A Comparative Clinical Study to evaluate the effect of Haritaki Churna and Amalaki Churna in Pandu (Iron Deficiency Anemia)

Dr. Irappa Hudedmani,1 Dr. S. P. Mangoli2

1Post Graduate Scholar, 2Professor and HOD, Department of Kayachikitsa, BLDEA’s AVS Ayurveda Mahavidyalaya, Vijayapura, Karnataka, India.

ABSTRACT

Pandu is a Pitta Pradhana Tridosha Vyadhi producing Pandutva or Pandu Varna in Mukha, Nayana, Asya and Mutra. Alpa Rakthata, Vaivarnaya, Agni Mandhya, Ojokshaya and Balahani are other symptoms. It affects people of all ages irrespective of sex. Haritaki Churna and Amalaki Churna are having Deepana, Pachana, Varnya, Tridosha Shamaka, Raktha Vardhaka, Rasayan and Ojovardhaka properties which helps in Samprapti Vighatana of Pandu Roga. This study is an attempt to clinically analyze the independent effect of Haritaki Churna and Amalaki Churna in Pandu Roga. This study is a single blind comparative clinical study conducted on 60 subjects divided randomly in two groups. They were reviewed at an interval of 15 days for 1 month. Haritaki Churna was given at a dose of 1.5g. twice a day with Madhu before food. Amalaki Churna was given at a dose of 1.5g. twice a day with Madhu before food. The Patients were assessed with severity of symptoms subjectively and objectively before and after treatment. Data from each group were statistically analyzed and compared. Both the group showed marked results but Amalaki Churna is slightly significant then the Haritaki Churna in the management of Pandu (IDA). The study shows that both Haritaki Churna and Amalaki Churna are effective in relieving the symptoms of Pandu Roga. Haritaki Churna was effective in subjective parameter like Pandutva, Arohanayasa, Shrama, Aruchi, Bhrama, Daurbalya, Hairfall, Bodyache, Glossitis, Hb%, RBC, and Sr.Ferritin. Amalaki Churna was effective in conditions like Pandutva, Arohanayasa, Aruchi, Shrama, Karna Ksweda, Daurbalya, Hairfall, Bodyache, Hb% PCV, Sr.Iron and TIBC.

Key words: Pandu Roga, Haritaki Churna, Amalaki Churna, Iron Deficiency Anemia.

INTRODUCTION

Ayurveda is the only medical science which teaches the understanding of life. what exactly is life? what do we expect from life? And what is the art of living ? Ayurveda is a preventive medical science and has curative property too.

In India majority of people suffers from malnutrition, many nutritional deficiency diseases like anaemia which is described in Ayurveda as Pandu Roga are caused due to poverty, illiteracy and lack of health service. Majority of people have their haemoglobin percentage lower than normal and due to this their immunity also decreases. In Ayurveda we can describe this as “Rakta Dhatu Kshaya.”

Nutritional anaemia is a major public health problem in India and is primarily due to iron deficiency. Low dietary intake, poor availability of iron, chronic blood loss due to hook worm infestation and malaria are causes for this.[1]
The WHO Global Database Prevalence on Anaemia for 1990-2012, covering almost half the world’s population, estimated the prevalence of anaemia worldwide at 32%. Although the prevalence of anaemia is estimated as included 257 surveys conducted of which 232 (90%) were nationally representative sources. 205 sources (80%) had data conducted of which 232 (90%) were nationally

anaemia is estimated as included 257 surveys worldwide at 32%. Although the prevalence of

Iron Deficiency Anaemia in India is rampant among children below the age of 3 years (78.9%) and women (55%), men follow at 24% according to National Family Health Survey (NFHS). The basic symptoms of this anaemia are fatigue, weakness, lethargy, shortness of breath and decreased concentration.

