

**To Study the Efficacy of Kutajadi Kashaya in the Management of Balatisara  
W.S.R. to Diarrhoea in Children**

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**Introducton:**

The main aim of Ayurveda is to accomplish health and preserve it throughout the life. Balya Avastha is one of the stages of life which is included under the branch of Kaumarbhritya which is considered as the most important specialty according to Acharya Kashyapa. It covers each aspect of child health care, nutrition, growth and development.

Purpose of Ayurveda is to maintain health of healthy person and cure the disease. In Balya Avastha due to improper Annaprashna Vidhi, child having indigestion and produces so many disease i.e. one of them is Balatisara.

The detailed description of Atisara in children is not explained in Ayurveda and an effort is made in this thesis to understand the Nidan Panchaka of Balatisara with the help of scattered references. According to the Kashyapa Samhita, Vedanadhyaya, he explained Dehavaivarnya, Arati, Mukhaglani, Anidrata these are the symptoms of Balatisara.<sup>1</sup> This can be correlate with the symptoms of Diarrhoea in children.

The Ayurvedic term Atisara means (Ati-excessive, Sara-passing of liquid matter through anus). It is defined as a change in consistency and frequency of stool i.e. liquid or watery stool, that occur more than 3 times a day. However, recent changes in the consistency and character of stool and it's water content is more important than the frequency of stool.

Diarrhoea is a global problem affecting the health of children. Various types of preparation are mentioned in Samhita for treatment of Atisara There are not only Stambhana Chikitsa is essential to treat Atisara but also Deepana-Pachana drugs should be administered to modify the disease, so it is important to search for more safe, easily available with cost effective therapy having least side effects, which could be explored from Ayurveda. Kutajadi Kashaya is one those preparations. Now a days as soon as Diarrhoea occurs, most of the people using antibiotic and anti-motility drugs. But these medicines itself may lead to many complications. So instead of those antibiotics and anti-motility drugs Kutajadi Kashaya can be used.

➤ **Aim:-**

To study the efficacy of Kutajadi Kashaya in the management of Balatisara.

➤ **Objectives:-**

- To evaluate the efficacy of Kutajadi Kashaya in Balatisara.
- To study Atisara in detail with sign and symptoms with respect to Diarrhoea in children.
- To study the comparative effect of Kutajadi Kashaya and Bala chaturbhadra Choorna in Balatisara.

➤ **Historical Review:-**

Atisara is known to mankind since ancient period there was a story regarding Uttapatti of Atisara. It is said that king Prushadhra has conducted a long term Yagna, in which for Yagnabali the animals were used, since they needed more animals they started using cows as Yagnabali, after sacrificing the cows the beaf was eaten by the people. It is said that due to Guru, Ushna Gunas of Cows meat, there was impairment in Agnibala which then caused Atisara. Hence the disease started for the first time after king Prushadhra's Yagnya.

➤ **Modern Perspective:-**

The word Diarrhoea which means literally “flow through” (of an abnormal amount of intestinal discharge), from the Greek dia, “through” and rhein, “to flow”.

Hippocrates noted that in the Greek period, when suffocating ‘heat’ seats in all of sudden, while the earth is moisten by vernal showers; means be lives are not in and orderly state, It is impossible after such a spring, but that the body and its flash must be lodged with hummers; dysenteries are also likely to occur, Hippocrates was one of the first to blame Diarrhoea on teething. The importance of unurea in Diarrhoea is also noted by him.

➤ **Types of Atisara:-**

Acharya Sushruta, Charaka, Madhavnidan, Bhavprakash, Bhaishaijya Ratnawali, Sharangdhar Samhita classified Atisara according to the stage of disease and the Dosha vitiated it is classified as – Vataja, Pittaja, Kaphaja, Sannipataja, Shokaja, Amaatisara. Other Acharya also mentioned other types of Atisara i.e. Bhayaja, Raktatisara, Pakwatisara, Agantuja etc.

➤ **Samanya Samprapti:-**

Due to Nidana Sevana, Vata gets vitiated because of the abnormal function of Aharaparinamakara Bhavas which leads to Mandagni and Koshta shoonata (Reduce in Shoshana Karma in Pakwashaya) causing the increase Dravata in Pureesha in Pakwashaya resulting in Atisara.

➤ **Chikitsa of Atisara:-**

Before doing the Chikitsa of Atisara one should know about the following factors, Whether the Doshas are in Alpa, Madhya or Bahumatra. Whether it is Aamawastha or Pakwastha.

