STUDY OF EFFICACY OF TRIPHALA KWATHA WITH MADHU VIZ-A-VIZ GUDUCHI KWATH IN BAHUPITTA KAMALA (HEPATOCellular JAUNDICE)

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ABSTRACT
Ayurveda is one of the oldest System of Indian Medicine which provides remedies for many Chronic Diseases on which even to this day Modern Medicine has not satisfactory solutions. Kamala Vyadhi is a one grave disease and is described in details in Ayurvedic Compendia with its effective management. Kamala Vyadhi is described of two Types i.e. Bahupitta and Ruddhapatha Kamala. Bahupitta Kamala resembles Hepatocellular Jaundice in which whole body becomes Yellow discolored and Hyperbilirubinemia. Modern Medicine has described Jaundice as a symptom complex, but according to Ayurveda, Kamala is a disease as it has its own Nidanpanchak and specific Treatment. Lot of remedies is described in Ayurveda for Bahupitta Kamala. Among all these remedies, Triphala Kwath is one remedy which will stand effective solution. Because Triphala Kwath with Madhu (Honey) is Tridosha shamak, Mrudu Virechak and has Rasayan Properties. Madhu (Honey) is Kamalahara. Taking into consideration, Triphala Kwath with Madhu (Honey) would be one effective drug for Bahupitta Kamala.

KEYWORDS: Kamala, Triphala Kwath, Madhu, Honey, Jaundice, Hepatocellular Jaundice, Hepatitis.

INTRODUCTION
In the History of Mankind, Ayurveda has proved itself in treating diseases. Ayurveda has shown a systematic line of treatment centuries ago which is proven to be very useful in this ever so changing modern era. In Ayurveda, Kamala is a one grave disease which is described in details with its specific management. In Modern medicine, hepatocellular jaundice resembles Kamala Vyadhi. Liver is one of the extensively explored areas in Modern Medicine which gets affected in Jaundice. Ayurveda has also mentioned the involvement of Liver (Yakruta) in Kamala Vyadhi. Hepatocellular Jaundice, because of its potential to cause life threatening complications like Cirrhosis, Ascites, and Hepatocellular Carcinoma. According to Ayurveda, Kamala vyadhi is also one life threatening disease. There is no specific treatment for Kamala in Modern medicine. But In Ayurveda, Lot of medicines are described for the treatment of Kamala. Among all these medicines, Triphala Kwath with Madhu (Honey) will stand one effective medicine for Bahupitta Kamala (hepatocellular jaundice). Hence the study is conducted to see the efficacy of Triphala Kwath with Madhu (Honey) in Bahupitta Kamala (hepatocellular jaundice).

AIMS AND OBJECTS
1. To evaluate the efficacy of Triphala kwatha with Madhu (honey) in the treatment of Bahupitta Kamala.
2. To Study the Hepatocellular Jaundice and Kamala in detail.

MATERIALS AND METHODS
Inclusion Criteria
1. Sadhya Vyadhi with specific symptoms of Bahupitta Kamala.
Sadhyaman itaresham tu pravakshyamee chikitsitam II Cha.Chi.16/39
Haridranetra sabhrusham Haridranetra twaknakhaanaa I Raktapitashakrunmutrau bhekwarno hatendriya II35II
Dahaavipakdaurbalyo sadanaruchikarshita I Cha.chi.16/35
2. All patients with irrespective of Age, Sex, and Prakruti.
3. Hepatocellular jaundice (a symptom complex as described by modern medicine).

Exclusive Criteria
1. Asadhya Vyadhi
   Patients with Asadhya Vyadhi as described in Ayurvedic texts.
2. Neonatal Jaundice
3. CA Pancreas, Hepatoma, CA Gallbladder, Common bile duct stone, Hemolytic jaundice, Hepatitis B, C, D, E.
4. Jaundice due to leptospirosis, Yellow fever, Infectious mononucleosis, Congenital hyperbilirubinemia.
5. Patients with Asadhya Vyadhi as described in Ayurvedic texts.
6. Patients with Serum Bilirubin more than 6 mg/dl.

Criteria for Diagnosis

Subjective Criteria
Presence of clinical signs and symptoms of Bahupitta kamala, viz. Haridranetratvam, Haridranakhatvam, Pitamutratvam, Pitapurishatvam, Daha, Avipak, Aruchi were Considered as subjective criteria.

Objective Criteria
Following were considered as objective criteria.
1. Serum Bilirubin
2. Urine
   a) Bile Salts
   b) Bile Pigments
3. SGPT
4. SGOT

Number of Patients
Sixty patients (60) were selected in total and grouped into two by random selection method. The patients treated with Triphala Kwatha with Madhu were considered as study group and those on Guduchi Kwatha with Madhu as control group, each of thirty patients.

