

**AYURVEDIC DIETETIC RECIPES FOR NUTRITIONAL DEFICIENCY
ANEMIA**

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ABSTRACT

Anemia is the condition where the oxygen carrying capacity of the cell is insufficient to meet the body's physiological requirements. In *Pandu Roga* there will be *Shroto-avarodha*, *Alpa-agni*, *Alpa-rakta*, *Alpa-medas*, *Alpa-saara*, *Shithila Indriyas* and *Vivarnya*. Estimated Prevalence rate of Anaemia globally is 22.8% and cases about 1.74 billion in 2019. According to NFHS-5 [2019] the prevalence rate is being increased to 66.4% in women. In spite of having many treatments like Iron/Folic acid/Vitamin-B12 Supplements and Blood transfusion, the prevalence and incidence rate of anemia is increasing year by year. *Pathya Ahara Kalpana* is best way to manage Nutritional Deficiency Anaemia, such as *Ashtaguna Manda*, *Polika*, *Vyoshadi Takram*, *Shardula Kanjika*, *Shashkuli*, etc. *Pathya-kalpanas* can be consumed for longer duration, which has no adverse effects and it improves *Agni*. Improves absorption rate and may be the best way to increase Haemoglobin.

KEYWORDS: Nutritional Deficiency Anemia, *Pandu Roga*, *Pathya Ahara kalpanas*

INTRODUCTION

Anemia affects one-fourth of the world's population¹. In the word "anemia", "an" means without, and "haima" means blood i.e., Anemia means lack of blood. It is a condition in which RBC i.e red blood cells, drop in number or in which Hemoglobin (Hb) is insufficient to meet physiological needs leading to Fatigue, Pallor, Shortness of breath, Dizziness, Arrhythmia, reduced physical work capacity, etc²

WHO estimates that 40% of children 6–59 months of age, 37% of pregnant women, and 30% of women 15–49 years of age worldwide are anaemic² and total numbers of cases are 1.92 billion in 2021³. Nutritional Deficiency Anemia is common type of anemia, globally affecting both developed and developing countries. According to

National Family Health Survey-4 [2014] - 53% of women, 22.7% of men and 54% of adolescent girls are anemic⁴. According to NFHS-5 [2019] the prevalence rate is being increased to 66.4% of women are anemic⁵. Approximately two billion people are affected by anemia throughout the world. According to WHO, approximately 40% of pregnant women are affected by anemia worldwide. According to a study published in the journal of nutrition and food science, 60% of vegan women are anemic. Anemia can be correlated to *Pandu roga* as per the signs and symptoms mentioned in Ayurvedic classics. Anemia is being mentioned as *Halima* and *Harima* in Rigveda and Atharva veda.

As per Ayurveda Pandu roga is mainly caused due to excessive intake of *Kshara-Amla-Lavana* Rasa yuktha Aahara, Viruddha-ahara, excessive intake of Masha-Pinyaka- Tila Taila, Diva swapna, Ati Vyayama and Vyavaya, Improper Panchakarma, Bhaya- Chinta- Kroda, etc.

Above mentioned Causative factors, aggravates Pitta in Hrit pardesha, later it is circulated to whole body through Dasha Dhamani. It gets Sthana Samshraya between Tvak and Mamsa dhatu. Further vitiates all other dosha and Dhatu leading to Discoloration in the body like Pandubhavata, Haridra and Harita. Leading to Karna kshweda (Tinnitus), Durbala (Weak), Agni sadana (Low digestion), Shrama (Tired), Bhrama (Giddiness), Aruchi (Anorexia), Shwasa (Dyspnea), etc If a patient follows proper diet there is no necessary of Medicine, Pathya itself acts as Medicine. There are many Pathya Ahara Kalpanas mentioned in different Ayurvedic classics. Dietary supplements, Iron- Folic acid- Vitamin B12 supplements, Blood transfusion, Blood and Bone marrow transplant are the therapies available for Anemia. Even after having many therapies prevalence rate of Anemia is being increasing year by year. Hence review of Pathya Ahara Kalpanas for management of Pandu roga in different Classics is being done.

MATERIALS AND METHODS

1. Ashta guna manda⁶:

-1 part of Tandula (*Oriza sativa*)
-½ part of Kinchith Brushta Mudga (*Vigna radiata*)
-Dhanyaka (*Coriandrum sativum*) Shunti (*Zingiber officinale*), Pippali (*Pipper longum*), Maricha (*Piper nigrum*) as Prakshepaka Dravya

-Saindhava Lavana Quantity Sufficient,
-14 parts of water.

