

## A CRITICAL REVIEW ARTICLE ON PANDU W.S.R. ANAEMIA

Shivam Kumar Nigam<sup>1</sup>, Rita Singh<sup>2</sup>, Sanjay Srivastava<sup>3</sup><sup>1</sup>PG Scholar, Rog Nidan & Vikriti Vigyan<sup>2</sup>Reader, Rog Nidan & Vikriti Vigyan<sup>3</sup>Professor and HOD,

Rog Nidan &amp; Vikriti Vigyan Pt. Khusilal Sharma Government (Autonomous) Ayurveda Institute, Bhopal, Madhya Pradesh, India

Corresponding Author: [nigamshivam143@gmail.com](mailto:nigamshivam143@gmail.com)<https://doi.org/10.46607/iamj3409092021>

(Published Online: September 2021)

## Open Access

© International Ayurvedic Medical Journal, India 2021

Article Received: 23/08//2021 - Peer Reviewed: 03/09/2021 - Accepted for Publication: 04/09/2021



## ABSTRACT

*Pandu Roga* is one of the diseases mentioned in *Ayurveda* characterized by the changes in the skin colour to white (*Shweta*), yellowish (*Peeta*), greenish (*Harita*) etc. which is one of the “*Varnopalakshita Roga*” i.e., a disease characterized by the change in the colour. The clinical condition of *Pandu* in *Ayurveda* can be co-related with Anaemia described in Modern Medical Science, due to the resemblance in the clinical signs and symptoms. In Modern Medicine, *Pandu* is a pale appearance which may be due to the decreased blood supply to the skin or decreased visibility of oxyhemoglobin. Anaemia is a major global public health problem and the most prevalent nutritional deficiency disorder in the world. This article presents the *Ayurvedic* concept of *Pandu Roga* (Anaemia).

**Keywords:** *Pandu*, *Vyadhi*, *Srotas*, Anaemia, Pallor,

## INTRODUCTION

*Ayurveda* is the science of life that is focused on the maintenance of positive health in healthy and eradi-

cation of ailments in diseased through its holistic approach, lifestyle practices, dietary habits, and safer

medications. Malnutrition either due to inadequate dietary intake or lack of balanced diet and population explosion in today's world has led to the development of various diseases and *Pandu Roga* is one of such diseases. *Ayurveda* described *Pandu* as *Pitta Pradhana Vyadhi* associated with *Rasa* and *Rakta Dhatu*. *Dhatu* nourishment mainly affects disease due to *Pitta Prakopaka Ahara*.<sup>[1]</sup> *Pandu Roga* is one of the *Varnopalakshita Roga* mentioned in *Ayurveda* characterized by the changes in the skin colour to white (*Shweta*), yellowish (*Peeta*), greenish (*Harita*) etc.<sup>[2]</sup> *Acharya Charak* and *Vagbhatta* accepted *Pandu Roga* as a disease of *Rasavaha Srotas*, while according to *Sushruta* it is of *Rautavaara Srotas*.<sup>[3]</sup> *Pandu Roga* is characterized by the paleness of the body which may be due to reduced blood flow and oxygen or by a decreased number of red blood cells and Anaemia is one of the most common causes of paleness so *Pandu Roga* can be correlated with Anaemia.<sup>[4]</sup> Anaemia refers to a state in which the level of haemoglobin in the blood is below the reference range appropriate for age and sex.<sup>[5]</sup>

Anaemia is a major global public health problem having an influence on health as well as social and economic development affecting both developing and developed countries.<sup>[6]</sup> Anaemia is the most prevalent nutritional deficiency disorder in the world.<sup>[7]</sup> Globally, Anaemia affects 1.62 billion people, which corresponds to 24.8% of the population.<sup>[8]</sup> In India, Anaemia affects an estimated 50% of the population.<sup>[9]</sup>

In *Ayurveda* concept of *Pandu* is abundantly and mentioned in various literature. The knowledge of this concept is very beneficial to treat different disorders where *Pandu* is a symptom and disease itself. This article presents the *Ayurvedic* concept of *Pandu Roga* (Anaemia). Hence, in this article attempt has been made to review various available *Samhita*, *Samgrahagrantha* to find out the different descriptions about *Pandu* and bring all of them in a single place.

