

CLINICAL EVALUATION OF NAVAYASA CHURNA IN THE MANAGEMENT OF PANDU W.S.R. TO IRON DEFICIENCY ANAEMIA

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ABSTRACT

In this 21st century, life style has changed very rapidly. As life style is changing in the society, diet, habits, are also changing very rapidly. Now-a-days people take fast food regularly; moreover they show negligence in taking care of their health. As a result of this, people suffer from various diseases. Among these diseases “*PANDU ROGA*” is a very common disease, seen especially in developing countries like India. The management of Anaemia includes various oral iron preparations, but these oral iron preparations have various side effects like nausea, vomiting, diarrhoea, constipation, metallic taste etc.^[8]

These further deteriorate the health of the patient due to alteration in the intestinal flora. *Ayurveda* has lots to offer for the treatment of *Pandu Roga*. Out of several herbal and herbomineral preparations mentioned in *Ayurvedic* classics, *Navayasa churna*^[1] was selected. For this purpose total 30 patients were registered. The patients were assessed on subjective and haematological parameters for obtaining the effect of the drug. All clinical signs and symptoms were assessed on the basis of scoring given to them. Duration of clinical trial was of two months and all the patients were regularly followed up twice in a month to evaluate the therapeutic effect of the trial drugs.

KEYWORDS: Iron Deficiency Anaemia, *Pandu Roga*, *Navayasa churna*.

INTRODUCTION

In today's changing world, “While the poor are not able to afford a good diet, and the rich due to their fondness for junk food, do not eat a balanced diet.” Thus, malnutrition either due to inadequate dietary intake or lack of balanced diet and population explosion has led to the

development of various diseases and *Pandu Roga* is one such disease. *Pandu Roga* is a *Pitta Pradhana Vyadhi* and since *Pitta* is responsible for normal colour of the body, so, if it gets vitiated, impairment of colour and complexion (*Panduta*) occurs. Thus, disease characterised by *Pandu Varna* due to significant deficiency of *Rakta Dhatu* is known as *Pandu Roga*. Due to *Nidanas* like excessive intake of *Kshariya*, *Amla*, *Lavana*, *Ushna*, *Viruddhahara*, *Asatmya Bhojana*, *Divaswapna* and *Vegavrodha*, all the three *Doshas* especially *Pitta Dosha* gets aggravated which in turn vitiates *Kapha*, *Vayu*, *Rakta*, *Twaka*, *Mamsa* and *Ojas* and produces yellowish discolouration (*Panduta*) of the skin as a result of which *Pandu Roga* occurs. The nearest correlation of Iron Deficiency Anaemia can be made with *Pandu Roga* in *Ayurveda*.

According to WHO, 50% of children and women and 25% of men in developing countries like India are suffering from Iron Deficiency Anaemia. It reduces the work capacity of individuals and bring serious economic consequences and obstacles to the National Development. Dyspnoea, anorexia, fatigue, palpitations headache, pallor of skin etc are the various signs and symptoms of Anaemia.^[9]

Aims and Objectives of the study

- Conceptual study of *Pandu Roga* vis-à-vis Iron-Deficiency Anaemia.
- To clinically evaluate therapeutic effects of *Navasaya churna* in the management of *Pandu Roga* w.s.r. to Iron-Deficiency Anaemia.

MATERIALS AND METHODS

- Selection of case Patients were selected from JIAR, Jammu.

➤ **Inclusion Criteria**

- Patients having Haemoglobin concentration between 6-10gm%.
- Patients having classical signs and symptoms of *Pandu Roga* as mentioned in *Ayurvedic* texts like *Panduta*, *Daurbalya*, *Aruchi*, *Mandagni*, *Shrama Shwasa*.
- Age group – 20-60 yrs.

➤ **Exclusion criteria**

- Patients having Haemoglobin concentration below 6gm%.
- Age below 20 years and more than 60 years.
- Patients suffering from following disorders: Pernicious Anaemia, Megaloblastic Anaemia, Aplastic Anaemia, Haemolytic Anaemia, Leukaemia, Anaemia due to

menstrual disorders, worm manifestations Tuberculosis, diabetes, sprue and other systemic diseases, Patient who had gastrectomy.

➤ **Criteria of Assessment**

For evaluating the efficacy of drugs, following parameters were adopted before and after the completion of clinical trial.

