Clinical Research

A clinical study of Panchakola Siddha Yavagu in the management of Agnimandya

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Abstract

This research is carried out with the aim to study Agnidipana effect of Panchakola Siddha Yavagu which comprises Pippali (Piper longum), Pippalimula (root of Piper longum), Chavya (Piper chaba Hunter), Chitraka (Plumbago zeynica) and Nagara (Zingiber officinale) which are all in equal proportion processed in six times of water. A randomized open clinical trial on 47 patients of Agnimandya has been screened on the basis of clinical findings and the patients were allocated to two groups. Group A having 29 cases received the trial drug (Panchakola Siddha Yavagu) and 18 cases in Group B received simple Yavagu with roasted rice powder as the control group. Special scoring pattern was done for the assessment of Agnimandya state. Complete cure of the patient was found in 17.24% of the patients, 34.48% patients were improved moderately as well as markedly, whereas mild improvement was observed in 13.80% patients by treatment with Panchakola Yavagu.

Key words: Agnimandya, Agnidipana, Panchakola, Yavagu

Introduction

In the present era, human being became very irregular in their life style. Especially the life style of urban society is becoming very fast and stressful. This circumstance frequently leads people toward irregular and bad habits of Ahaba, Vikara with the suppression of natural urges like Kshudha etc and creating problems like Agnimandya, Ajiuna. This is the reason for the day by day increase in the incidence of the diseases due to gastrointestinal derangement.

The Jatharagni represents all the digestive chemicals and enzymes produces in or poured in the gastrointestinal tract which are responsible for digestion of different components of ingested food. The Jatharagni is considered as the master Agni and is claimed to govern the function of all other Agnis besides its own function.¹ As a part of the hypothesis to assess the principle of Agnimandya clinically, here state of Agni i.e. Agnimandya state which is responsible for indigestion and for many diseases was considered for the study. Agnimandya i.e. Agni is not stimulated at all. This state mainly caused due to the Vata and Kapha Dosha, since vitiated Pitta Dosha causes the state of Atidiptagni which is also known as Atyagni.² All the Acharyas concur that only the Samagni is the Prakrita Agni and other types of Agni are in the Vikrita state.³ Though these types are in the Vikrita state, it does not execute any harm to the person if they consume food in the proper way; otherwise, it leads to the Agnimandya state which is quite disturbing to routine life. This Agnimandya is responsible for many diseases.⁴ Thus to prevent further progress of the other diseases, it is necessary to cure it at the first stage.

The present study is carried out to evaluate the effect of Agnidipana by using Yavagu Kalpana. This was also taken as applied study described in the second chapter of the Bhasaja Chatushka, i.e. first Chatushka in Sutrasthan of Charaka Samhita. Since twenty-eight Yavagu were initially described in the second chapter (Apamargataandaliya Adhyaya), but physician forgets the use of this Yavagu in the day-to-day practice. So, here, first Yavagu, i.e. Dipaniya Yavagu was taken for the clinical study.

Aims and Objectives

1. To assess the state of Agnimandya.
2. To assess the applied aspect of Panchakola Yavagu (efficacy) for Agnidipana.
3. To assess the comparative study between Panchakola Yavagu and Yavagu.
Materials and Methods

Drug

In the first group, medicines were used in the preparation of Krita Yavagu and Akrita Yavagu was given in the control group.

Ingredients of Dipaniya Yavagu

| Sanskrit name | Botanical name | Part used | Ratio |
|---------------|----------------|-----------|-------|
| Pippali       | Piper longum   | Phala     | 1     |
| Pippali Mula  | Root of Piper longum Linn | Mula (root) | 1 |
| Cavaya        | Piper chaba Hunter | Phala (fruit) | 1 |
| Citraka       | Plumbago zeylanica Linn | Mula (root) | 1 |
| Nagara        | Zingiber officinale | Kanda (rhizomes) | 1 |

Preparation of Yavagu

1. First medicated water (Panchakola Siddha) is prepared with six times[5] of water, and then rice was advised to cook with this medicated water. Matra of the rice was not fixed because of the variation found in the Agni of the person to person.