#### AIM AND OBJECTIVES:

To review the concept of *Pandu Roga* from different *Ayurvedic* literature.

#### MATERIAL AND METHOD:

Material has been collected from ancient *Ayurvedic* texts, Research Journals, and electronic databases.

#### REVIEW OF LITERATURE:

##### VYUTPATTI:

The word *Pandu* is derived from '*Padi Nashane*' *Dhatu* by adding '*Ku Pratyaya*' to it, the meaning of which is always taken in the sense of *Nashana* and as *Pandu* has been kept under the group which is classified and named according to the change in colour.<sup>[10]</sup>

##### NIRUKTI OF PANDU:

1. According to *Shabdarnava Kosh* '*Pandustu Peetbhagardh Ketaki Dhulisannibham*' means *Pandu* is like the colour of pollen grains of *Ketaki* flower which is whitish yellow.<sup>[11]</sup>
2. '*Pandutwenuplakshito Rogah Pandu Rogah*' means the disease which resembles *Pandu Varna* is known as *Pandu*.<sup>[12]</sup>

##### DEFINITION OF PANDU:<sup>[13]</sup>

*Sarveshu Chaiteshvih Pandubhavo Yatoadhikoatah Khalu Pandurogah. (Su.Ut. 44/4)*

It is called *Pandu Roga* because of the predominance of paleness all over the body.

##### SYNONYMS

According to *Shushrut Kamala*, *Panki*, *Laghrak*, *Alas* and *Kumbhahwa* are the synonyms of *Pandu*.<sup>[14]</sup>

In *Rigveda* and *Atharvaveda* *Pandu* has been described by the name of *Vilohita*, *Halima* and *Haribha*.<sup>[15]</sup>

##### TYPES OF PANDU ROGA

*Acharya Charak* described the disease under five categories namely *Vataja*, *Pittaja*, *Kaphaja*, *Sannipataja* and *Mridabhakshanajanya*<sup>[16]</sup> and *Acharya Susruta* has accepted only four types of *Pandu* excluding *Mridabhakshanajanya Pandu*<sup>[17]</sup>, they are:

1. *Vataj Pandu*
2. *Pittaj Pandu*
3. *Kaphaj Pandu*
4. *Sanipataj Pandu*
5. *Mridikabhakshanajanya Pandu*

*Acharya Harita* mentioned eight types of *Pandu* in *Harita Samhita* and described *Kamla*, *Kumbhakamla*, *Halimaka* as their Synonyms.<sup>[18]</sup>

### SAMANYA NIDAN (CAUSATIVE FACTORS):

[19], [20]

The etiological / *Samanya Nidana* of *Pandu Roga* mentioned in *Charka*, *Sushruta* and other *Samhitas* can be broadly classified into 3 groups. (*Charka Chikitsa* 16/8; *Sushruta Uttarsthan* 44/3)

1. *Aharaj Nidana*.
2. *Viharaj Nidana*.
3. *Mansik Nidana*

4. Other diseases i.e., *Nidanarthaka Roga*.

**1) Aharaj Nidana-** Food or diet plays an important role in the normal development and maintenance of different *Dhatus* as well as in the vitiation of *Dosha*.

- Excess intake of *kshaar* (alkaline), *amla* (sour), *lavan* (salt), *ushna* (hot) and *teekshna* (penetrating) *Ahaar*.
- The food/*Ahara* which is *virudhha* (incompatibles) and *asatmya* (unwholesome)
- Intake of *Nishpav*, *Masha*, *Pinyak* and *Til Tail* in excess.
- Excess consumption of wine (*Madya*), eating mud (*Mrida*) and *Mridu Ahaar*

**2) Viharaj Nidana:**

- Excessive *Diwaswapan*, *Vyayama* and *Maithun*.
- *Pratikarma Vaishmaya* (faulty administration of panchakarma) and *Ritu Vaishamay* (faulty management of seasonal regimen)
- Suppression of natural urge (*Vega Dharan*)

**3) Mansik Nidana:**

- *Mansik nidana* i.e., anxiety, fear, anger, and grief have a major role in the manifestation of *Pandu*.

