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Review study of Dadima and study its clinical efficiency in Pandu

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Abstract:

Our humanity is fighting for existence like all other animal species from centuries. Some info the birds and animals are endangered today and some even vanished. They can only be seen in encyclopaedia. But human learned to fight disease and succeeded in the livelihood. They learned science to prevent and cure disease, empowerment immune system and kept ourselves healthy. Ayurveda is a branch of science which deals with maintaining health and treating the diseased condition of the body. To serve this both purpose, required thing is drug. Generally two types of drugs are present, namely Ahara Dravya and Ayshadha Dravya. Ahara Dravya promotes health and Ayshadha dravya fights disease. So knowledge of drugs is very important thing while achieving both aims of Ayurveda. Dadima is one of the drug used as a medicinal drug as well as food material. It is one of the most popular consumed fruit in India. Fruit, its skin and skin of root is used for the preparation of the medicine. It is most effective in immunity boosting. Pandu or Anemia is one of the nutritional deficiency disorder. World Health Organisation has given it's more prevalence in developing and under developed countries. Dadima can be considered as a potent nutraceutical as it contains more phytoconstituents. Its increased content of polyphenols may prevent RBC destruction due to reduced oxidative stress. It exhibits antioxidant activity. So present study is an attempt to study Dadima and its clinical efficacy in Pandu.

***Keywords**: Pandu, Dadima Dravya, Anemia.*

Introduction:

As we are moving forward in current new era, there is growing fascination towards the traditional wisdom of ancient India, perhaps this is because it is based on law of nature that are timeless. Hence, it is as relevant to our well being today as it was thousand years ago. This is true for Ayurveda, the ancient and holistic healing system and the practice of it in India is for overs 5000 years ago. The basic and applied knowledge of Ayurveda has survived to the present times through various branches like Kayachikitsa, Shalya tantra, Shalakya tantra, Dravyaguna etc. The branch Dravyaguna deals comprehensively about rasa, guna, veerya, vipaka and prabhava (pharmacokinetics and pharmacodynamics) of herbs. Branch also deals with introduction, identification , collections, storage and preservation of raw material of plant origin.

Nourishment is a major point of concern in today's era. It exists in developing and under developed countries. Most of the countries in Asia are under developed. In India, per capita is income is very low. It results in the formation of nutritional disorders due to inadequate nutrition. The commonest occurring disease is Pandu means Anemia. It has been one the disease responsible for mortality and morbidity in today's world. Report of World Health Organisation of 2002 states that Iron deficiency anemia is one among the top 10 selected risk to the health. One survey Fifth national health survey conducted during 2019 to 2021 given the prevalence of anemia in India. It is 25 % in adult men, 57 % in adult women, 31 % in adolescents boys, 59.1 % in adolescents girls, 52.2 % in pregnant women and 67.1 % in children. Mostly it is due to malnutrition.

Dadima is most commonly used fruit. It is an ancient, borne on a small, long living deciduous shrub. It has its native in Iran, Afganistan and Balochistan, but it found all over India. Its store place is Udhampur (Jammu). Dadima's fruit is used for food as well as medicinal properties. Ayurvedic pharmacology and modern nutritional science have discovered numerous pharmacological properties of fruits, seeds, flowers, bark of Dadima and recommend their therapeutic use for various diseased conditions. Dadima is potent nutraceutical as it has more proportion of phytoconstituents. Fruit contains 22 to 25 % tannins. This more concentration of polyphenols prevents destruction of RBCs. This antioxidant activity is much higher than red wine, green tea and other juices.

Aim:

To study Dadima and study its clinical efficacy in Pandu.

Objective:

1. Detail review study of Dadima through all Ayurvedic Samhitas .
2. Detail study of *Pandu.*
3. To study clinical efficacy of Dadima in Pandu.

Review of Literature – Our Ayurveda and Modern Science have stated pharmacological properties of Dadima drug in detail.