Pandu Roga is a Santarpanotha Vyadhi with Pandu Varna or Pandu Bhava. Acharya Charaka mentioned it as one among the Rasavaha Sroto Vikaras while Acharya Susruta mentioned it as Rakta Sroto Vikara. It is a Pitta Pradhana Tridosha Vyadhi which vitiates Rasadi Dhatu. Prakupita Pitta resides in Tvak and Mamsa and causes Vata, Kapha, Asrik, Tvak and Mamsa Dushti. This results in Pandu Lakshanas like Vaivarnya, Hrid Dravata, Tandra, Bhrama and Shrama. On Anupakrama it causes Upadrasvas like Aruchi, Pipasa, Chardi, Jwara and may result in Asadhya Lakshanas. The word Pandu is a Pum Linga Shabda formed from the Dhatu 'Padi Gatou'. Padi means Gati i.e. transformation. The word 'Padi Gatoo' signifies the formation of Rasa, Rakta and other Dhatus. If the transformation process of Dhatu is not proper or hindered, then it leads to Pandu Roga. Pandu Roga is a disease named on the basis of Varna, Pandu Varna is a combination of Shweta and Peeta Varna in equal Proportions, similar to pollen grains of Ketaki. Pandu Varna is the combination of Shukla and Peeta. The disease is named Pandu Roga where in Pandu, Harita and Haridra Varnas are seen. Disease where in Akshi, Nakha and Vakthra are Shweta Varna is called as Pandu Roga. Charaka includes Haridra and Harita Varnas under Pandu. Acharya Charaka mentioned the Poorvaroopa as Hrudaya Spandadhihya, Roukshya, Sweda Abhava and Shrama.

Origin of the word Anemia is derived from the Greek word ‘anemia’ which means lack of blood. The word Anemia describes the condition in which the individual experiences a reduced quantity of red blood cells or hemoglobin which, in turn, causes pale skin.

Anemia refers to a state in which the level of hemoglobin in the blood is below the normal range appropriate for age and sex.

Anemia is defined as reduction in the total circulating red cell mass below normal limits. Anemia reduces the oxygen carrying capacity of the blood, leading to tissue hypoxia.

Anemia means deficiency of hemoglobin in the blood, which can be caused by either too few red blood cells or too little hemoglobin in the cells.

Anemia in moderate form, presents itself with symptoms like fatigue, loss of appetite, weakness, breathlessness and palpitation, particularly with physical exertion and pallor of the skin and the mucous membrane.

Anemia can translate into significant morbidities for affected individuals and consequent socio-economic losses for the country. The conventional iron therapy for Anemia is only palliative and associated with less patient compliance and side effects on long term use. Patients complaints of metallic taste, nausea, abdominal discomfort and giddiness by iron tablets. Owing to the need of the situation two drugs namely Haritaki Churna and Amalaki Churna with Madhu as Sahapana. In the study an attempt is made to evaluate the efficacy of each drug on Pandu and their efficacies are mutually compared.

OBJECTIVES OF THE STUDY

A comparative clinical study to evaluate the effect of Haritaki Churna and Amalaki Churna in Pandu (Iron deficiency anemia).

MATERIALS AND METHODS

60 Patients of Pandu (IDA) within the age group of 16-60 yrs were selected randomly from OPD and IPD of BLDEA’s AVS Ayurveda Mahavidyalaya Hospital and Research Centre, Vijayapura and Camps conducted in...
the city (Vijayapura) by the Institute, irrespective of sex, occupation and socio-economic status.

1. Diagnostic criteria

Patients presenting with clinical features of Pandu (IDA) - Pandutha, Arohanaayasa, Shrama, Bhrama.

2. Inclusive criteria

- Patients with Hb% within the range of 7 to 11 gm/dl
- Patients of either sex.
- Patients of 16 - 60 years of age

3. Exclusive criteria

- Patients with history of other systemic diseases like Diabetes mellitus and Hypertension.
- Patients with history of Sickle cell anemia, Leukemia, Hemophilia
- Patients suffering with any infectious diseases like Malaria
- Patients suffering from disorders associated with gastrointestinal bleeding Pregnancy.