**4) Other /Secondary/Nidanarthaka causes** – In *Ayurvedic* literature there is an indication of a correlation between various diseases and *Pandu Roga* either as a symptom or as *Upadrava*. So, all these can be causes of *Pandu* i.e., *Nidanarthaka Roga* of *Pandu*. E.g., *Raktatipravartana*, *Raktaarsha*, *Raktarbuda*, *Asrigdara* or *Raktapradara*, *Rajyakshama*, *Punara-vartaka Jwara* etc. which can directly or indirectly vitiate *Vata-Pitta Dosha* singly or in combination and manifest as *Pandu Roga*.

### PURVARUPA (PREMONITORY SYMPTOMS):

According to *Acharya Charak*:<sup>[21]</sup>

*Tasya Lingam Bhavishyath Hridyaspandanam Rokshyam Swedabhavah Shramsatatha. (Ch. Chi. 16/12)*

*Hridyaspandanam* (Palpitation), *Rokshyam* (dryness of the skin), *Swedabhavah* (absence of sweating), *Shramsatatha* (fatigue)

According to *Acharya Sushruta*:<sup>[22]</sup>

*Twaksphotnam Sthevangatrasadoo Mridbhakshanam Prekshankootsothah.*

*Vidmutrapitatwamathaavipako Bhavishtasya Purahsarani. (Su.U. 44/5)*

*Twaksphotnam* (cracking of skin), *Sthevan* (salivation), *Gatrasada* (sense of lassitude in the limbs), *Mridbhakshanam* (liking for mud intake), *Prekshankootsothhah* (swelling over eye socket), *Vid-Mutra Pitata* (yellow colour of stool-urine), *Avipaka* (Indigestion) these are mentioned by *Sushruta*.

### RUPA (SYMPTOMS):

*Acharya Charak* has mentioned the *Samanya* and *Vishesh rupa* of *Pandu Roga* in chapter 16 of *Chikitsa Sthaan* according to the *Dosha* involvement which is mentioned below.

*Samanya Rupa*:<sup>[23]</sup>

- Loss of *Indriye Bala*, *Tej*, *Veerya* and *Oja*.
- Loss of *Bala*, *Varna* and *Agni* (power of digestion).
- *Karnashveda* (tinnitus), *Durbalya* (general weakness), *Annadweshha* (aversion towards food), *Shrama* (fatigue), *Bhramanipidita* (giddiness), *Gatrashula* (body ache), *Jwara* (fever), *Shwasa* (breathlessness), *Gaurva* (heaviness), *Aruchi* (anorexia).
- *Akshikutashoth* (swelling over orbit), *Shirnaloma* (hair fall), *Hataprabha* (body complexion become greenish)
- *Kopana* (dislikes cold things), *Nidralu* (feeling of drowsiness), *Alpawaka* (avoid speaking), *Stheevan* (spitting frequently)
- *Pindikodweshthana* (calf muscle pain), *Katiuru-Paad Ruka* (pain and weakness in the lumbar, thighs and feet), *Arohaneayasa* (patient feels exhausted on climbing)

*Vishishta Rupa*: Acharya Charka had classified *Pandu Roga* into 5 types; based on these types *Vishesh Rupas* are described. [24], [25]