2. Yavagu was prepared with simple rice with six times of water and instead of addition of ginger, black pepper and salt, rice powder was added known as Akrita Yavagu which has been advised for Group B. This roasted rice powder was added in the Yavagu for the purpose of assurance to the patient that he or she was treated with some effective medicine.

Patients

Individuals attending the OPD and IPD of the department of basic principles of I.P.G.T. and R.A., Hospital Jamnagar, fulfilling the criteria of selection were included in the present study. The special proforma was prepared mainly on Ayurvedic guidelines.

Criteria of selection

For the assessment of Agnidipana, Abhyavaharana Shakti was the main criteria. So for the present study, patients were selected on the basis of criteria fulfilling state of Agnimandya. The gradation for the inclusion criteria are as follows:

- Patients having decrease in Abhyavaharana Shakti
  1. Patient is able to consume food only up to 75% of his capacity with normal frequency-1
  2. Patient is able to consume food only up to 50% of his capacity with irregular frequency-2
  3. Patient is able to consume food only up to 25% of his capacity-3

- Decrease in Jarana Shakti:
  All the symptoms are present - 3
  Four-five symptoms are present (75%) - 2
  Three symptoms are present (50%) - 1
  One-two symptoms are present (25%) - 0

Patients were selected from the O.P.D and I.P.D of I.P.G.T and R.A irrespective of sex and religion.

Criteria of exclusion

- Patients suffering from chronic systemic diseases after Agnimandya and Agnimandya causes due to constant medication were excluded.
- Also the patients contraindicated for Yavagu administration as per the Ayurvedic classics were excluded from this study.[6]
- Patients having Tikshnagni were also excluded from the present study.

Diagnostic criteria

- Patients were diagnosed and assessed thoroughly on the basis of Ayurvedic classical signs and symptoms of Agnimandya.
- All the patients were subjected for routine haematological examination, urine examination, and stool examination only to exclude any other pathology.

Design of groups and management

Design of the study: Randomized open clinical trial

Group A: Panchakola Siddha Yavagu
Group B: Simple Yavagu with roasted rice powder

| Details | Group A | Group B |
|---------|---------|---------|
| Drug    | Panchakola Siddha Yavagu | Simple Yavagu with roasted rice powder |
| Dose    | 70 g    | 70 g    |
| Sevana kala | Instead of lunch | Instead of lunch |
| Duration | Seven days | Seven days |

Criteria of assessment

The main criteria for the assessment are Pariksha of the Abhyavaharana Shakti and Jarana Shakti.[7] Symptomatic relief obtained by the treatment given was assessed B.T. (before treatment) and A.T. (after treatment) with gradation, on the basis of scoring pattern.

Criteria for overall assessment of therapy

| Criteria for overall assessment of therapy | 100% relief | Mild improvement | 25% to 50% relief | >75% relief | Unchanged | <25% or No relief |
|------------------------------------------|-------------|-----------------|-----------------|-------------|-----------|-----------------|
| Complete remission                       |             |                 |                 |             |           |                 |
| Marked improvement                       |             |                 |                 |             |           |                 |
| Moderate improvement                     |             |                 |                 |             |           |                 |
| Improvement                              |             |                 |                 |             |           |                 |

General observations

Total of 31 patients were registered in Group A whereas 20 patients were registered in Group B including drop outs of 2 in each group [Table 1]. The observations of dietary pattern, Ahara hetu, Viharaja hetu, disease duration, Abhyavaharana, Jarana shakti and Agni wise distribution is shown in Tables 2 to 8.

Results

Effect of therapy on Abhyavaharana Shakti

In Group A, Panchakola Siddha Yavagu provides better result (75%); in Group B, placebo also shows better improvement (66.67%) on the symptoms of decrease in Abhyavaharana Shakti. But applying Chi-square method, statistically insignificant results were obtained. This proves that both the groups have same result in improving the Abhyavaharana Shakti [Tables 9 and 10].
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Table 1: Observations

| Patients | No. of patients | Total |
|----------|----------------|-------|
| Completed | 29 | 18 | 47 |
| Drop out | 02 | 02 | 04 |
| Total | 31 | 20 | 51 |