- If Doshas are Alpa (Alpabala) Langana should be done, Which leads to Agnideepana and in turn to the Amapachana.
- If Atisara has not reached the stage of incurability, it should be managed with the measures according to dominance of Dosha and by examining Hetu, Upashaya and specific dosha.
- Before writing the prscription one should know whether it is Amaatisara or Pakvatisara. If it is Amaatisara Sangrahaka Aushadha should not be given. If these Aoushadhas are given it leads Pandu, Kusta, Gulma, Udara, Jwara, etc., If Rogi is Durbala then one can use Sthambana.
- In Amaatisara if Dosha's are aggrivated in Alpamatra and Rogi is Balavan. Then using Eranda Taila or Haritaki + Pippali Choorna along with Ushnodaka Virechana should be given. By this Ama comes out.
- If Madhyama Dosha's are there Deepana, Pachana, Pramathya's should be used. Ex: - Pipplyadi Pramathya etc.
- Annapana which is prepared with Deepana and PureeshaSangrahiAushodhi's.
- Prepared with Takra, Kanji, Yavagu and Laja should be given.
- In Pakwatisara (Amapachana) if Pravahika is there treatment is along with Mrudu Virechika Aushadi's + equal quantity of Tilakalka + ghee or Taila given.
- In case of Pureeshakshya (where mala comes out like water).
- Prescription Dhanyayusha Pureeshkshaya
- In case of guda bramsha i. Snehana ii. Swedana iii. Placing the Guda at its proper place iv. Changeri or Chavydi Gritha for drinking purpose.
- Which Dosha shows the maximum Lakshanas, that should be treated first (SamanyaSiddhanta)
- In Pittatisara, if Amalakshana's are seen Langhana should be done.
- If Trishna Musta Sariva, Raktachandana, Chirayatajala should be given.
- If Pitta is aggrivated more than Virechana should be done.

So Aama and Vata are the major factors in etiopathogenesis of diarrhoea. So Deepan and Pachan medicines are required to break Samprapti of Atisara.

### Methodology:

Randomized controlled clinical study was planned to evaluate the efficacy of Kutajadi Kashaya and Bala chaturbhadra Choorna in Balatisara.

#### ➤ **Criteria for selection of patients:-**

Randomly selected 60 diagnosed patients of Atisara from OPD and IPD of our Ayurved Rugnalaya and divided into two groups. Group A- Trial Group and Group B- Control Group. Both the groups will be treated for 5 days and 3 consecutive follow up will be taken 1<sup>st</sup> on the 2<sup>nd</sup> day of commesment of the treatment, 2<sup>nd</sup> on third day and 3<sup>rd</sup> on fifth day and this observations will be recorded in Case Record Form and data will be analysed.

#### ➤ **Inclusion criteria:-**

- 1) Patient suffering from Atisara in between the age of 5 to 14 year irrespective of sex, religion, socioeconomic status and food habits.
- 2) Patient showing signs of No dehydration, Mild and Moderate (i.e. Some dehydration).
- 3) Patient with recent history of Diarrhoea.

#### ➤ **Exclusion criteria:-**

- 1) Patient below age group 5 year and above 14 year.
- 2) Patient suffering from Diarrhoea with severe dehydration.
- 3) Patient with chronic Diarrhoea, Persistent Diarrhoea and Malabsorption Syndrome.
- 4) Patient suffering from Atisara as aUpadrava of other disease.
- 5) Patient suffering from Pravahika, Visuchika, Raktatisar and Krimi.
- 6) Patient suffering from any other Systemic disorder, Congenitalanomalies, Immune deficiency disorder and Inborn errors of metabolism.

### Assessment parameters:-

#### ➤ **Subjective criteria:-**

- 1) Udarshool (Pain in abdomen).
- 2) Mala samhanan.(Consistency).
- 3) Degree of Dehydration.

#### ➤ **Objective criteria:-**

- 1) Malavega (Frequency of stool per day).

As per above principle Kutajadi Kashaya in group A and Bal Chaturbhadra Choorna in group B was selected to Study. Bal Chaturbhadra Choorna has been indicated by Bhaishajyaratnavali in Balatisara Chikitsa. 60 children aged 5 to 14 years were selected in 2 groups. Group A (30) children were treated with Kutajadi Kashaya and Group B (30) children were treated with Bal Chaturbhadra Choorna with Madhu for 5 days. Dose calculated by according to Sharangdhara Samhita for Kutajadi Kashaya dose is 4ml per kg per day and for Bal Chaturbhadra Choorna is 4gm per kg per day; 3 times a day (8 hourly); Orally; with Anupana - Madhu respectively.