1. *Vataj Pandu*: - Krishna-Panduta (black and pale-yellow discolouration), Rukshata (roughness), Aruna-Angatam (Reddishness of the body), Angmarda (body ache), Ruja (pain), Toda (Pricking type of pain), Kampa (tremor), Parshvashiro-ruja (pain in chest-head), Varchashosh (dryness of stool), Aashyavairasya (distaste in mouth), Shopha (edema over body parts), Aanah (constipation), Bala-Kshaya (weakness).
2. *Pittaja Pandu*:- Pita-Haritabhata (complexion become either yellow or green), Jwara, Daha (burning sensation), Trishna (excessive thirst), Murcha (fainting), Pipasa, Pitamutrashakruta (yellowish discolouration of urine and stool), Sweda (profuse sweating), Sheetakamta (increase desire to take cold things), Katukasayta (feeling pungent taste in mouth), Ushnaamlanupashyata (uneasiness for hot and sour things), Vidahe vidagadhe Anne (feeling of burning sensation during indigestion of food), Daurgandhya (foul smell of body), Daurbalya (weakness), Bhinnvarcha (diarrhea)
3. *Kaphaja Pandu*:-Gaurava (heaviness), Tandra (Drowsiness), Chhardi, Shvetavbhasta (whitish complexion), Praseka (excessive salivation), Lomoharsha (Horripilation), Murchha (Fainting), Bhrama (giddiness), Klama (mental fatigue), Sada (looseness of body parts), Kasa, Shwasa (dyspnoea), Alasya (laziness), Aruchi (anorexia), Vaka-swaragraha (obstruction of speech and voice), Shukla Mutra-Akshivarchasa (whitish discolouration of urine, eye and stool), Katurukshoshna Kamta (feeling to take pungent, Hot and dry things), Shwayathu, Madhurasyata (sweetishness in mouth).
4. *Tridoshaja Pandu*: - Sign and symptoms of all the three vitiated *Doshas* are present, and this is extremely intolerable because of developing complications.
5. *Mridbhakshanajanya Pandu*: - Bala-Varna-Agni Nash (loss of strength, complexion, and power of

digestion metabolism), *Ganda-Akshikuta-Bhru-Pad-Nabhi-Mehan Shotha* (oedema on cheek, eye socket, eyebrow, feet, umbilical region, genital parts), *Krimi Koshta* (Appearance of intestinal worm), *Atisaryet Mala Sasruka Kapha* (diarrhoea associated with blood and mucus).

#### **SAMPRAPTI (PATHOGENESIS)** [26]

Acharya Charaka has mentioned the *Samprapti* of *Pandu* in *Chikitsa Sthan*. According to him, due to consumption of *Nidana Pitta* located in the *Hridaya* (*Sadhak Pitta*) gets aggravated and being expelled from *Hridya* by powerful *Vata* and it enters the *Dash-Dhamanya* (attached to the heart) and circulates all over the body. This aggravated *Pitta* reaches the space between skin and muscle tissue and brings vitiation in *Kapha*, *Vata*, *Asrika*, *Twaka* and *Mamsa*. This leading to abnormal types of colouration like *Pandu*, *Haridra* and *Harita* to the skin.

#### **SAMPRAPTI GHATAKA:** [27]

- *Dosha – Pitta Pradhan Tridoshaja*
- *Pitta - Sadhaka, Ranjaka and Bhrajaka*
- *Kapha – Avalambaka, Kledaka*
- *Vyana- Vyan Vayu*
- *Dushya - Twaka, Rasa, Rakta, Mamsa and Meda.*
- *Strotas – Rasavaha, Raktavaha*
- *Stroto Dushti - Sanga and Vimarga Gamanam.*
- *Agni - Jatharagni and Dhatvagni.*
- *Agni Dushti - Mandagni*
- *Udbhavasthaan - Amashaya*
- *Adhishthana - Twaka Mamsa Abhyantara*
- *Vyaktasthaan - Twaka*
- *Sancharasthaan – Twaka & Mamsa*
- *Svabhav – Chirkari*