4. Intervention

While making group simple random sampling procedure was adopted.

**Group A:**
30 patients were administered Haritaki Churna - 1.5gm twice daily with Madhu, before food for 1 month.

**Group B:**
30 patients were administered Amalaki Churna - 1.5gm twice daily with Madhu, before food for 1 month.

Assessment criteria

A detailed proforma was prepared for the assessment of Subjective and Objective parameters by grading them. The data obtained was recorded statistically.

**Subjective criteria**

- Pandutha
- Arohanaayasa
- Shrama
- Bhrama
- Aruchi

**Objective criteria**

- Haemoglobin percentage
- Packed cell volume
- TC
- DC
- RBC
- Peripheral blood smear
- TIBC
- Serum Iron
- Serum Ferritin

**OBSERVATIONS AND RESULTS**

![Figure 1: Demographic data of 60 patients of Pandu.](image)

| Table 1: Effect of therapy on subjective parameters in Group A (Haritaki Churna) |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| S N | Signs and Symptoms | Mean | | | | | | |
| | B T | A T | X | % | S D | SE | t | p |
| 1 | Panduta | | | | | | | |
| | 1. | 46 | 0 | 36 | 3 | 0 | 68. | 18 | 0 | 0.52 | 10 | 42 | <.05 |
| 2 | Arohanayasa | | | | | | | |
| | 1. | 53 | 0 | 66 | 3 | 0 | 52. | 17 | 0 | 0.40 | 10 | 77 | <.05 |
The mean score of Pandutava was 1.46 before treatment which reduced up to 0.36 after treatment with 82.35% relief which was statistically significant (P<0.05).

It was reported that initial mean score of Arohanayasa in this group was 1.53 and after treatment it reduced up to 0.66. This 52.17% relief was statistically significant (P<0.05).

It was found that the mean score of Shrama was 1.63 before treatment and after the completion of the course it was reduced up to 0.43. This 73.46% relief was statistically significant (P<0.05).

It was observed that the mean score of Bhrama was 0.5 before treatment and after treatment it was reduced up to 0.03. So here 97.5% relief was found which was statistically significant (P<0.05).

The mean score of Aruchi before treatment was 1.03 which was reduced to 0.33 after treatment with 67.74% relief but it was statistically significant (P<0.05).

Before treatment mean score of Daurbalya was 1.76 which was reduced up to 0.73 after treatment, this way treatment provided 58.43% relief, which was statistically significant (P<0.05).

The mean score of Swasa before treatment was 0.56 which reduced up to 0.1 after treatment and thus 82.35% relief was found which was statistically significant (P<0.05).

Before treatment mean score of Hairfall was 1.36 which was reduced up to 0.73 after treatment, this way treatment provided 46.31% relief, which was statistically significant (P<0.05).

It was observed that the mean score of Bodyache was 1.56 before treatment and after treatment it was reduced up to 0.63. So here 59.57% relief was found which was statistically significant (P>0.05).

It was found that the mean score of Dysphagia was 0.33 before treatment and after the completion of the course it was reduced up to 0.03. This 90% relief was statistically significant (P<0.05).

Table 2: Effect of therapy on Objective parameters in Group A (Haritaki Churna)