दाडिम: करको दन्तबीजो लोहीतपुष्पकः |
तरफलं त्रिविधं स्वादु स्वाद्वम्लंकेवलाम्लकम् ||
तत्तु स्वादु त्रिदोषघ्नं तृड्दाहज्वरनाशनम् |
हृत्कण्ठमुखदोषघ्नं तर्पणं शुक्रलं लघु ||
कषायानुरसं ग्राही स्निग्धं मेधाबलप्रदम् |
स्वाद्वम्लं दीपनं रूच्यं किंचित्पित्तकरं लघु ||
अम्लं तु पित्तजनकमामवातकफाहम् | (भावप्रकाश)

अम्लं कषायमधुरं वातघ्नं ग्राही दीपनम् |
स्निग्धोष्णं दाडिमं हृद्यं कफपित्ताविरोधि च ||
रूचाम्लं दाडिमं यत्तु तत् पित्तानिलकोपनम् |
मधुरं पित्तनुत्तेषां तध्दि दाडिममुत्तमम् || (च.सू.२७)

कषायानुरसं तेषां दाडिमं नातिपित्तलम् |
दीपनीयं रूचिकरं हृद्यं वर्चोविबंधनम् ||
द्विविधं तत्तु विज्ञेयं मधुरं चाम्लमेव च |
त्रिदोषघ्नं तु मधुरमम्लं वातकफापहम् || (सु.सू.४६)

Drug – Dadima
Family – Punicaceae
Gana- Hrudya gana, Chhardinigrahan gana, Parushakadi gana
Latin Name – Punica granatum Linn.

Other names –

Sanskrit – Dadim, Dantabeej, Lohitpushpak
Hindi – Anar
Marathi- Dalimb
Gujarati – Dadam
Tamil – Madulai
Telugu – Danimma
Kannada – Dalimb
Malyalam – Matalam
Farasi- Anar
Arabi- Rumman
English – Pomegranate

Chemical Composition –

Pomegranate contains 78 % Liquidity, 1.6% protein, 0.1 % fat, 5.1 % cellulose, 14.5 % Carbohydrates, 0.7 % minerals. It also has 10 mg Calcium, 12 mg Magnesium, 14 mg Oxalic acid, 70 mg Phosphorus, 0.3 mg Loha, 0.8 mg Sodium, 133 mg Potassium, 0.2 mg copper, 12 mg Sulphur, 2 mg Chlorine, 0.06 mg thiamine, 0.1 mg Riboflavin, 0.30 mg Nicotinic acid and 14 mg Vitamin C.

Table : Rasapanchaka of Dadima

Nighantu	Rasa	Guna	Veerya	Vipaka	Doshaghnata
Dhanwantari Nighantu (D.N.)	Madhura	Laghu	Sheeta	Madhura	Kaphapittaghna
Shaligram Nighantu (S.N.) Priyangu Nighantu (P.N.) Bhavaprakash Nighantu (B.N.)	Kashaya	Snigdha		Madhura (B.P., P.N.)	Tridoshghna (S.N.)

Madanapal Nighnatu (M.N.) Nighantu Adarsha (N.A.)	Madhura, Amla, Kashaya	Laghu	Sheeta	Madhura	Tridoshaghna
Kaiyadeva Nighantu (K.N.)	Madhura, Amla	Laghu, Snigdha	Sheeta	Madhura	Tridoshaghna
Raja Nighantu (R.N.)	Madhura	Laghu	Sheeta		Tridoshaghna

Useful Parts – Fruit, Root bark, Fruit skin, Flower, Fruit Juice.