#### **SADHYA-ASADHYATVA:**

Patient of persistence chronic *Pandu Roga* whose *Dhatu* gets *Khar* does not cure. Also develops oedema observes all the objects yellowish in colour. *Sharir Dhatus* becomes *Ruksha* and a decrease in *Bala* and *Varna* occurs and *Shotha* develops. *Rogi* suffers from constipation and passes loose stools with mucus having greenish discolouration and becomes *Deena*, suffers from *Murcha* and *Trushna*. [28]

## CHIKITSA:

**According to Acharya Charak:** <sup>[29]</sup>

*Tatra Panduvamy Snigdhatkshnaurdhvaaranu-lomikeh*

*Sansodhyo Mriduvitkteeh Kaamli Tu Viraichne. (Ch.Ch.16/40)*

According to Acharya Charak in *Sadhya Pandu Rog*, *Teekshna Vaman* and *Virechan* should be done.

**According to Acharya Sushruta:** <sup>[30]</sup>

*Harechha Doshan Bahushoalpamatrach Shvayedhhi Doshesvtinirharatesu (Su. Ut.44/22)*

Means in *Pandu Roga*, *Dosha* which get situated in *Dhatus*, *Srotas* and *Ashayas* should be removed by *Vaman* and *Virechan* repeatedly if not done so then these *Doshas* cause *Shotha* in the different body part.

*Snehana Karma*: in *Pandu Rogi* there is *Sneha- Abhava* (deficiency) and the *Doshas* get adhered to *Shakhas* therefore *Snehan* is essential to bring the *Doshas* in *Koshtha* and correct *Rukshata*. In *Pandu Rogi* both *Bahya* and *Abhyantara Snehana* are indicated. For *Abhyantara Snehana Acharya Charak* indicated some medicated *Ghee* i.e., *Panchagavya Ghrit*, *Mahatiktak Ghrit*, and *Kalyanak Ghrit* etc.

*Vamana* and *Virechana Karma*: *Samyaka Snehan* and *Swedana* bring the *Doshas* into *Koshtha* and by the action of *Vaman* or *Virechana Karma* they are expelled out of the body by their action. *Virechana* is considered as best *Shodhanopakarma* for *Pitta Dosh*. So, *Virechana* is most suitable in *Pandu Roga*.

*Shamana Chikitsa*:

- *Vishesh chikitsa*:
- In *Vatika Pandu Snigdha Guna Pradhan Aushadha* are to be used internally.
- In *Pittaja Pandu Tikta Rasa* and *Shitaveerya Pradhan Aushadha* are to be used internally.
- In *Kaphaja Pandu Katu-Tikta Rasa Yukta* and *Ushna Veerya Pradhan Aushadha* are to be used internally.
- In *Sannipataja Pandu Mishrit Guna Aushadha* are to be used internally.
- In *Pandu Poga Vanaspatika* and *Khanija Yoga*, *Asava Arishta*, *Avaleha*, *Churna Yoga*, *Vati Yoga* are used.

- *Mridbhakshana Pandu*: The ingested soil should be removed from the body by *Tikshna Sansodhan (Vaman and Virechana)* by evaluating the *Shaarik* and *Agni Bala* of *Rogi*. After the *Shodhana* when the soil gets out of the body then *Ag-nivardhak* and *Balvardhak* medicated *Ghrit* should be used to bring strength to the body.

## UPADRAVA:

According to Acharya Sushruta *Aruchi*, *Pipasa*, *Vaman*, *Jwara*, *Murdharuja*, *Agnisada Shopha*, *Kanthagata Abalatwa*, *Murcchha*, *Klama* and *Hrudayapidana* are the *Updrava* of *Pandu Roga*. <sup>[31]</sup>

## PATHYA-APATHYA

➤ *Pathyahara*:

According to Acharya Charak: <sup>[32]</sup>

- *Shalianna*, *Yava*, *Godhoom* mixed with *Yusha* prepared from *Mudga*, *Adhaki* and *Masur*
- *Jangal Mamsa Rasa*
- *Panchagavya Ghrit*, *Mahatiktaka Ghrit* and *Kalyanaka Ghrit* used for *Snehan Karma*.