• **Clinical Assessment**

- Improvement in the signs and symptoms of *Pandu Roga* as per *Ayurvedic* classics.

Panduta, Daurbalya, Aruchi, Mandagni, Shrama Shwasa.^[1]

- Improvement in the general health of the patients and increased feeling of well being.

➤ **Laboratory Investigations**

Haemoglobin concentration (Hb), Reticulocyte count, E.S.R.(Erythrocyte Sedimentation Rate), PBF (Peripheral Blood film), PCV (Packed Cell Volume), MCV (Mean Corpuscular Volume), MCH (Mean Corpuscular Haemoglobin), MCHC (Mean Corpuscular Haemoglobin Concentration).

MATERIALS

Materials (Drugs) used in the research work were.

Navayasa Churna^[1]

Ingredients of Navayasa churna: *Amalaki, Haritaki, Bibhitaki, Pippali, Shunthi, Maricha, Musta, Vidanga, Shudha Lauha Bhasma.*

☐☐ **Method of preparation:** All the drugs were taken in equal quantity, impurities were extracted and drugs were reduced into a fine powder. Then 9th part of *Shudha Lauha Bhasma* was added.

☐☐ **Administration of the Drug:** The patients fulfilling the criteria for clinical trial were selected.

Administration of drug

Single Group: 30 patients of *Pandu Roga* were given *Navayasa Churna* 500 mg BD with unequal amount of *Madhu* and *Ghrita* after meals.

Duration of Trial and Follow up

Duration of clinical trial was of two months and all the patients were regularly followed up twice in a month to evaluate the therapeutic effect of the drug.

OBSERVATIONS AND RESULTS

Table no. 1: Effect of Navasya Churna on Subjective Parameters.

Symptoms	Mean		Mean DIFF.	% Relief	S.D.	S.E.	t.value	p.value
	B.T	A.T						
<i>Panduta</i>	1.93	0.73	1.2	62.06%	0.40	0.074	17.1	<0.001
<i>Daurbalya</i>	1.83	0.76	1.06	58.18%	0.36	0.06	17.6	<0.001
<i>Aruchi</i>	1.3	0.5	0.8	61%	0.48	0.08	10	<0.001
<i>Mandagni</i>	1.73	0.73	1	57.69%	0.37	0.06	16.6	<0.001
<i>Shrama/ Shwasa</i>	1.83	0.83	1	54.54%	0.41	0.07	14.2	<0.001

Table no 2: Effect of Navasya Churna on Objective Parameters.

	Mean		Mean DIFF.	% Relief	S.D.	S.E.	t.value	p.value
	B.T	A.T						
Hb	7.3	11.1	3.9	56.1%	1.25	0.23	15.2	<0.001
RETICULOCYTE COUNT	0.78	1.13	0.35	44.8%	0.49	0.08	6.62	<0.001
ESR	17	11.2	5.8	51.7%	6.1	1.12	7.08	<0.001
PBF	1.5	0.7	0.8	53.1%	0.82	0.15	5.3	<0.001
PCV	29.4	42.1	12.7	43%	4.07	0.75	16	<0.001
MCV	62.1	94.7	32.6	52.4%	15	2.7	11.2	<0.001
MCH	19.1	28.2	9.1	50.7%	2.5	0.46	16.1	<0.001
MCHC	25.3	36.9	11.6	52.1%	6.0	1.1	10.8	<0.001

Probable Mode of Action of Drugs

Navayasa Churna is one of the most effective classical drugs. It is a herbomineral compound indicated for the management of *Pandu Roga*.

S.No.	Ingredient	Mode of Action
1.	<i>Amalaki</i>	<i>Rasayana, Tridoshajit, Vrishya, Balya</i>
2.	<i>Haritaki</i>	<i>Hridya, Meedya, Rasayana, Anulomana</i>
3.	<i>Bibhitaki</i>	<i>Rasayana, tridoshajit, Krimi</i>
4.	<i>Shunthi</i>	<i>Srotoshodhana, Agnideepana, Anulomana</i>
5.	<i>Pippali</i>	<i>Rasayana, Srotoshodhana, Agnideepana</i>
6.	<i>Maricha</i>	<i>Krimighna, Srotoshodhana, Agnideepana</i>
7.	<i>Musta</i>	<i>Dipana, Pachana, Grahi, Shothahara</i>
8.	<i>Vidanga</i>	<i>Krimi, agnimandya, udara, vibanda, shula.</i>
9.	<i>Shudha Lauha</i>	<i>Rasayana, Raktavardhak, Yogavahi</i>

Action of a medicine mainly depends upon its subtle constituents like *Rasa, Guna, Virya, Vipaka* and *Prabhava* etc.