All above ingredients must be taken as 1 part in one part of water. Cooked in mild flame till the rice is cooked well.

2. Gritha Poora / Ghewar⁷:

-Samita/ Maida (All-purpose flour)
-Ksheera (Milk)
-Naarikela (*Cocos nucifera*)
-Sita (sugar candy)
-Dryfruits (Badam, Chashew, Pista)
-All above must be mixed well, thick watery consistency, Fried in Ghee.

3. Shashkuli⁸:

Shali (*Oryza sativa*)/ Kodrava (*Paspalum scrobiculatum*)

Kamala Kanda (*Nelumbo nucifera*)

Tila Taila (*Sesamum indicum*)

Rice / Raagi is made into powder, Kamala kanda is added to it, made into thick dough by adding taila. Later fried in Taila.

4. Vyoshadi Takram⁹:

-Shunti (*Zingiber officinale*) choorna: 10g
-Pippali (*Piper longum*) Choorna: 10g
-Maricha (*Piper nigrum*) Choorna: 10g
-Ajamoda (*Trachyspermum roxburghianum*) Choorna: 10g
-Punarnava (*Boerhavia diffusa*) Choorna: 10g
-Ikshu (*Saccharum officinarum*) choorna: 10g
-Lauha (Iron) Choorna: 10 g
-Haritaki (*Terminalia chebula*) Choorna: 10g
-Bala moola (*Sida cordifolia*) Choorna: 10g
-Mandura Choorna: 10 g
-Chincha patra (*Tamarindus indica*) Choorna: 10 g
-Haridra (*Curcuma longa*) Choorna: 10 g
-Tripadika (*Adiantum lunulatum*) Choorna: 10g
-Vajravalli (*Cissus quadrangularis*) choorna: 10g
-Jambira (*Citrus lemon*) Choorna: 10g
-Takra (Buttermilk): 1.2 lts
-Water: 1.2 lts

Mix all the ingredients taken in an earthen vessel and reduced to half by boiling. Store in thermo-stable jar.

5. Chinchā Panaka¹⁰:

- Supakwa Chinchā (*Tamarindus indica*): 100 g
 - Jala (Water): 400 ml
 - Sharkara (sugar): 200gms
 - Saindhava Lavana (salt): 10 gms
 - Fried Jiraka (*Cuminum cyminum*) Choorna: 10g
 - Fried Maricha (*Piper nigrum*) Choorna: 5g
- Extract the juice of Tamarind after soaking in water, Filter it properly. Add sugar and prepare syrup of one thread consistency. Prakshepaka Dravyas are added and served.

6. Pancharasa Panaka¹¹:

- Draksha (*Vitis vinifera*)
 - Madhuka (*Madhuca longifolia*)
 - Kashmarya (*Gmelina arborea*)
 - Kharjura (*Phoenix sylvestris*)
 - Parushaka (*Grewia asiatica*)
 - Jala (water)
 - Karpooora (Camphor)
- Extract the juice of above 5 ingredients and later add Karpooora to it and serve it.

7. Shardula Kanjika¹²:

- Pippali (*Piper longum*): 12 gms
- Ardraka (*Zingiber officinale*): 12 gms
- Devadaru (*Cedrus deodara*): 12 gms
- Chitraka (*Plumbago zeylanica*): 12 gms
- Chavya (*Piper retrofractum*): 12 gms
- Bilva Phala (*Aegle marmelos*) majja: 12 g
- Ajamoda (*Trachyspermum roxburghianum*): 12g
- Haritaki (*Terminalia chebula*): 12 g
- Shunti (*Zingiber officinale*): 12 gms
- Yavani (*Trachyspermum ammi*): 12 gms
- Dhanyaka (*Coriandrum sativum*): 12 gms
- Maricha (*Piper nigrum*): 12 gms
- Jiraka (*Cuminum cyminum*): 12 gms
- Hingu (*Asafoetida*): 12 gms
- Water: 1500ml
- Sarshapa (*Sinapis alba*) Taila: 100ml

Prepare coarse powder of the dry drugs, take in earthen vessel and mix with water, close the lid and keep it undisturbed for 10 to 15 days. It should be filtered. Later add Hingu, Jiraka and Sarshapa Taila for it.