Drug and Dosage
The drug Triphala (Aamalaki, Haritaki, and Bibhitaka) is used in the decoction form and given with madhu (honey) as mentioned in the text Bhavprakash Madhya Khand 39.

Preparation of Drug
Triphala Powder 40 gm † 640 ml. water ——Boiled——— 80 ml. Decoction. Kwatha is the decoction obtained by boiling coarse powder of the drugs in proportion of 4, 8, or 16 times (from Mrudu dravya-4 times, madhyama dravya-8 times, and for khar dravya-16 times respectively) of water reduced to ¼ th and stained in cloth. Cha. su. 4/81/2.

Triphala is used in fine powder form (i.e. Mrudu dravya) and hence Triphala Kwatha is prepared in the Following manner. Triphala (fine powdered form) 40 gm † 160ml. water ——A Boiled ——40 ml. Decoction.

Triphala
It is a combination of Aamalaki, Haritaki, and Bibhitaka in equal quantity.

Plan of Work
1. Approval from Ethics committee was granted for the topic and accordingly the study was started.
2. Informed consent of the patients enrolled for the study was taken.
3. Method of Random Selection was used.
4. As the research is based on Ayurvedic principles, patients having signs and symptoms of Bahupitta Kamala, as per Ayurvedic text were selected.
5. Serum Bilirubin, SGPT, SGOT and Urine for Bile Salts, Bile Pigments was used to judge the Hepatocellular Jaundice.
6. The patients attending OPD of the hospital attached to the institute were included in the study.
7. Literary Material: This is based on references of available books on the subject. On the basis of references compiled, a hypothesis was formed and tested in clinical trial.
8. Clinical Material: This was formed from the data of the patients selected for clinical trial. This data was subjected to statistical analysis and conclusion was drawn, specifying the effect of the drug under trial.
9. Data was collected before and after the treatment.
10. Dosage of Triphala Kwatha – Uttam Matra- 1 Pal i.e. 40 ml.
11. Dose of Kwatha was according to Agni, Age, Ragnabal, and Vyadhibal and Koshtha of the patient.
12. The Patients were given 40 ml. of cooled Triphala Kwatha in the morning with honey (Anupan) 4ml.
13. Kwatha is advised to consume in the morning as mentioned above.
14. If required patients were given Triphala kwatha at the bedtime also.
15. Anupan: It means a medium with which medicine is given e.g. water. It was selected so as to help prevent disease and make medicine disease specific without harming bodily functions. Granthokta Anupan is Madhu i.e. Honey. Dosage of Madhu is 1/8 th of Triphala kwatha. Hence 4 ml. madhu (honey) is given with cooled 40 ml. of Triphala kwatha in the morning.
16. Diet: Barley, wheat, rice were advised in the diet.
17. Scoring: Score was given to individual signs and symptoms depending on their severity. Absence of the symptom was counted as (0), mild degree as (1), moderate as (2), and severe as (3).

18. Follow Up: Registered patients were followed up after five days, for a period of 15 days and the results noted.

19. Assessment Phase: Finally the results were assessed on the basis of Subjective and Objective Parameters before and after the treatment.

20. The result of present study was evaluated in terms of “proportions.” The proportions of the patients Getting cured and not getting cured were noted.

The terms ‘cured’ and ‘Uncured’ were defined as follows.

1. Cured
These are the patients in which the symptoms like Haridranetra, pita purishatvam, were reduced and investigation showed normal limits of Serum Bilirubin, SGOT, SGPT, and Urine-bile salts and bile pigments in 8 to 10 days.

This group was further subdivided into two groups according to the result.

a) Uttam Upashaya: Bahupitta kamala is resolved in 8 to 10 days clinically as well as pathologically.

b) Madhyama Upashaya: Bahupitta kamala is resolved in 8 to 10 days clinically i.e. symptoms were reduced but Serum Bilirubin, SGOT, SGPT showed slight elevation.

Serum Bilirubin - 1.3 to 2 mg/dl.
SGOT - 45 to 55 IU
SGPT - 45 to 55 U
Urine- Bile salts + Bile pigments upon same treatment continued till above values Came to normal limits up to 15th day.

2. Uncured (Anupashaya)
These were the patients, in which the signs and symptoms of Bahupitta kamala were not Reduced, and showed Upadrava’s like Jwara, Chhardi etc.

Some additional measures for treating Upadrava’s had to be given in those patients.

OBSERVATIONS

Table 1: Effect of Triphala Kwath with Madhu (Honey)-Study Group And Guduchi Kwath with Madhu (Honey) - Control Group.

Subjective Criteria.