<table>
<thead>
<tr>
<th>S N</th>
<th>Variab le</th>
<th>Mean</th>
<th>N</th>
<th>%</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BT</td>
<td>AT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hb%</td>
<td>10.0</td>
<td>2</td>
<td>10.7</td>
<td>5</td>
<td>6.84</td>
<td>0.48</td>
</tr>
<tr>
<td>2</td>
<td>PCV</td>
<td>29.9</td>
<td>3</td>
<td>32.8</td>
<td>8</td>
<td>9.05</td>
<td>3.17</td>
</tr>
<tr>
<td>3</td>
<td>R.B.C</td>
<td>3.7</td>
<td>3</td>
<td>3.97</td>
<td>3</td>
<td>4.64</td>
<td>0.18</td>
</tr>
<tr>
<td>4</td>
<td>PBs</td>
<td>2.23</td>
<td>2</td>
<td>2.56</td>
<td>3</td>
<td>12.9</td>
<td>0.71</td>
</tr>
<tr>
<td>5</td>
<td>Sr.Ferri tin</td>
<td>40.0</td>
<td>7</td>
<td>59.9</td>
<td>2</td>
<td>33.1</td>
<td>26.6</td>
</tr>
<tr>
<td>6</td>
<td>Sr.Iron</td>
<td>40.7</td>
<td>3</td>
<td>58.5</td>
<td>6</td>
<td>30.4</td>
<td>13.6</td>
</tr>
<tr>
<td>7</td>
<td>TIBC</td>
<td>45.4</td>
<td>7</td>
<td>37.3</td>
<td>1</td>
<td>17.9</td>
<td>58.4</td>
</tr>
</tbody>
</table>
The mean score of RBC before treatment was 3.7 and after treatment it was 3.97 which was statistically significant. (P<0.05).

The mean score of PBs before treatment was 2.23 and after treatment it was 2.56 which was statistically significant. (P<0.05).

The mean score of Sr.Ferritin before treatment was 40.07 and after treatment it was 59.92 which was statistically significant. (P<0.05).

The mean score of Sr.Iron before treatment was 40.7 and after treatment it was 58.5 which was statistically significant. (P<0.05).

The mean score of TIBC before treatment was 454.7 and after treatment it was 373.1 which was statistically significant. (P<0.05).

**Table 3: Effect of therapy on subjective parameters in Group B (Amalaki Churna)**

<table>
<thead>
<tr>
<th>SN</th>
<th>Signs and Symptoms</th>
<th>Mean</th>
<th>N</th>
<th>X</th>
<th>%</th>
<th>SD</th>
<th>SE</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>T</td>
<td>A</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Pandutava</td>
<td>1.3</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>76</td>
<td>0.92</td>
<td>0.06</td>
</tr>
<tr>
<td>2</td>
<td>Arohanayasa</td>
<td>1.06</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0.04</td>
<td>93</td>
<td>0.93</td>
<td>0.1</td>
</tr>
<tr>
<td>3</td>
<td>Shrama</td>
<td>1.73</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0.43</td>
<td>82</td>
<td>0.64</td>
<td>0.9</td>
</tr>
<tr>
<td>4</td>
<td>Bhrama</td>
<td>0.6</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0.5</td>
<td>83</td>
<td>0.33</td>
<td>0.92</td>
</tr>
<tr>
<td>5</td>
<td>Aruchi</td>
<td>0.8</td>
<td>3</td>
<td>0</td>
<td>13</td>
<td>0.67</td>
<td>79</td>
<td>0.16</td>
<td>0.5</td>
</tr>
<tr>
<td>6</td>
<td>Daurbalya</td>
<td>1.86</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0.56</td>
<td>83</td>
<td>0.92</td>
<td>0.0</td>
</tr>
<tr>
<td>7</td>
<td>Swasa</td>
<td>0.3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0.27</td>
<td>88</td>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>8</td>
<td>Hairfall</td>
<td>1.0</td>
<td>3</td>
<td>0</td>
<td>63</td>
<td>0.1</td>
<td>7.1</td>
<td>&lt;0.05</td>
<td></td>
</tr>
</tbody>
</table>

The mean score of Pandutava was 1.3 before treatment which reduced up to 0.3 after treatment with 76.92% relief, which statistically significant (P<0.05).

It was reported that initial mean score of Arohanayasa in this group was 1.31 and after treatment it reduced up to 0.06. This 93.93% relief was statistically significant (P<0.05).

It was found that the mean score of Shrama was 1.73 before treatment and after the completion of the course it was reduced up to 0.3. This 82.64% relief was statistically significant (P<0.05).