- *Amalaki* being the ingredient of *Navasaya churna* possesses *Pitta pra-dhana tridosha shamaka* action which could be considered as the most desired action of a drug in a *Pitta pradhana tridoshaja vyadhi* like *Pandu*. Thus the drug directly acts on the major *dosha* involved in the *samprapti* of *Pandu*, bringing about *shamana* of the *prakupita doshas*.
- Maximum drugs in *Navasya Lauha* i.e. *Shunthi*, *Maricha Pippali* have *katu rasa* and are *srotoshodhaka*, so they clear the obstruction in *Srotasa* and assist in *Samprapti Vighatana* of *Pandu Roga*. Moreover *Deepana*, *Pachana* and *vatanulomaka* properties of *Maricha* and *Pippali* improves digestion and also reduces *ama uttpatti*. This counteracts poor digestion found in *Pandu Roga*.
- Most of the ingredients have *Katu* and *Madhura Vipaka*, *Katu Vipaka* increases the metabolism and *Madhura Vipaka* does the *Dhatu Poshana* and increases the vital strength.
- *Pippali* is *Yakrituttejaka*, acts on *ya-krit* and *pleeha* (the *moola sthana* of *ranjaka pitta*, which does the *rasa ranjana*), thereby proper *rasa dhatu* formation occurs.
- *Lauha bhasma* have *raktavardhaka* properties, so they directly increases the *rakta*.
- *Amalaki* is the richest source of vit-amin C. Vitamin C reduces ferric iron into ferrous and helps in produc-ing red blood cells. Also it acts as *rasayana* to prevent *Ojokshaya*.

Effect of *Navayasa Churna* on Subjective Parameters

Amalaki, *lauha* are the main ingredient in this *yoga*. *Pippali*, *Maricha*, *Shunthi* are *Katu Rasa Pradhana Dravya* which promote *Agni* by *deepana* and *pachana* properties does *Ama pachana* which nullify the *Agnimandya*, *Aruchi* like *lakshanas* of *Pandu Roga*. Vitiated *Pitta* is brought to normalcy by *Madhura vipaka*. *Pramathya* property of *Maricha* helps in clearing of *srotavorodha*. *Lauha bhasma* directly increases the *Rakta Dhatu*. Regarding *Daurbalya*, *Pippali* and *Amalaki* both are *Rasayana* and *Balya*. It nourishes all the *Dhatu*s by proper digestion and absorption of *Ahara Rasa*. *Uttrotara Dhatu poshana* is improved by the *dravyas*, helpful in reducing *Shrama/ Shwasa*.

Effect of *Navasya Lauha* on Objective Parameter

Pippali being bioavailable drug, enhances absorption and systemic utilisation of the nutrients. *Navayasa Churna* showed highly significant results in correcting MCV, the insufficiency of iron slows the process of red blood cell production. When more iron is absorbed it helps in the production of normal erythrocytes. *Amalaki* possesses highest level of vitamin C,

enhances iron absorption. *Krimighna* property of *Maricha* and *Pippali* controls the concurrent parasitic infection in Iron Deficiency Anaemia, eliminating one of the major etiology.

Navasya churna does the correction of disproportionate reduction of red cell haemoglobin, hence showed highly significant results in MCH.

It also showed highly significant result by improving Haemoglobin Concentration in Red Blood cell which implies that regeneration of constituents of blood also is being taken care of.

SUMMARY AND CONCLUSION

Pandu Roga is a *Pitta Pradhana Vyadhi* and since *Pitta* is responsible for normal colour of the body, so, if it gets vitiated, impairment of colour and complexion (*Panduta*) occurs. *Navayasa Churna* (a herbomineral drug) has proved to be quite effective in the treatment of *Pandu Roga*. The drug effectively reduced the signs and symptoms of *Pandu Roga* as well as provided highly significant results in haematological parameters without involving undesirable side effects.

“Thus, it may be concluded that *Navasya Churna* is a potent remedy in the management of *Pandu Roga w.s.r. Iron Deficiency Anaemia*”.

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