According to Acharya Sushruta: <sup>[33]</sup>

- *Pandu Rogi* must use *Arishta* prepared from *Guda*, *Sharkara* (sugar) and *Shahad* (honey)
- *Asava* prepared from *Mutra* and *Kshara* should be used
- *Jangala Mamsa Rasa* added with *Sneha* (fat) and *Amalaka Swaras* should be used

➤ *Apathyahara*:

In *Bhaisajya Ratnavali* following *Apathya Aahar* are mentioned: <sup>[34]</sup>

- *Rakta Sruti*, *Dhoompan*, *Vaman Vega Dharan*, *Swedan* and *Maithoon* are to be avoided by *Pandu Rogi*.
- Avoid consumption of *Shimbi*, *Patrashaak*, *Ramath*, *Masha*, *Ambupaan*, *Pindyaak*, *Tambul*, *Sarshapa*, and *Sura*.
- Intake of water of rivers like those originating from *Vindhya* and *Sahyadri* Mountain.
- All types of salt, sour edibles, *Virudhha Anna* (incompatible foods), food that is *Guru* (heavy to digest) and *Vidahi* (cause a burning sensation).

**ARISHTA LAKSHANA**

Acharya Sushruta mentioned fatal signs and symptoms of *Pandu Roga* in *Sutra Sthana* (S.Su.33/23), which are [35]

- *Pandu Dhantnakha*
- *Pandu Netra*
- *Pandu Shangtadarshi*

**DISCUSSION**

*Pandu Roga* is *Pitta pradhana vyadhi*, *Pitta* is responsible for the normal colour of the body but when it gets vitiated, *Panduta* (Pallor) occurs. Though *Pitta* is *Pradhana Dosha* in *Pandu Roga*, *Vata Dosha* also plays a crucial role in the manifestation of *Pandu Roga*, mainly *Vyana Vayu* has a relation with *Samprapti* of *Pandu Roga*. *Pandu* is a *Rasvaha Srotas Vyadhi* from which a lot of people suffer. In *Samhitas* most of the *Acharyas* have described five types of *Pandu Roga*, i.e., *Vatika*, *Paittika*, *Kaphaja*, *Tridoshaja* and *Mridabhakshhanajanya Pandu*. The daily faulty routine activity related to mental or physical, faulty dietary habits like *Mridikabhakshana*, taking food deficient in quality and quantity, *Nidanarthaka Roga* is some etiological agents of *Pandu Roga*. *Acharya Charaka* mentioned three premonitory Symptoms of *Pandu Roga* i.e., *Hridyaspandanam*, *Rokshyam* and *Shram* which indicate its future presence. Also, in *Charak Samhita Samanya* and *Visheshrupa* of *Pandu Rog* is mentioned. *Pandu* is *Sadhya Roga* but in later stages, due to chronicity, it develops some complications. Hence, it is necessary to treat it in the early stage. According to *Acharya Charak* in *Sadhya Pandu Rog* medicated *Teekshna Vaman* and *Virechan* should be done. For the diagnosis and effective treatment, a physician must have complete knowledge of *Pandu Roga* by different *Samhitas*.

**CONCLUSION**

Now a day, numbers of patients suffering from *Pandu Vyadhi* are seen due to modern lifestyle, improper dietary habits in routine and the use of modern medicines. *Pandu* is a *Varnopalakshita* and *Pitta Pradhana Vyadhi* which is responsible for the normal colour of the body. *Pandu* can be correlated with

Anaemia. In *Ayurvedic* literature vast description of *Pandu Roga* and *Chikitsa* is given. To treat a *Pandu Rogi*, a physician must have complete knowledge of different aspects of *Pandu* like *Nidan*, *Roopa*, *Poorvaroopo*, *Samprapti*, and several *Chikitsa Yoga*, *Sadhyaasadhyta*, *Arishtalakshan* etc. from all *Samhitas*, *Nighantu*, and other literature.