8. Dhatryadi Mantha¹³:

- Dhatri phala (*Embllica officinalis*)
- Ikshu (*Saccharum officinarum*)
- Madhu (Honey)

Mantha should be taken as a drink with the expressed juice of Dhatri fruits and cane sugar juice along with honey.

9. Vacha ardrakadi Takram¹⁴:

- Vaca (*Acorus calamus*) curna: 25gms
- Ardraka (*Zingiber officinale*) Churna: 25g
- Kakamaci (*Solanum nigrum*) Churna: 25g
- Manduka Parni (*Centella asiatica*): 25g
- Takra (Buttermilk): 1.60litres

Mix all the ingredients in a vessel. Then it should be boiled till reduced to half.

10. Loha bringadi Khada¹⁵:

- Loha (Iron) Bhasma: 500gms
- Bhringaraja (*Eclipta alba*) Churna: 12.5gm
- Tila (*Sesamum indicum*) churna: 12.5 gm
- Takra (Buttermilk): 400ml

All the ingredients should be taken in a vessel and boiled till reduced to half.

11. Loha Patra Shruta Ksheera¹⁶: One should boil milk with equal parts of water in an iron pot so long as the original amount of the liquid is reduced to half.

12. Milk Preserved in an iron vessel¹⁷: if consumed orally for 7 days along with 7 days along with 'Pathya' i.e. beneficial food items for diseases like Pandu.

13. Wheat, Rice, Barley, Moong dal, Indian barnyard millet, Pigeon pea, these food articles should be consumed with Ghee or with Milk or with Buttermilk¹⁸

14. Water boiled with the drugs belonging to Sthiradi Varga is used for drinking and Peya prepared with Sthiradi varga drugs used for Pandu rogi.

DISCUSSION

1. Ashtaguna Manda⁶:

Rice flour offers very large starch granules that break down easily. Among the two flours, the moisture and starch contents of rice flour were higher than walnut kernel flour, whereas protein, fat, ash and dietary fiber contents were higher in walnut kernel flour. Tandula as the property like Balya and Brimhana. Mudgha is rich in Rich as well as ascorbic acid. Mudgha Nourishes, promotes physical strength and builds up tissue. Dhanyaka, Shunti, Pippali, Maricha and Saindhava lavana Hingu is deepana and pachana as per Bhavaprakasha and Dhanvantari Nigantu

2. Ghrita poorā⁷:

Samita is nothing but Refined wheat flour, high in calories. Milk is rich in calcium, vitamin B2 and fat-soluble vitamins A, D and E. Narikela. Brimhana, balya as per (charaka sutra 27th, sushruta sutra 46, Bhavaprakasha amradiphala varga) Dry fruits are rich in iron such as grapes, figs, Dates, Anaemia is usually caused when red blood cells carry very less oxygen to the brain. Thus, almonds contain copper, iron and vitamins that help in producing more haemoglobin and as a result, almonds can be used to prevent Anaemia. Cashew is also rich in protein and minerals.

3. Shashkuli⁸:

Shali/ Kodrava: it acts as bala pradha reduces the. Kamala Kanda as per Raja Nigantu it is considered as the Tarpana param and as per bhava Prakasha and Dhanvantari Nigantu it is being indicated in bleeding disorders because of its Kashaya rasa and it even normalizes pitta. *Isoliensinine* has shown excellent cardiovascular protection and lowers the toxicity, *Neferine* is a bibenzyl isoquinoline alkaloid, which has strong anti-

inflammatory and antioxidant properties and palmitic acid benefits include helping form cell membranes, lung secretions and signaling molecules, while also storing and utilizing energy within cells and modifying proteins.

4. Vyoshadi Takram⁹:

Trikatu, which is an appetizer, Appetizing property might have helped in better tolerance, absorption, and metabolism of iron. also has antioxidant and cytoprotective effects as well as they serve as enhancer of the bioavailability of iron. Punarnava helps to improve digestion to maintain proper haemoglobin level in your body due to its Pitta balancing, Deepana (appetizer), Pachana (digestion) properties. Punarnava also helps to maintain your overall health due to its Rasayana (rejuvenation) property which further helps reduce the symptoms of anemia. Lauha and Mandura rich in iron content and which may cause constipation, hence it's being counteracted Haritaki. Lauha and mandoora may even cause Amlapitta which is counteracted by Jambira and Takra. Ikshu contains 0.7% of iron and even Chinchā is iron rich. Chinchā and Jambira is Vitamin C rich. It increases the ability to absorb intestinal iron and helps manage iron overload (in hemolytic anemia or sickle cell disease). Bala, Vajravali helps in improving strength of body.