It was observed that the mean score of Bhrama was 0.6 before treatment and after treatment it was reduced up to 0.1. So here 83.16% relief but it was statistically significant (P<0.05).

Before treatment mean score of Aruchi was 0.8 which was reduced to 0.13 after treatment with 79.16% relief and after treatment it was reduced up to 0.1. So here 83.33% relief which was statistically significant (P>0.05).

The mean score of Swasa before treatment was 0.3 which reduced up to 0.03 after treatment and thus 88.8% relief was found which was statistically significant (P<0.05).

Before treatment mean score of Daurbalya was 1.86 which was reduced up to 0.3 after treatment, this way treatment provided 83.92% relief, which was statistically significant (P<0.05).

The mean score of Swasa before treatment was 0.3 which reduced up to 0.03 after treatment and thus 88.8% relief was found which was statistically significant (P<0.05).

Before treatment mean score of Hairfall was 1.26 which was reduced up to 0.5 after treatment, this way treatment provided 63.15% relief, which was statistically significant (P<0.05).

It was observed that the mean score of Bodyache was 1.56 before treatment and after treatment it was...
reduced up to 0.1. So here 93.61% relief was found which was statistically significant (P>0.05).

It was found that the mean score of Dysphagia was 0.36 before treatment and after the completion of the course it was reduced up to 0.03. This 72.72% relief was statistically significant (P<0.05).

Table 4: Effect of therapy on Objective parameters in Group B (Amalaki Churna)

<table>
<thead>
<tr>
<th>S N</th>
<th>Variable</th>
<th>Mean BT</th>
<th>Mean AT</th>
<th>N</th>
<th>%</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hb%</td>
<td>10.2</td>
<td>11.1</td>
<td>3</td>
<td>0</td>
<td>8.8</td>
<td>0.4</td>
<td>11.62</td>
</tr>
<tr>
<td>2</td>
<td>PCV</td>
<td>30.4</td>
<td>34.2</td>
<td>3</td>
<td>0</td>
<td>11.12</td>
<td>3.4</td>
<td>5.9 6</td>
</tr>
<tr>
<td>3</td>
<td>R.B.C</td>
<td>3.83</td>
<td>4.08</td>
<td>3</td>
<td>0</td>
<td>6.2</td>
<td>0.2</td>
<td>4.7 6</td>
</tr>
<tr>
<td>4</td>
<td>PBs</td>
<td>2.1</td>
<td>2.6</td>
<td>3</td>
<td>0</td>
<td>19.23</td>
<td>0.7</td>
<td>3.5 2</td>
</tr>
<tr>
<td>5</td>
<td>Sr.Ferritin</td>
<td>45.9</td>
<td>65.8</td>
<td>3</td>
<td>0</td>
<td>30.2</td>
<td>15.21</td>
<td>7.1 7</td>
</tr>
<tr>
<td>6</td>
<td>Sr.Iron</td>
<td>41.6</td>
<td>75.5</td>
<td>3</td>
<td>0</td>
<td>44.93</td>
<td>19.34</td>
<td>9.6 1</td>
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<tr>
<td>7</td>
<td>TIBC</td>
<td>436.36</td>
<td>338.83</td>
<td>3</td>
<td>0</td>
<td>22.35</td>
<td>52.28</td>
<td>10.2</td>
</tr>
</tbody>
</table>

The mean score of Hb % before treatment was 10.20 and after treatment it was 11.19 which was statistically significant. ( P<0.05).

The mean score of PCV before treatment was 30.4 and after treatment it was 34.20 which was statistically significant. ( P<0.05).

The mean score of RBC before treatment was 3.83 and after treatment it was 4.08 which was statistically significant. ( P<0.05).

The mean score of PBs before treatment was 2.1 and after treatment it was 2.6 which was statistically significant. ( P<0.05).

Table 5: Overall effect of the therapy.