Table 2: Dietary pattern-wise distribution of 51 patients

| Habit      | No. of patients | Total | % |
|------------|----------------|-------|---|
| Samashana  | 3 | 1 | 4 | 7.84 |
| Vishamashana | 21 | 17 | 38 | 74.51 |
| Adhyashana  | 6 | 6 | 12 | 11.76 |
| Viruddhashana | 17 | 8 | 25 | 49.02 |

Table 3: Aharaja Hetu wise distribution of 51 patients

| Aharaja Hetu | No. of patients | Total | % |
|--------------|----------------|-------|---|
| Alpa Bhojana | 4 | 8 | 12 | 23.53 |
| Atimatrasevana | 7 | 10 | 17 | 33.33 |
| Atiambupana | 8 | 2 | 10 | 19.61 |
| Asuci Bhojana | 7 | 5 | 12 | 23.53 |

Table 4: Viharaja Hetu wise distribution of 51 patients

| Viharaja Hetu | No. of patients | Total | % |
|---------------|----------------|-------|---|
| Divaswapna    | 18 | 9 | 27 | 52.94 |
| Ratrijagarana | 10 | 5 | 15 | 29.41 |
| Atidruta Bhojana | 5 | 4 | 9 | 17.65 |
| Ativilambita Bhojana | 15 | 10 | 25 | 49.02 |
| Ativyayama    | 4 | 2 | 6 | 11.76 |
| Atjalapana during Bhojana | 15 | 3 | 18 | 35.29 |
| Atanmana Bhunjita | 11 | 10 | 21 | 41.18 |
| Vega Vidharana | 13 | 17 | 30 | 58.82 |

Table 5: Duration of the disease wise distribution of 51 patients

| Duration of the Agnimandya | No. of patients | Total | % |
|----------------------------|----------------|-------|---|
| 10-30 days | 20 | 14 | 34 | 66.67 |
| >30 days | 11 | 6 | 17 | 33.33 |

Table 6: Abhyavaharana Shakti wise distribution of 51 patients

| Abhyavaharana Shakti | No. of patients | Total | % |
|----------------------|----------------|-------|---|
| Madhyama | 18 | 4 | 22 | 43.14 |
| Avara | 13 | 16 | 29 | 56.86 |

Table 7: Jarana Shakti wise distribution of 51 patients

| Jarana Shakti | No. of patients | Total | % |
|---------------|----------------|-------|---|
| Madhyama | 14 | 8 | 22 | 43.14 |
| Avara | 17 | 12 | 29 | 56.86 |

Table 8: Agni wise distribution of 51 patients

| Agni | No. of patients | Total | % |
|------|----------------|-------|---|
| Vishamagni | 15 | 9 | 24 | 47.06 |
| Mandagni | 16 | 11 | 27 | 52.94 |

Effect of therapy on Jarana Shakti

Though Group A and Group B showed 80 and 53.19% improvement in Udgara Suddhi, statistically it was insignificant. The 72.58% relief was found in Group A while only 32.35% relief was found in Group B in the symptom of Deha Laghava. Statistically it was significant result (P < 0.05). Group A showed 73.07% and Group B 53.33% improvement in the symptom of Kshudha. Statistically it shows insignificant result (P < 0.1). The 58.70% relief was found in Group A and 41.94% relief was found in Group B in the symptom of Vegotsarga. Statistically it was found to be insignificant (P < 0.1). 75% improvement was found in Group A while 36.36% of improvement in Group B in the symptom of Utsaha, and statistically it shows highly significant result (P < 0.001) [Figure 1 and Table 9].

Results of some other data associated with Agnisada state (Chi-square method)

- Effect of therapy on duration of 10-30 days and more than 30 days.

Statistically it shows highly significant result. Thus, it can be concluded that a drug shows better result in the duration of 10-30 days and it shows statistically insignificant result on duration of more than 30 days [Table 10].

Figure 1: Effect of therapy on chief complaints
Effect of therapy on Vishamagni and Mandagni

It shows that effect of therapy had significant result in Vishamagni (P < 0.005). It also proves that effect of therapy has highly significant result in Mandagni (P < 0.001) [Table 10].