5. Chinchā Panaka¹⁰:

Supakwa Chinchā act as anti-oxidant agent and even acts as Deepaka and Pachaka which even increases the absorption level and it is also considered as Panduhara dravya. Sharkara is rich in sucrose which even increases the muscle glycogen and blood glucose there by even reduces the daurbalata. Saindhava Lavana contains many minerals and elements like iron, zinc, iodine, lithium,

potassium etc and acts as Sroto vishodaka. Fried Jiraka acts as deepaka and pachaka and fried maricha provide an acidic environment for the better absorption of iron and even improves the digestion.

6. Panchasara Panaka¹¹:

Kharjura and Draksha are Iron rich. Karpoora stimulates the digestive power, Madhuka acts as Antioxidant, Krimihara hence prevents the pandu due to Krimi. Kashmarya, Parushaka: by the action of Madhura Rasa it may help in reducing Aayasa and Shrama.

7. Shardula Kanjika¹²:

Bilwa pulp is a rich source of glucose and sugar, Antioxidant, Cardio-tonic action, reduces palpitation by repairing Dhatubala. Panchakola acts as Deepana and Pachana, Strong inhibitory effect against *E.Coli*. Haritaki mainly indicated for Pernicious anemia, by healing the peptic ulcer which causes continuous bleeding. Dhanyaka and Jiraka seeds are rich source of iron and even increases digestion. Hingu also promotes of digestive health.

8. Dhatryadi Mantha¹³:

Dhatri phala is a rich source of iron and Vitamin C.

Madhu has wound healing property, which may help in managing anemia due to internal bleeding (wound/ulcer)

9. Vacha Ardrakadi Takram¹⁴:

Vacha churna improves the digestive power, reduces oxidative stress and has antihelmenthic property. Ardraka Churna improves the digestion. Kakamaci Churna is abundant of vitamins and minerals such as vitamin-C, iron, phosphorus etc and has properties like anti-oxidant, anti-ulcerogenic, anti-inflammatory and immuno-modulator. Takra is one kind of organic acid which

helps to lower the pH of the proximal duodenum which aids in absorption of Iron, it also contains vitamin B 12 which also is necessary for development of red blood cells.

10. Loha Bringadi Takram¹⁵:

Loha Bhasma is a rich source of natural iron, even reduces the general weakness due to bleeding anomalies. Bhringaraja Churna acts as Rakta prasadaka and Rakta Vardaka and even balances the vitiated Rasagata pitta which is helpful for Rakta Dhatu Pushti. Tila churna is rich source of plenty of micro nutrient such as vitamin B and iron as per Sushrutha acharya even has the property of Brimhana and Prinana. Takra helps in absorption of iron and improves the formation of RBC

11. Loha Patra Shruta Ksheera¹⁶:

After boiling milk in Loha Patra, milk may possess the properties of the vessel and have iron rich property. Milk may help in reducing the generalized weakness.

CONCLUSION

Deepana property reduces Agni Sada and Aruchi. Helps in increasing Jataragni, which further ignites Dhatwagni, which helps for proper Dhatu Parinama, thereby helps in formation of Proper Rasa Dhatu and further formation of Rakta Dhatu. Iron content in diet helps in improving haemoglobin level. Vitamin C: enhances the absorption of iron. And even improves strength. Anti-oxidant: reduces the deleterious effect and helps in improving the strength and reduces Shrama Swasa. Anti-helminthic: helps in reducing the anemia due to worm infestation. Anti-inflammatory and anti-ulcerogenic property helps in reducing anemia due to internal bleeding or ulcers. Brimhana, Tarpana and Prinana property helps in nourishing the Dhatu and helps in reducing the Daurbalya, Shrama, Bhrama. Rakta-Shodaka and Rakta-

vardaka action helps in purifying the blood and even improves the bio-availability of iron and even increases the Rakta. Hence the recipes mentioned above may help in management of Pandu roga.