<table>
<thead>
<tr>
<th>% Relief</th>
<th>Effect</th>
<th>Group A No.of Pts</th>
<th>%</th>
<th>Group B No.of Pts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Cured</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>&gt;75</td>
<td>Markedly Improved</td>
<td>6</td>
<td>20%</td>
<td>11</td>
<td>37%</td>
</tr>
<tr>
<td>75-51</td>
<td>Moderately Improved</td>
<td>22</td>
<td>73%</td>
<td>18</td>
<td>60%</td>
</tr>
<tr>
<td>50-25</td>
<td>Improved</td>
<td>2</td>
<td>7%</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>&lt;25</td>
<td>Unchanged</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Group A: In this group, 6 patients were Markedly improved i.e. (20%), 22 patients were Moderately improved i.e. (73%) and 2 patients were showing improved i.e. (7% ).

Group B: In this group, 11 patients were showing Markedly improved i.e. (37%), while 18 patients showing Moderately improved i.e. (60%) and 1 patients were showing improved i.e. (3% ).

DISCUSSION

The word Pandu means yellowish white or white. The disease having Panduthva or Pandu Bhava is known as Pandu Roga. In all the varieties of Pandu Roga, Pandu Varna is a predominant feature. Here Pandutva is seen in Akshi, Nakha, Mukha and Anana.

The details of Pandu Roga are available in the books of Brihatrayees, Laghutrayees and other Samhitas like...
Acharya Vagbhata occurrence of factors vitiating Vata and Pitta and may lead to Pittaja vyadhis in this age. This may be supported where in Pitta is predominant. There is prevalence of increased prevalence of group and 7% belonged to 56-60 group. This shows to 36-45 yrs age group, 8% belonged to 45-55 yrs age 42% belonged to 26-35 yrs age group, 28% belonged heading under group and 7% belonged to 56-60 group . This shows prevalence of Pandu Roga in the age group 26-35, where in Pitta is predominant. There is prevalence of Pittaja vyadhis in this age. This may be supported by factors vitiating Vata and Pitta and may lead to occurrence of Pandu Roga. In this study 73 % subjects were female and 16% subjects of male. Here out of 60 cases, 16 males and 44 females are affected and incidence was maximum in female i.e. 73 %. In this study, 85% were Hindus, 7% were Muslim, and 2% were Jain. This shows prevalence of Pandu in Hindus, this may be only due to the dominancy of Hindus in the area from where the patients were selected. 10% are Poor, 65% are middle class, and 25% are upper middle class. there is a good chance that all different classes of people may suffer with Pandu for different reasons. In poor it may be due to low affordability. In affordable classes eating junk food may be the reason. 24% were undergraduate, 3% completed intermediate, 10% post graduate, 27% completed high school, 18% completed primary school and 2% illiterate. Though educated people are placed in responsible jobs, they may suffer with stress and irregular food timings. With low or uneducated people lack of awareness or low affordability may be the cause. In this study 13% student, 32% house wife, 2% agriculture, 6% professional, 25% unskilled worker and 22% skilled worker. In students, mental stress and negligence to take food at appropriate time may be the reason. Improper timing of food due to busy work schedule may be the cause in other occupations. Among all, 57% were of mixed food habits and 43% of pure vegetarian. Ati Mamsa Sevana is a cause for Santarpana Janya Vyadhi. Also frequent non-veg intake will cause Agnidushti and Dhatudushti. In this study 65% subjects were of Vata-Pitta Prakruti, 20% subjects were of Vata-Kapha Prakruti and 15% subjects were of Kapha- Pitta Prakruti. In this study the Pandu was found to be affecting more subjects with Vata Pitta Prakruti.

In this study 73%, subjects were taking food with Amla Rasa predominance, 77% subjects were taking food with Lavana Rasa predominance and 73% of subjects were taking food with Katu Rasa predominance. Intake of Katu, Amla and Lavana Rasa leads to Pitta Dushti and also Raktadushti, causing Pandu Roga.