Total effect of therapy

Complete remission was found in 17.24% of patients in Group A (Panchakola Siddha Yavagu) while no any patient was completely cured by Group B (placebo). Marked improvement was found in 34.48% patients in Group A while 11.11% patients in Group B. Total 34.48% patients showed moderate improvement in Group A while 27.78% patients showed moderate improvement in Group B. Mild improvement was found in 13.80% patients of Group A while 61.11% patients in Group B. Total 34.48% patients showed moderate improvement in Group A while 11.11% patients in Group B. Complete remission was found in 17.24% of patients in Group A (placebo). Marked improvement of the state of Agnimandya. These both tendencies of Nidra are included in the category of Akalashayana. Atimatra Ahara causes dissatisfaction during Bhojana so that Atimatra Ahara is taken by the person which leads to Agnimandya state. Maximum 66.67% of the patients having 10-30 days of duration of the disease while 33.33% patients having more than 30 days duration [Table 5]. Maximum patients have Avara Ahara shakti and then Madhyama Ahara shakti and same findings have been found in the Jarana Shakti also [Tables 6 and 7]. The above both data shows that, the Abhyavaharana as well as Jarana Shakti are dependent on each other. Thus it again proves that Agni can be examined by both Ahara Shakti and Jarana Shakti. The table on Agni wise distribution shows that 52.94% patients had Mandagni while 47.06% patients had Vishamagni [Table 8]. It shows that there is relevancy of Nidana and type of Agni.

Probable mode of action of Panchakola Siddha Yavagu

During the Chikitsa, Bhiska use several types of combination of same Dravya to increase its efficacy. Here also the Samyoga of Panchakola with Yavagu amplified its efficacy more. This Guna is very important among the Paradi Gunas. According to Acharya Charaka, all the Karma (Chikitsa) is only caused due to the Samyoga. Hence due to the Samyoga of the Panchakola with the Yavagu the effectiveness is increased. This is one of the reasons for getting better result in the present study. According to the Rasapanchaka of the Panchakola:

- Panchakola have the Katu Rasa dominancy which is Agnidipana Rasa.
- Vipaka: Vipaka of Panchakola is Katu. Rasa of the Dravya is same as that of Vipaka so that Karya will occur according to the Rasa i.e. Agnidipana.
- Virya: Virya is according to the Rasa i.e. Ushna, since again the Karya will occur according to the Rasa (Katu).

This shows that Panchakola has augmenting effect of Agnidipana according to the Rasa, Vipaka and Virya. Pachana is one of the properties of the Panchakola since it also shows the effect on the Jarana Shakti. This Panchakola Siddha Yavagu shows improvement in the Vishamagni as well as on

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### Table 9: Results on chief complaints by applying Chi-square test

| Lakshana                  | Chi-square method | P   |
|---------------------------|-------------------|-----|
| Abhyavaharana Shakti      | 0.0426            | -   |
| Udagarag Shuddhi          | 1.395             | <0.5|
| Deha Laghavam             | 5.277             | <0.05|
| Kshudha                   | 3.676             | <0.1|
| Klama Parigamana          | 5.523             | <0.02|
| Vegotsarga                | 3.696             | <0.1|
| Utsaha                    | 12.475            | <0.001|

### Table 10: Results on the other data of Agnimandya

| Lakshana          | Chi-square method | P   |
|-------------------|-------------------|-----|
| Duration 10-30 days | 15.03             | <0.001|
| Duration > 30 days  | 2.812             | <0.1|
| Vishamagni         | 7.91              | <0.005|
| Mandagni           | 10.85             | <0.001|

### Table 11: Total effect of therapy (Chi-square test)

| Groups          | N.S.I.* | G.I.** | Column total |
|-----------------|---------|--------|--------------|
| Group A         | 4       | 25     | 29           |
| Group B         | 11      | 7      | 18           |
| Column total    | 15      | 32     | 47           |

*NSI - Not sufficiently improved, **GI - Good improvement

### Table 12: Total effect of therapy

| Category         | Group A | Group B |
|------------------|---------|---------|
|                  | No. of patients | %     | No. of patients | %     |
| Unchanged        | -       | -       | -               | -     |
| Mild improvement | 4       | 13.80   | 11               | 61.11 |
| Moderate improvement | 10     | 34.48   | 5                | 27.78 |
| Marked improvement | 10     | 34.48   | 2                | 11.11 |
| Complete remission | 5      | 17.24   | -               | -     |

