EFFECT OF VARDHAMANA PIPPALI RASAYANA IN PANDU ROGA W.S.R. TO IRON DEFICIENCY ANEMIA

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ABSTRACT

There is a drastic change of life style in the present era. Individuals are subjected to enormous amount of stress and strain thereby causing a deleterious effect on quality of life. Compounding the stress and strain are the environmental factors and poor quality of nutrition. Because of pollution and indiscriminate use of pesticides the quality of nutrition has deteriorated significantly. Consequently increasing incidents of Anaemia particularly Iron Deficiency Anaemia is coming into manifestation. This is a problem which can be easily and effectively treated. If neglected can cause severe deterioration in the physical and mental performance of the individual, leading to loss of productivity. Hence it is imperative that all cases of Iron Deficiency Anaemia are actively treated. The reference about Pandu is found in both Bruhtrayees and Laghutrayees in detail. It carries the lakshana’s of Panduta, Dourbalya, Bhrama, Shwasa, Akshikuta sotha etc. All clinical signs and symptoms of Pandu are identical to Anaemia. Thus Anaemia can be correlated with Pandu Roga.

Key words: Pandu, Vardhamana Pippali Rasayana, Iron deficiency anaemia

INTRODUCTION

Pandu, Iron deficiency is commonest nutritional deficiency disease and its prevalence is between 30-40% in India. It is most commonly seen in low socio-economic people due to under nourishment and malnourishment. The disease has its special characters like skin resembles the color of Pollen grains of Ketaki pushpa¹. Etiological factors of Pandu roga are like excessive physical exertion, over use of wines, eating mud, day sleep². As Pippali (Piper longum) is known to increase the absorption of iron from colon so the study was planned to see the efficacy of Vardhamana Pippali Rasayana (increased dose chronology) on Pandu.

AIMS AND OBJECTIVES

The study was carried out with the following objective:
1. To evaluate efficacy of Vardhamana Pippali Rasayana in the management of Pandu roga.

MATERIALS AND METHODOLOGY

Inclusion Criteria:
- Patients presenting with the signs and symptoms of Pandu roga were selected.
- Patients of either sex with the age group between 25 to 50 years were selected.
- Hb% below 9 g and above 6 g were selected.
Exclusion Criteria:
- Hb % below 6 g%
- Anaemia due to other metabolic disease
- Pregnancy

Diagnostic Criteria:
Signs and symptoms mentioned in Ayurveda for Panduroga
- Panduta
- Dourbalyata
- Hridspandanam
- Bhrama
- Shunakshikuta
- Twak rukshata
- Swasa
- Kasa
- Aruchi
- Pindikodwestana
- Jwara
- Shitilendriyata
- Nidraluta
- Karnaksweda

Sample Size: Total patients taken for the study were 40. (Excluding dropouts)

Posology: Dose administered was madhya matra³

dosage: On 1st day 6 Pippali (1.8g) were given, from second day onwards up to the 13th day 6 pippali were increased daily. From the 14th day the number of Pippali were decreased in the same order till it comes to 6 (on the 25th day).

Anupana: Milk; Duration: 25 Days

Follow Up: one month

OBSERVATIONS AND RESULTS

Observations of patients based on Panduta:
Before treatment, mean of panduta was 3.2 and after treatment was 0.75 and all 40 patients were having symptom of Panduta. The most important presenting sign of Pandu Roga is Panduta or Pallor. The effect of therapy, very significant result was seen in 95%. The results were found to be highly significant.

Observations of patients based on HB %: In this study, out of 40 patients, 28 were having Hb% in between 08 to 10 range, 12 (30%) were having in between 6 to 8g.

Observation on the bases of Dourbalyata:
Mean of dourbalyata before treatment was 2.6 and after it was 0.47. All 40 patients were having Daurbalyata. Thus, it may also be concluded that this symptom is also most prominent symptom in Pandu Roga. Results were highly significant in case of 95% relief was found with statistically P-value (P<0.001).

Observation on the bases of Aruchi:
Before treatment mean of Aruchi was 0.95 and after it was 0.2. Here 39 (97.5%) were having Aruchi symptom and 100% relief was observed this is statistically highly significant

Observation on the bases of Serum Iron:
Before treatment Serum Iron mean is 2.05 and after it was 0.23. Shwasa is observed in anemic patients due to raktalpta. It was found in 40 (100%) patients. The relief was good in 95% which is statistically insignificant.