REFERENCES

1. 31st July 2023, The Lancet: New study reveals global anemia cases remain persistently high among women and children. <https://www.healthdata.org/news-events/newsroom/news-releases/lancet-new-study-reveals-global-anemia-cases-remain-persistently>
2. 1st May 2023, Anaemia <https://www.who.int/news-room/fact-sheets/detail/anaemia> 31st July 2023, The Lancet: New study reveals global anemia cases remain persistently high among women and children. <https://www.healthdata.org/news-events/newsroom/news-releases/lancet-new-study-reveals-global-anemia-cases-remain-persistently>
3. 21st June 2019, Anaemia in women <https://pib.gov.in/PressReleasePage.aspx>
4. National Family Health Survey (NFHS-5) 2019-21 https://main.mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf
5. Prof. Priyavrata Sharma and Guru Prasada Sharma, Kaiyadeva- Nigantu, Pathya Apathya Vibodhakah, Krittanna varga, First edition 1979, Chaukhambha Orientalia, Varanasi, Shloka no 57-59, pg no 411.
6. Prof. Priyavrata Sharma and Guru Prasada Sharma, Kaiyadeva- Nigantu, Pathya Apathya Vibodhakah, Krittanna varga, First edition 1979, Chaukhambha Orientalia, Varanasi, Shloka no 151, pg no 424.
7. Prof. Priyavrata Sharma and Guru Prasada Sharma, Kaiyadeva- Nigantu, Pathya Apathya Vibodhakah, Krittanna varga, First edition 1979, Chaukhambha Orientalia, Varanasi, Shloka no 176, pg no 428.
8. Dr G Prabhakara Rao, Sahasrayogam, Chapter 4, Yavagvadi Yoga Prakaranam, Reprint edition 2019, Chaukhambha Publications, New Delhi, 28th formulation, pg no 228.
9. Acharya Siddhinandan Mishra, Abhinav Bhaishajyakalpana Vidnyan, Choukhamba Prakashan, Reprint 2014, Page 156
10. Prof. Priyavrata Sharma and Guru Prasada Sharma, Kaiyadeva- Nigantu, Pathya Apathya Vibodhakah, Krittanna varga, First edition 1979, Chaukhambha Orientalia, Varanasi, Shloka no 119-120, pg no 420.
11. Dr G Prabhakara Rao, Sahasrayogam, Chapter 4, Yavagvadi Yoga Prakaranam, Reprint edition 2019, Chaukhambha Publications, New Delhi, 31st formulation, pg no 230.
12. G. D. Singhal, Sushruta Samhita of Sushruta, Volume 3, Uttara Tantra, Chapter 44, Second edition 2007, Chaukhambha Sanskrit Pratisthan, Delhi, Shloka no 18, pg no 323.
13. Dr G Prabhakara Rao, Sahasrayogam, Chapter 4, Yavagvadi Yoga Prakaranam, Reprint edition 2019, Chaukhambha Publications, New Delhi, 24th (a) formulation, pg no 226.
14. Dr G Prabhakara Rao, Sahasrayogam, Chapter 4, Yavagvadi Yoga Prakaranam, Reprint edition 2019, Chaukhambha Publications, New Delhi, 24th (b) formulation, pg no 226.
15. Bhisagratna Shri Brahmashankar Mishra, Shri Govinda Dasji, Bhaishajya Ratnavali, Volume 1, Chapter 12, Pandu roga, Reprint edition 2008, Chaukhambha Sanskrit Sansthan, Varanasi, Shloka no 10, Pg no 711.

16. Vaidhya Lakshmipati Shastry, Bishagrata Brahmarshankar Shastry, Yogaratnakara, Pandu Roga Chikitsa, Reprint edition 2013, Chaukhambha Prakashan, Varanasi, Shloka no 1, pg no 340.
17. Vaidya Jaymini Pandey, Harita Samhita, Chikitsa Sthana, Chapter 8, First edition 2010, Chaukhambha Visvabharati, Varanasi, Shloka 34, pg no 277
18. Dr Shashirekha H K, Charka Samhita, Volume 4, Chapter 16, First edition 2020, Chaukhambha Publications, New Delhi, Shloka no 114, pg no 38.

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Source of support: Nil

Conflict of interest: None Declared

Cite this article as

Dr Anusha S. : Ayurvedic Dietetic Recipes for Nutritional Deficiency Anemia; VIII(5): 2404-2410