Table : Pharmacological Action of Dadima

Sr. No.	Action	D. N.	M. N.	K. N.	R. N.	B. N.	S. N.	P. N.
1.	Hrudya		√	√	√			
2.	Balya							
3.	Tarpan					√		
4.	Grahi		√	√	√			
5.	Krimighna							
6.	Medhya			√				
7.	Shukrala							
8.	Tridoshaghna		√	√				

(D.N.- Dhanwantari Nighantu, M.N.- Madanapal Nighantu, K.N.- Kaiyadeva Nighantu, R.N.- Raja Nighantu, B.N.- Bhavaprakash Nighantu, S.N.- Shaligram Nighantu, P.N. – Priyangu Nighantu)

Use of Dadima – Fruit Swaras - 20 to 50 ml

Table : Single use of Dadima

Internal Use		External Use	
Kalpa	Vyadhi	Kalpa	Vyadhi
Dadima Swaras	Agnimandya, Aruchi, Amlapitta, Pittajatisara, Pravahika, Gulma roga	Dadima Swaras	Netra Roga
		Dadima Kwath	Netra Roga
		Gandush Yoga	Pittaj Jwaramukhavairasyata

Table : Ingredients in Kalpas

Internal Use		External Use	
Kalpa	Vyadhi	Kalpa	Vyadhi
Kalyanaka Ghrita	Apamarak	Kavalagraha	Arochaka
Shatyadi Churna	Pleehavruddhi	Athajjanani	Shophaphghna
Dashmuli ghrita	Kaphaja gulma	Vidalaka yoga	Netraroga
Chitrakadi Ghrita	Arsha	Dadimadi lepa	Trushna
Chavyadi ghrita	Gudanshabhrama	Mahalaxminarayan yoga	Vatavyadhi
Pippalyadi ghrita	Vibandhanashak	Kapityadi lepa	Trishna
Hingwadi Gutika	Shool	Tilkadi kalka	Shwanadansha
Chitrakadi vati	Grahani	Neelikadi taila	Darnak
Jeeraka Avaleha	Soma roga	Trushnanashak yoga	Trushna
Maharohitakam ghrita	Udara roga	Mulkadi lepa	Purani Granthi
Dadimadi churna	Apatantraka	Manarasa	Parikartika
Karvyadi gutika	Arochaka	Dhatakyadi taila	Yoniroga
Dadima avaleha	Jwara	Trushnanashak Panchamlaka	Trushna
Dadimashtaka churna	Jwara	Dadhina swaras Siddha Taila	Karna roga
Triphaladi mahasneha	Siragat vata	Murdha lepa	Trishna daha
Hapushadi churna	Sarvagat vata		
Shatavari ghrita	Jasa		

Table : Chemical Constituent and Pharmacological action

Sr. No.	Plant components	Chemical Constituents	Pharmacological Action
1.	Pomegranate Juice	Anthocyanins, Glucose, Ellagic acid, Gallic acid, Ascorbic acid	Anti hypertensive, Laxative and Diuretic, anti oxidant
2.	Pomegranate seed	Punic acid, Ellagic acid,	Anti inflammatory,

		other fatty acids	anti infertility, anti oxidant, anti cancer

Table : Modern Medicinal use

Internal Use	External Use
Pomegranate seed juice - Anemia	Pomegranate juice- oral hygiene
Pomegranate juice- osteoarthritis	Pomegranate and papaya- Glowing skin
Pomegranate juice- Heart disease	Pomegranate Juice and Green tea - Acne
Pomegranate Juice- Reducing Arterial Plaque	Pomegranate Juice and Lemon Juice – Sun tan
Pomegranate juice- Cancer	Pomegranate Juice and honey – Wrinkled skin
Pomegranate juice- Alzheimer's disease	Pomegranate seed oil – dry skin
Pomegranate juice- Erectile dysfunction	Pomegranate juice – Dry skin
Pomegranate juice- Leprosy	Pomegranate Juice- Gingivitis
Pomegranate juice- Snake bite	
Pomegranate juice-Low weight premature infants	

Material and Methods :

Case report – Patient name – X.Y.Z., Age – 35 year, Gender – female.