Table 1: Changes in the subjective criteria

<table>
<thead>
<tr>
<th>SL No</th>
<th>Signs and Symptoms</th>
<th>BT</th>
<th>AT</th>
<th>Mean (X)</th>
<th>SD</th>
<th>SE</th>
<th>T-Test</th>
<th>Z-Test</th>
<th>P Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Panduta</td>
<td>3.2</td>
<td>0.75</td>
<td>2.45</td>
<td>0.50</td>
<td>0.11</td>
<td>30.755</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
<tr>
<td>2</td>
<td>Dourbalyata</td>
<td>2.6</td>
<td>0.47</td>
<td>2.12</td>
<td>0.33</td>
<td>0.7</td>
<td>35.05</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
<tr>
<td>3</td>
<td>Hridspandanam</td>
<td>2.6</td>
<td>0.47</td>
<td>1</td>
<td>0.87</td>
<td>0.20</td>
<td>7.2</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
<tr>
<td>4</td>
<td>Akshikuta Shotha</td>
<td>0.95</td>
<td>0.18</td>
<td>0.77</td>
<td>0.69</td>
<td>0.16</td>
<td>7.02</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
<tr>
<td>5</td>
<td>Aruchi</td>
<td>0.95</td>
<td>0.2</td>
<td>0.75</td>
<td>0.49</td>
<td>0.11</td>
<td>9.61</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
<tr>
<td>6</td>
<td>Pindikodwestana</td>
<td>0.77</td>
<td>0.1</td>
<td>0.67</td>
<td>0.63</td>
<td>0.18</td>
<td>5.35</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
<tr>
<td>7</td>
<td>Bhrama</td>
<td>0.97</td>
<td>0.12</td>
<td>0.85</td>
<td>0.42</td>
<td>0.09</td>
<td>11.12</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
<tr>
<td>8</td>
<td>Swasa</td>
<td>0.97</td>
<td>0.15</td>
<td>0.82</td>
<td>0.81</td>
<td>0.18</td>
<td>6.41</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>Hs</td>
</tr>
</tbody>
</table>
**DISCUSSION**

**Discussion on disease:** Panduroga is a disease characterized by pallor of skin which resembles with ‘Anaemia’ according to Modern science. Anaemia is a disease characterized by reduction in the Hbg% and number of RBCs/cu mm of blood, thereby reducing oxygen carrying capacity of blood resulting in pallor and other symptoms. Pandu Roga can be compared with Anaemia on the basis of its similar signs and symptoms.

The world’s population is increasing at a rapid rate, with the result most of the people are living in un-hygienic, under-nourishing conditions and facing various effects of stress and strain factor. Illiteracy is also a problem in developing countries like India due to which great majorities of people are living below poverty line and cannot get quantitatively and qualitatively sufficient diet. The disease causes extreme debility as the symptoms like Hridspandana, Arohanayasa, Shrama, etc. Initially there is physiological adaptation and the patient is not troubled, but after some time due to long standing disease, metabolic defects occur due to which there is emaciation and wasting of body and a feeling of sickness.

According to Ayurveda “Dhatu kshaya” occurs which then leads to “Ojo kshaya”. That’s why Acharyas have mentioned ‘Hatanala’, ‘Hatendriya’ etc. as the lakshan of Panduroga. Ayurveda as a medical science not only helps in the upkeep of normal health and prevention of illnesses but also plays a major role in the curative aspect of some of the common debilitating illnesses that remain so far, unconquered by modern science even in the 21st century.

**Discussion on Drug:** There are more number of yogas in Ayurveda for the treatment of Pandu roga, in which Vardhamana Pippali Rasayana is safe, economical and easily available. It has properties like Rasayana, Deepana, Pachana, Raktavardhaka, etc properties. As the disease is concerned with the involvement of Rasa and Rakta dhatu kshaya, Pippali has properties like Balya, Rasayana, Pandu rogagna. So considering above said properties the drug was selected Vardhamana Pippali Rasayana for the management of Pandu roga. Hence Vardhamana Pippali Rasayana appears to be ideal in samprapti vighatana. Piperine is significantly reduces the rate as well as the extent of bioavailability of any drug or food, along with its inhibitory action on Cytochrome P450 enzyme. Thus delays the gastric emptying time. Hence their lead to increase the absorption of iron or metals from gut takes place, along with inhibition of Cytochrome which increases Hemoglobin.

**Discussion on clinical study:**

**Plan of the Study:** The patients were assessed on different parameters to study the effect of therapies. All clinical signs and symptoms were assessed on the basis of scoring given to them.

<table>
<thead>
<tr>
<th>Result</th>
<th>Percentage of Parameters</th>
<th>No of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Remission</td>
<td>100% relief in the subjective &amp; objective parameter.</td>
<td>03</td>
</tr>
<tr>
<td>Markled Improvement</td>
<td>More than 75% in the subjective &amp; objective parameter.</td>
<td>28</td>
</tr>
<tr>
<td>Moderate Improvement</td>
<td>50 to 74% relief in the subjective &amp; objective parameter.</td>
<td>08</td>
</tr>
<tr>
<td>Mild Improvement</td>
<td>25 to 49% relief in the subjective &amp; objective parameter.</td>
<td>01</td>
</tr>
<tr>
<td>Unchanged</td>
<td>Result below 25% was consider as unchanged.</td>
<td>00</td>
</tr>
</tbody>
</table>
Three patients showed complete remission i.e. 100% relief. Out of 40 patients 28 patients showed more than 75% relief as a marked improvement. Out of 40 patients 08 patients showed the results in-between the 50% to 74% relief which show as moderate improvement. Out of 40 patients 01 patient showed the results in-between the 25 to 49% relief in the subjective and objective parameters which show as mild improvement. There are no patients seen in unchanged i.e. less than 25%.

**CONCLUSION**

In the present clinical trial, Vardhamana Pippali Rasayana showed the results that the effect of this dravya produced highly significant results in ameliorating lakshanas like Panduta, Dourbalyata, Akshikuta shotha, Aruchi, bhrama. Vardhamana Pippali Rasayana is very effective in treatment of Pandu roga. Vardhamana Pippali yoga is safe, economical and easily available.

**REFERENCES**

3. Charaka samhita chikitsa sthana 1st chapter 3rd pada.

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