**REFERENCES**

1. Agnivesh, Kashinath Shastri, Gorakhnath Chaturvedi, Vol. II, Re-edition, Chap. 16/4, Varanasi; Chaukhambha Bharati Academy, 2004; 487
2. Ambika Datta Sastry, Sushruta samhita, Uttara tantra, 7<sup>th</sup> Edition, Chaukhambha Sanskrit Samsthan, Varanasi, 1990, 286p.
3. Pandey Ajay Kumar, Textbook Of kaya chikitsa, Vol 2, Chapter 2, Chaukhambha Publications, New Delhi, First Edition 2019, P-167
4. Urvi R Dave, Anup Thakar. A clinical study of panduroga w.s.r to iron deficiency anaemia and its management with dhatriyarihta and Pandughna Vati. www.iamj.in - volume3; Issue7; ISSN: 2320 5091; July-2015, 1917pg.
5. Ralston H. Stuart et.al. Davidson's – Principle and Practice of Medicine, edited by Christopher Haslett, Elsevier Publication 2018, 23<sup>rd</sup> edition, p-923
6. G. Ramadevi, S. Jonah, U.N. Prasad. A clinical study on the effect of Dhatri lauha in Garbhinipandu (IDA) Int. J. Res. Ayurveda Pharma 2014; 5(6); 708-712.)
7. Parthibhan P, Chilambuselvi P, Sasireka R, Samraj K. Evaluation of haematinic activity of the Siddha Drug Pitha Paandu Maathirai on Phenyl Hydrazine induced anaemic rats International Journal of Research in Pharmacy and Biosciences August 2015; 2(7): 23-27
8. Kawaljit K. Anaemia 'a silent killer' among women in India: Present scenario. European Journal of Zoological Research 2014; 3(1): 32-36. 5.
9. Malhotra P, Kumari S, Kumar R, Varma S. Prevalence of anaemia in adult rural population of North India. Journal of the Association of Physicians of India Jan 2004; 52: 18-20
10. Pandey Ajay Kumar, Textbook Of kaya chikitsa, Vol 2, Chapter 2, Chaukhambha Publications, New Delhi, First Edition 2019, P-167
11. Taranath Tarkavachaspati. "Shabdasthome Mahanidhi". Veedanyantra Press, Calcutta 1976
12. Pandey Ajay Kumar, Textbook Of kaya chikitsa, Vol 2, Chapter 2, Chaukhambha Publications, New Delhi, First Edition 2019, P-168
13. Shastri Ambikadatta, susruta samhita, ayurveda tatvasandipika Hindi commentary, Vol. II, Chp. 44/15, Chaukhambha Sanskrit sansthan, Varanasi; reprint edition 2014; p-365