<table>
<thead>
<tr>
<th>Sr. N.</th>
<th>Symptoms and Signs</th>
<th>Before Treatment</th>
<th>After Treatment</th>
<th>Before Treatment</th>
<th>After Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Study Group</td>
<td>Control Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No. of Patients</td>
<td>Percentage</td>
<td>No. of Patients</td>
<td>Percentage</td>
</tr>
<tr>
<td>1.</td>
<td>Haridra Netrata (Yellow Discoloration of Sclera)</td>
<td>30</td>
<td>100</td>
<td>17</td>
<td>56.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>100</td>
<td>13</td>
<td>43.33</td>
</tr>
<tr>
<td>2.</td>
<td>Haridra Nakhatvam (Yellow Discoloration of Nails)</td>
<td>30</td>
<td>100</td>
<td>13</td>
<td>43.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>100</td>
<td>10</td>
<td>33.33</td>
</tr>
<tr>
<td>3.</td>
<td>Pita Purishatvam (Yellow Discoloration of Stool)</td>
<td>30</td>
<td>100</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>100</td>
<td>09</td>
<td>30</td>
</tr>
<tr>
<td>4.</td>
<td>Pita Mutratvam (Yellow Discoloration of Urine)</td>
<td>30</td>
<td>100</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>100</td>
<td>14</td>
<td>46.66</td>
</tr>
<tr>
<td>5.</td>
<td>Sarvanga Daha (Generalized Prurigo)</td>
<td>17</td>
<td>56.66</td>
<td>12</td>
<td>70.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>46.66</td>
<td>08</td>
<td>57.14</td>
</tr>
<tr>
<td>6.</td>
<td>Avipak (Indigestion)</td>
<td>27</td>
<td>90</td>
<td>25</td>
<td>92.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25</td>
<td>83.33</td>
<td>21</td>
<td>84</td>
</tr>
<tr>
<td>7.</td>
<td>Aruchi (Anorexia)</td>
<td>28</td>
<td>93.33</td>
<td>26</td>
<td>92.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26</td>
<td>86.66</td>
<td>19</td>
<td>73.07</td>
</tr>
</tbody>
</table>
Table 2: Effect of Triphala Kwath with Madhu (Honey)-Study Group and Guduchi Kwath with Madhu (Honey) - Control Group.

Objective Criteria

<table>
<thead>
<tr>
<th>Sr. N.</th>
<th>Objective Criteria</th>
<th>Before Treatment</th>
<th>After Treatment</th>
<th>Before Treatment</th>
<th>After Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Study Group</td>
<td>Control Group</td>
<td>Study Group</td>
<td>Control Group</td>
</tr>
<tr>
<td></td>
<td>No. of Patients</td>
<td>Percentage</td>
<td>No. of Patients</td>
<td>Percentage</td>
<td>No. of Patients</td>
</tr>
<tr>
<td>1.</td>
<td>Total Serum Bilirubin</td>
<td>30</td>
<td>100</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>2.</td>
<td>SGPT</td>
<td>30</td>
<td>100</td>
<td>25</td>
<td>83.33</td>
</tr>
<tr>
<td>3.</td>
<td>SGOT</td>
<td>30</td>
<td>100</td>
<td>23</td>
<td>76.66</td>
</tr>
</tbody>
</table>

Table 3: Distribution of Upashaya and Anupashaya.

<table>
<thead>
<tr>
<th>Cured/Uncured</th>
<th>Uttam Upashaya</th>
<th>Madhyam Upashaya</th>
<th>Anupashaya</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Study Group</td>
<td>Control Group</td>
<td>Study Group</td>
</tr>
<tr>
<td>Percentage</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>No. of Patients</td>
<td>12</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Graph 1: Frequency Distribution of Subjective Criteria.

Graph 2: Frequency Distribution of Objective Criteria.

Graph 3: Frequency Distribution of Upashaya and Anupashaya.
Table 4: Results of Cured and Non cured Patients.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Study Group</th>
<th>Control Group</th>
<th>Study Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cured</td>
<td>Uncured</td>
<td>Cured</td>
<td>Uncured</td>
</tr>
<tr>
<td>1.</td>
<td>21</td>
<td>09</td>
<td>13</td>
<td>17</td>
</tr>
</tbody>
</table>

Graph 4: Frequency Distribution of Cured and Non cured Patients.

Table 5: Percentage of Results.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Study Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uttam</td>
<td>Madhyam</td>
</tr>
<tr>
<td>1.</td>
<td>40</td>
<td>30</td>
</tr>
</tbody>
</table>

Graph 5: Frequency Distribution of Percentage of Results.

RESULTS

1. In the Study Group, 21 patients (70%) got cured (with 12 patients i.e. 40% getting Uttam Upashaya and 9 patients i.e. 30% getting Madhyam Upashaya) while 9 patients i.e. 30% did not get relief.
2. In the Control Group, 13 patients (43.33%) got cured (with 9 patients i.e. 30% getting Uttam Upashaya and 4 patients i.e. 13.33% getting Madhyam Upashaya) while 17 patients i.e. 56.66% did not get relief.