Discussion

Maximum of the patients were habituated with Vishamashana followed by the Viruddhashana, Adhyashana and Samashana [Table 2] respectively. As per Acharya Sushruta, these are the most important factors in creating the Agnimandya. Maximum patients were taking Atimatravesana, followed by Alpabhohjana as well as Asuchihohjana and then Ayamapapana [Table 3]. Atimatravesana as well as Alpabhohjana are included in the amatravata Ahara which further leads to vitiation of Vata (Vishamagni) and Tridosha Prakopa respectively. Ashuchibhojana influences the mental status of the individual which further leads to Agya. Maximum patients have a habit of Vegavidharana (Kshudha Vega mainly), followed by Divswaspana, Ativilambita Bhojana, Atamana Bhujita and habit of Rattrau Jarana [Table 4]. Vegavidharana is prone to Vata Prakopa, which is mainly responsible for vitiation of Vishamagni. Divswaspana causes Kapha-Pitta Prakopa and Rattrau Jarana causes Vata Prakopa which is the main Dosha of Mandagni.
Mandagni. As by Katu Rasa, Katu Vipaka and Ushna Virya i.e. by the entire aspect drug shows the effect on the Mandagni. In Vishamagni it can act by the Ushna Virya of the drug\(^{[17]}\) and Sara (Natamulomana) property of the Yavagu itself.\(^{[18]}\) Hence both Agni get improved. In the present study though placebo i.e. roasted rice powder is used but the form of drug is same in both the groups i.e. Yavagu. Yavagu itself is considered as Dipaniya\(^{[19]}\) which shows good improvement in some extent of symptoms.

**Properties of ingredients of Panchakola**

*Piper longum (Pippali):* Rejuvenating, stimulant, expectorant, emollient, carminative, aphrodisiac, warming, decongestant.\(^{[20]}\)

*Plumbago zeylenica (Chitraka):* Promotes appetite, helps digestion. Used for dyspepsia, piles, and skin diseases.\(^{[21]}\)

*Zingiber officinale (Shunthi):* Stimulating, diaphoretic, expectorant, carminative.\(^{[22]}\)

Ginger is the delicious common spice used in Ayurvedic medicine to improve digestion and to prevent nausea. These properties for helping bowel movements and relaxing the muscles are controlling the digestive system. Ginger is considered as an adjuvant in many Ayurvedic formulas in which it enhances absorption and prevents gastrointestinal side effects.\(^{[23]}\)

Latest research also shows the action of these individual drugs as a stimulant of appetite as well as a carminative. A carminative is a remedy which tends to overcome flatulence, that is, distention of the stomach or colon with gas\(^{[24]}\) and appetizer which stimulates the appetite.\(^{[25]}\)

Out of these carminatives, many of them are pleasantly aromatic, and these are used as flavors, especially in the dilute forms of the official waters and spirits. They tend to promote the appetite, but they are irritants enough in undiluted form to induce a protective flow of saliva. In the stomach, they are local irritants, and if given in sufficiently concentrated form, they dilate the vessels and produce hyperemia, thus giving a feeling of well-being in the stomach region. At the same time, they stimulate motor activity and the expulsion of accumulated gases. Thus, the functions of motion and absorption are stimulated, but probably not that of secretion unless they promote appetite. Hertz (1910) has observed by X-rays that very promptly following the administration of a strong carminative by mouth colon peristalsis is set up. This is a reflex action, and it tends to cause the expulsion of accumulations of intestinal gas, and to overcome colic or griping. Absorption is rapid from stomach and duodenum.\(^{[25]}\)

**Conclusion**

Agnimandya state is mainly related with the Vata and Kapha Dosha. By assessing the principle of Agnidipana, Panchakola Siddha Yavagu (Group A) shows highly significant results in the patients of Agnimandya and simple Yavagu (Group B) also shows the same improvement as in Group A in the symptom of Abhyavaharana Shakti, Udgara Shuddhi, Kshudha and Vegotsarga. As duration of therapy is only seven days which is insufficient for the Agnimandya having duration of more than 30 days; in this case increased duration of therapy may show good improvement.

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