upto the optimum level and breaks the pathogenesis of Panduroga. Pippali is said to be enhancer of bio - availability of the drug as it increase intestinal absorption and subsequently absorption of other drug also may be improved. Therefore, it counteracts poor digestion found in Panduroga.

Draksha having snigdha property, it decrease the unctuous property of Vatadosha therefore helpful in production of Snehanaguna and diminishes the production of increased Pittadoshas.

Amalaki which is considered as a best Rasayana drug in Ayurvedicelassie, improves general health and immunity. Amalaki having rich source of vitamins C is helpful for absorption of Iron.

Mulethi being Madhura in reference to Rasa and Vipaka, it act to minimize the effect of elevated Pittadosha. It shows action of anti - inflammatory, anti - arthritic and anti - pyretic.

Shunti according to Bhava - Prakash is one of the good appetizer which diminish the production of Amadosha and

therefore it enhances Agnideepanakarma.

Vamslochana is used for the purpose of Krimighna, Deepana, Pachana etc. Madhu according to Charaka Samhita shows one of the best property of yogavahi and Tridosha - shamaka. Madhu shows the action of Chhedana, Sandhana, Ropana, Krimighna etc.

Drakshadiavaleha is an iron rich compound formulation which provides iron in optimum quantity which is primarily desired in the management of Panduroga. Drakshadiavaleha formulation was prepared in the iron pan container. Therefore this iron container added an additional iron source in the formulation. The ingredients of Drakshadiavaleha and iron pan container had enriched the amount of iron in Drakshadiavaleha formulation.

The trial formulation of Drakshadiavaleha contains Deepana, Pachanadravyas which improve gastrointestinal functioning without increasing Pittadosha. Their Ushnaguna and Ushnaveerya help in managing the Shrotovrodha so improvement in the metabolism and digestion leads to proper Dhatuphosan.

Thus Drakshadiavaleha does Sampraptivighatana of Panduroga at various level and Vyadhiviparitchikitsa along with Rasayana effect so that drug can be used for longer duration to get maximum effect further helpful in improving the hemoglobin as well as general health.

3. Conclusion

The Madhura Rasa predominance of Drakshavaleha will act as Sarvadhatu Vardhaka, Balya, Brumhana, Jivana, Anulomana, Indriya Prasadana, and Vata pitta shamaka. The predominance of Guru - Snigdha Guna will exhibit qualities such as Dhatuvaradhaka, Balya and Vata pittashamaka. Since most of the drugs are Sheeta Veerya Dravya, it would impart effects such as Jivana, Balya, and Pitta shamaka. Most of the drugs possess mainly Madura Vipaka; hence, it will act as Vatapittaghna. Ingredients such as Amalaki and Yashtimadhu will aid in Shonitasthapana, Pippali as Raktavardhaka/Raktashodaka and Draksha as Rakta Prasadana, etc. On considering the Rasa Panchaka, that is, pharmacodynamic profile of the formulation Drakshavaleha and properties of individual drugs of Drakshavaleha, it can be inferred that the drug is bound to exhibit potential effects against Pittaprakopa, Agni Mandhya, Raktalpata, and Balavarnahani.

The incidence of presenting complaints of reduced appetite in children is one of the rising chief complaints.

Hatanal, Gatrashoola, Daurbalya, Jwara etc can also be considered as important complaints of Panduroga. According to different Acharya, Panduroga can be classified into following.

Drakshadiavaleha formulation of *Ashtanga Hridaya* constitutes chief ingredients which work as Rasayana properties. It can be safely administered in children. Panduroga in children is observed in all socio economic status but the Children of lower and middle income groups

were observed slightly more Affected.

In present study, majority of children have madhyamaSatva, Satmya and Bala.

A significant improvement was observed in Hatanala, Panduta, Gatra shoolata, Nidralu, Hb and GBP etc parameter in group A.

In group - B, a significant improvement was observed in mritikbhakshan. Daurbalya, and Jwara In intergroup comparison, non significant difference was found in Hatanala, Daurbalya, Gatra - shoola, Nidralu, Jwara Panduta, Hb and GBP at day 30th and day 60" in group A.

Therefore, Group A and Group B shows significant improvement. However, in intergroup comparison there was non significant.

Drakshadiavaleha formulation shows good therapeutic effect in this present study in relation to Pandu.

No adverse effect of the drug therapy were observed during the study. So it can be safely administered in children.

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