Complaints : Since 2 years

1. Pandutva
2. Rukshatva
3. Dourbalya
4. Bhrama
5. Arohana
6. Aruchi
7. Pindikodveshtan

Table 1 : Symptoms on the basis of doshas

Dosha	Symptoms
1)Vata	*Rkdhhatv Dourbalya, Pindikodveshtan*
2)Pitta	*Pandutva, Bhrama, Arohana, Aruchi*
3)Kapha	-

Table 2 : On examination

Examination	Observation
Pulse	72/min
B.P.	120/80 mm of Hg
R.S.	AEBE clear
CVS	$S_1 S_2$ Normal
CNS	Conscious and Oriented
P/A	Soft

Table 3 : Ashtavidha Parikshan

Examination	Observation
Nadi	Pitta Pradhan Kapha
Jivha	Saam
Mala	Samyak
Mutra	Samyak
Shabda	Prakrut
Sparsha	Anushnasheeta
Druk	Prakrut
Akruti	Madhyama

Table 4: *Dashavidh Pariksha*

Examination	Observation
Dushya	*Rasa, Rakta*
Desha	*Sadharan*
Bala	*Madhyama*
Kala	*Adana*
Anala	*Agnimandya*
Prakruti	*Pitta Pradhan Kapha*
Vaya	*Madhyama*
Satva	*Madhyama*
Satmya	*Shadarasatmya*
Ahar	*Mishra Aahara*

Hetu : *Diwaswap* since last 11 years

Past History : H/O Pulmonary Koch's 6 years back Received allopathic treatment for Pulmonary Koch's for 1 year.

- **Investigations:**

All routine investigations of blood and urine were done for all the cases. Along with this, few specific investigations were also performed.

E. Blood examinations
   CBC with ESR
   BSL (R)

F. Urine examination : routine and Microscopic

G. Some specific Investigations
IgG for tuberculosis
Monteux test
Biopsy for fistulous tract on suspected case of tubercular fistula.
HIV for AIDS

H. Radiological investigations
X ray chest PA view

Disease History : Patient was suffering from symptoms pandutva, rukshatva,dourbalya, bhrama, arohana aruchi and Pindikodveshtan since 2 years. She was first diagnosed as Iron Deficiency Anemia and got allopathic treatment for last 2 years, but had no relief in symptoms. Thus Sypmptoms gradually increased. So patient approached for Ayurvedic treatment and after taking complete history, she diagnosed as Pittaj Pandu.

Treatment:

Table 5: Treatment

Dadima Swarasa)-

Dose: 30 ml once a day
Kal : Morning (before food)
Route of Administration: Orally
Duration: 15 Days
Follow Up: at 7th and 15th day

Table 6 : Observation and Results

Symptoms	Before treatment	At 7th Day	At 15th Day
Panduta : In Twak, Nakha, Netravartma,Jivha,Hastpadtala	++++	+++	+
Rukshata : In Twak, Nakha, Netravartma,Jivha,Hastpadtala	++++	+++	+
Daurbalya	+++	++	+
Bhrama	+++	+++	++
Ayasen Shvasa (Arohan)	++++	+++	++
Aruchi	+++	++	++
Pindikodveshthan	++++	+	+

Discussion and Conclusion:

Dadima is used as a medicine from ancient times. It is best source of nutraceutical compounds. It has high source of Polyphenols which has antioxidant activity. It reduces the oxidative stress and destruction of RBCs. Due to this, it is mostly used in Nutritional Anemia.

The present case is 35 year old female having diagnosed as pandu Vyadhi on the basis of symptoms Pandutva, Rukshatva, Dourbalya, Bhrama, Arohana, Aruchi, Pindikodveshtan which were present since 2 years. All these symptoms were reduced due to medication of Dadima fruit Swaras. It is given in 30 ml quantity once in a day in morning for 15 days. The follow Up was taken at 7th and 15th day. Reduction in all the above symptoms was seen at the end of 15th day. As Dadima is Amla skanda dravya with Ushna Veerya and Amla Vipaka. Generally all amla dravyas are Pittavardhak. But Dadima is Pittashamak. So it is useful in Pandu vyadhi which is formed due to Pitta dosha. Dadima has tannins like emblicanin-A (37 %), emblicanin-B (33%), punigluconin and pedunculagin are reported to provide protection against oxygen radical included hemolysis. It is helpful for reduction in destruction of RBCs.

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