14. Ambika Datta Sastry, Sushruta samhita, Uttara tantra, 7 th Edition, Chaukhamba Sanskrit Samsthan, Varanasi, 1990, 286p.)
15. Rani Khushboo, Gujjarwar Vidula, Gujjarwar Shrinivas; Acta Scientific Nutritional Health, "Mridabhakshanjanya Pandu-Review Article; 3;4;2019, P-66-69
16. Shastri SN. "Panduroga Chikitsa adhyayah". In Carak Samhita 1st edition. Varanasi, IN: Chaukhamba Bharati Academy 2 (2013): 486.
17. Shastri, A. D. "Pandurogprathishedhoupkram Varnan". In Susruta Samhita Part II 1st edition. Varanasi, IN: Chaukhamba Sanskrit Sansthan (2013): 365.)
18. Tripathi Pt. Harihara Prasad Harita Samhita Hari Hindi VyakhyaSahita, Varanasi, Chuakhambha Krishna Das Academy, 2<sup>nd</sup> Edition,2009, Tritiya Sthana, Chapter 21, Pg. 358)
19. Agnivesh, Charaka, Dradhabala, Pt. Kashinatha Shastri and G. Pandeya; Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana,16/7-9, Chaukhamba Sanskrit Sansthan, 6th edition 2000, p.415
20. Shastri Ambikadatta, susruta samhita, ayurvedatvasandipika Hindi commentary, Vol. II, Chp. 44/3, Chaukhamba Sanskrit sansthan, Varanasi; reprint edition 2014; p-364
21. Agnivesh, Charaka, Dradhabala, Pt. Kashinatha Shastri and G. Pandeya; Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana,16/12, Chaukhamba Sanskrit Sansthan,6th edition 2000, p.416.
22. Sushruta, A. Shastri, Sushruta Samhita, Ayurvedtatva Sandipika Hindi commentary, Uttartantra 44/5, Chakhambha Bharti Academy, Varanasi, Reprint2013, p.366
23. Agnivesh, Charaka, Dradhabala, Pt. Kashinatha Shastri and G. Pandeya; Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana,16/13-16, Chaukhamba Sanskrit Sansthan,6th edition 2000, p.416.
24. Agnivesh, Charaka, Dradhabala, Pt. Kashinatha Shastri and G. Pandeya; Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana,16/3, Chaukhamba Sanskrit Sansthan, 6th edition 2000, p.414.
25. Agnivesh, Charaka, Dradhabala, Pt. Kashinatha Shastri and G. Pandeya; Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana,16/19-22, Chaukhamba Sanskrit Sansthan, 6th edition 2000, p.417-418.
26. Agnivesh, Charaka, Dradhabala, Pt. Kashinatha Shastri and G. Pandeya; Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana,16/9-11, Chaukhamba Sanskrit Sansthan, 6th edition 2000, p.415.
27. Byadgi S. Parameswarappa, Textbook Of Vikrti Vijnana & Roga Vijnana, Vol.2, Chapter 1/17, Chaukhmbha Publications, New Delhi, Reprint Edition 2019 P-64
28. Tripathi Brahmanand, Charaka Samhita, Hindi commentary, Vol. II, Chap. 16/31-32, Chaukhambha Surbharati prakashan, Varanasi; 2015; p-595
29. Tripathi Brahmanand, Charaka Samhita, Hindi commentary, Vol. II, Chap. 16/41-42, Chaukhambha Surbharati prakashan, Varanasi; 2015; p-598
30. Shastri Ambikadatta, Sushruta Samhita, ayurvedatvasandipika Hindi commentary, Vol. II, Chp. 44/20, Chaukhamba Sanskrit sansthan, Varanasi; reprint edition 2014; p-373
31. Shastri ambikadatta, susruta samhita, ayurveda tatvasandipika Hindi commentary, Vol. II, Chp. 44/15, Chaukhamba Sanskrit sansthan, Varanasi; reprint edition 2014; p-371
32. Tripathi Brahmanand, Charaka Samhita, Hindi commentary, Vol. II, Chap. 16/41-42, Chaukhambha Surbharati prakashan, Varanasi; 2015; p-598
33. Shastri Ambikadatta, susruta samhita, Ayurvedatvasandipika Hindi commentary, Vol. II, Chap. 44/41, Chaukhamba Sanskrit sansthan, Varanasi; reprint edition 2014; p-378
34. Shastri Ambikadatta; Bhaisajyaratnavali Vidyotni Hindi Commentary Chaukhamba Sanskrit Sansthan Varanasi Chapter,12 P-277
35. Sharma Anantram, susruta samhita, susrutavimarsini Hindi commentary, Vol. I, Chap. 33/23, Chaukhambha Surbharti prakashan, Varanasi; edition 2013; p-262

**Source of Support: Nil**

**Conflict of Interest: None Declared**

How to cite this URL: *Shivam Kumar Nigam et al: A Critical Review Article On Pandu W.S.R. Anaemia*. International Ayurvedic Medical Journal {online} 2021 {cited September 2021} Available from: [http://www.iamj.in/posts/images/upload/2144\\_2150.pdf](http://www.iamj.in/posts/images/upload/2144_2150.pdf)