So it is observed that the number of patients getting cured is considerably more in the Study Group than Control Group.

3. When the dose of Triphala Kwatha is given in the bedtime depending on the Koshta, Agni and Bala of the patients, early Upashaya (relief) is observed. But to rule out the ‘chance factor’, it is necessary to apply statistical analysis to the observations and then only the results can be confirmed.

Statistical Analysis

As already discussed, the results of present study were obtained in terms of a Qualitative data. So, results in this study were obtained in proportions, i.e. patients cured and uncured. The difference between two proportions was calculated and then applying Z test its significance was judged.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Cured</th>
<th>Uncured</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Group</td>
<td>21</td>
<td>09</td>
<td>30</td>
</tr>
<tr>
<td>Control Group</td>
<td>13</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>26</td>
<td>60</td>
</tr>
</tbody>
</table>

This was the data obtained from the study. For calculating the significance, the data should be in the form of proportions.

1. P- is the percentage of the positive character (in this case p= % of cured)
2. q-percentage of negative character (% of ‘uncured’)

Now p1= % of cured in ‘Study Group’
P2= % of ‘cured’ in ‘Control Group’
q1= 100- p1
q2= 100-p2
In this study
p1= 21 patients = 70%
P2=13 patients = 43.33%
q1=9 patients=30%
q2=17 patients=56.66%
So, it is well evident that the number and proportion of patients getting cured is certainly more in the Patients of trial group, which are receiving Triphala Kwatha with Madhu. But, we will have to calculate the standard error to judge its significance.

Now, we will calculate the ‘Standard Error of Proportion’.

\[
SE \left[ p1 - p2 \right] = \sqrt{\frac{p1 \cdot q1}{n1} + \frac{p2 \cdot q2}{n2}}
\]

Where \( n1 = \) no. of patients in Study group i.e. 30
and \( n2 = \) no. of patients in control group i.e. 30

\[
= \sqrt{\frac{70 \times 0.30}{30} + \frac{43.33 \times 0.5666}{30}} = 12.32
\]

So, \( SE \left[ p1 - p2 \right] = 12.32 \)

Now, we will apply the Z test.

The criteria for this test are:
1. Random samples
2. Qualitative data
3. Variable normally distributed
4. Sample size more than or equal to 30

Now, \( Z = \frac{\text{Observed difference in the proportions}}{SE \left[ p1-p2 \right]} \)

\[
= \frac{70 \times 0.30 - 43.33 \times 0.5666}{12.32} = 2.16
\]

In other words,

\[
\text{Observed difference} = 2.16 \times \text{S.E.} \left[ p1-p2 \right]
\]

i.e. > 1.96 \( \times \) S.E. \( \left[ p1-p2 \right] \)

And hence, Significant at 5% level of significance.

**DISCUSSIONS**

1. **Discussion on Subjective and Objective Criterions**

Comparatively, the efficacy of Triphala Kwath with Madhu is better than Guduchi kwath with Madhu in terms of Subjective and Objective Criterions.

- Haridra Netrata (Yellow Discolouration of Sclera) - (56.66% > 43.3%)
- Haridra Nakhatvam (Yellow Discolouration of Nails) – (43.33% > 33.33%)
- Pita Purushatvam (Yellow Discolouration of Stool) – (40% > 30%)
- Pita Mutratvam (Yellow Discolouration of Urine) – (60% > 46.66%)
- Sarvanga Daha (Generalised Prurigo) – (70.58% > 57.14%)
- Avipaka (Indigestion) – (92.59% > 84%)
- Aruchi (Anorexia) – (92.85% > 73.07%)

2. **Discussion on Results of Cured and Non cured Patients**

In the Study Group, 21 patients (70%) got cured (with 12 patients i.e. 40% getting Uttam Upashaya and 9 patients i.e. 30% getting Madhyam Upashaya) while 9 patients i.e. 30% did not get relief. In the Control Group, 13 patients (43.33%) got cured (with 9 patients i.e. 30% getting Uttam Upashaya and 4 Patients i.e. 13.33% getting Madhyam Upashaya) while 17 patients i.e. 56.66% did not get relief.

**CONCLUSIONS**

1. With the above observations and Discussions, it can be concluded that Triphala Kwath with Madhu (Honey) is very effective in Bahupitta Kamala (Hepatocellular Jaundice).
2. Results of the study are encouraging.
3. This remedy would be better for Bahupitta Kamala in comparison with Modern Medicine.
4. For Detail evaluation of Mechanism of action of these both remedy, further research is necessary.

**REFERENCES**