57% of subjects were practicing Ratri Jagarana and 57% were practicing Divaswapna, Ratri Jagarana being a Vata Prakopaka Nidana and Divaswapna being a Kapha Prakopaka Nidana may have resulted in Vata and Kapha Prakopa leading to Rasa Dhatu Dushti.

Manasika Nidana in 27% subjects was found to be Krodha and in 55% it was found to be Chinta. These Nidana are capable of causing Pitta and Vata Prakopa leading to Rasa Dhatu Dushti.

PROBABLE MODE OF ACTION

Haritaki Churna and Amalaki Churna are the Rasayana Dravyas which increases the Dhatus and also act as iron supplement. Amla Rasa of Amalaki and Haritaki helps in the absorption of iron in the intestine. The properties of other ingredients like Deepana and Pachana act on Jataragni by improving the Agni, relieving symptoms like Agnimandya and Aruchi. By Srotoshodana they act at Dhatwagni level helping in absorption. The Srotoshodana property along with Varnya, Twachya Gunas reduces Pandutva. By correcting Dhatwagnis proper Poshana and formation of Dhatus occurs. This helps in correcting Arohanayasa, Srama, Daurbalya, Oja Kshaya. The Tridosha Samaka, particularly Pitta Samaka property helps in controlling the enzymatic activity in the gut thus improving the iron absorption.
Sheeta Virya and Madhura Vipaka in both formulations help in Pitta Samana and does Tarpana of Rasa Dhatu and helps in controlling Kesa Patana, Bhrama, Karna Ksveda.

Madhura Vipaka and Rasa Dhatu Pushti helps in relieving Vata Prakopa. Shareera Vedana is a lakshana caused by Vata Prakopa. hence with Vata Prasamana Sareera Vedana also reduces.

Madhu as a Sahapana is having Lekhana Karma by this calculus disintegration takes place and acts as Kaphahara. Picchila, Madhura, Kashaya Guna are reason for Vata-pittashamaka. Madhu it consists of fructose (40-50%), glucose (30-40%) and sucrose (0.1-10%). In addition of these traces of envymes, vitamins, proteins, amino acids, are also present, as it contain sugar are quickly absorbed by our digestive system and converted into energy. This is one of best Yogavahi. The improvement with Hb% and ESR in both groups of Haritaki Churna and Amalaki Churna was observed. This change in the objective parameters gives evidence about the Raktha Vardhaka and Raktha Shodaka properties of the drug present in both the groups.

Significant change in RBC, Sr.Ferritin and Sr.Iron was observed with Amalaki Churna, while with Haritaki Churna. This difference may be probably because the a good source of vitamin C, D-glucose, D-fructose, bioflavonoids, flavones, polyphenols and carotenoids. Pharmacological activities like antioxidant, immunomodulatory which are able to act in a better way with in the pathogenesis of IDA.

However on objective parameters significance increase was found in Sr.Iron and TIBC in Amalaki Churna. It was also observed that with Haritaki Churna group 1 peripheral smear of microcytic hypochromic picture changed to normocytic normochromic picture 1 peripheral smear of microcytic hypochromic picture changed to normocytic hypochromic picture.2 peripheral smear of normocytic hypochromic picture changed to normocytic normochromic picture.3 peripheral smear of normocytic hypochromic picture changed to normocytic hypochromic picture.

CONCLUSION

The study shows that both Haritaki Churna and Amalaki Churna are effective in relieving the symptoms of Pandu Roga. Haritaki Churna was effective with subjective parameters like Panduthva, Arohanayasa, Srama, Aruchi, Bhrama, Bodyache and objective parameters like Hb%, RBC, and Sr.Ferritin. Amalaki Churna was effective with subjective parameters like Panduthva, Arohanayasa, Aruchi, Srama, Bhrama, Daurbalya, Hairfall, Body ache and objective parameters like Hb%, PCV, Sr.Iron and TIBC. Here it is observed that Group B is slightly significant than the Group A.

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