### Statistical Analysis:-

#### ➤ **Effect of drug on Malvega:-**

The mean of Malvega before treatment is 1.8 then it reduces 0.3 to after treatment in group A. in group B mean before treatment is 2.0 and it reduces to 0.4 after treatment. The statistical analysis shows that z value



is 4.724 and 4.893 for group A and B respectively. And the P value is for both groups  $<0.001$  which shows highly significance result on Malvega.

➤ **Effect of drug on Malsamhaanan:-**

The mean of Malasamhanan before treatment is 2.4 then it reduces to 1.0 after treatment in group A. in group B mean before treatment is 2.4 and it reduces to 1.1 after treatment. The statistical analysis shows that z value is 4.44 and 4.584 for group A and B respectively. And the P value is for both groups  $<0.001$  which show significance result on Malsamhnana.

➤ **Effect of drug on Udarshool:-**

The mean of Udarshoola before treatment is 0.9 then it reduces to 0.4 after treatment in group A. in group B mean before treatment is 0.93 and it reduces to 0.36 after treatment. The statistical analysis shows that z value is 3.441 and 3.690 for group A and B respectively. And the P value is  $<0.001$  for both groups which shows significant result on Udarshoola.

➤ **Effect of drug on Degree of Dehydration:-**

The mean of Degree of dehydration before treatment is 0.33 then it reduces to 0.00 after treatment in group A. in group B mean before treatment is 0.5 and it reduces to 0.00 after treatment. The statistical analysis shows that z value is 2.887 and 3.419 for group A and B respectively. And the P value is  $<0.001$  for both groups which shows highly significance result on degree of dehydration.

**Conclusion:**

As the p value is lower than the significance level  $\alpha = 0.05$ , we should reject the null hypothesis  $H_0$  and accept the alternative hypothesis  $H_a$  for Malvega, Malasamhanan, Udarshool, and Degree of Dehydration in Group A and Group B also.

It means both the Groups were statistically significant and show effect on all the symptoms.

➤ **Comparative effect on Malvega in both groups:-**

By using Mann-Whitney U test the Z value is 0.17 and the two-tailed p value is 0.105, considered not significant, hence we can conclude that difference is not significant, so both the drugs are equally effective in relieving the symptom Malvega

➤ **Comparative effect on Malsamhanan in both groups:-**

By using Mann-Whitney U test the Z value is 0.221 and the two-tailed p value is 0.156, considered not significant, hence we can conclude that difference is not significant, so both the drugs are equally effective in relieving the symptom of malasamhanan.

➤ **Comparative effect on Udarshoola in both groups:-**

By using Mann-Whitney U test the Z value is 0.192 and the two-tailed p value is 0.151, considered not significant, hence we can conclude that difference is not significant, so both the drugs are equally effective in relieving the symptom Udarshoola.

➤ **Comparative effect on degree of dehydration in both groups:-**

By using Mann-Whitney U test the Z value is 1.09 and the two-tailed p value is 0.72, considered not significant, hence we can conclude that difference is not significant, so both the drugs are equally effective in relieving the symptom of degree of dehydration.

**Conclusion:**

As the p value is greater than the significance level  $\alpha = 0.05$ , we should accept the null hypothesis  $H_0$  and reject the alternative hypothesis  $H_a$ , i.e. There is no significant difference between the two Groups for Malvega, Malasamhanan, Udarshool, and Degree of Dehydration.

**Overall effect of therapy on 60 patients:-**

In **Group A** out of 35 patients, Marked improvement (75 – 100 % relief) was noted in 5 patients i.e. 14.29 %, Moderate Relief (50 to 75 % relief) was noted in 30 patients i.e. 85.71 %, and no one was noted in Mild Relief (25 to 50 % relief) and No Relief (0 – 25 % relief) in this study.

In **Group B** out of 35 patients, Marked improvement (75 – 100 % relief) was noted in 9 patients i.e. 25.71 %, Moderate Relief was reported in 26 patients i.e. 74.29 %, and no one was noted in Mild Relief (25 to 50 % relief) and No Relief (0 – 25 % relief) in this study.

**Discussion on the assessment criteria:-**

➤ **Malavega:-**

Percentage of relief was 83.9% in group A and 80.0% in group B. Distribution of —reduction in Malavega — for group A and group B is significantly different.(P-value <0.001). Thus, trial drug and control drug can be considered as equally effective in reducing Malavega at 5% level of significance. This is clear from above description that Kutajadi Kashaya minimized frequencies of Malavega due to Grahi and Stambhana property of its ingredients. By virtue Sangrahi drugs are Deepana and Pachana therefore motivating Pachaka Pitta to improve Jatharagni, enhances digestion of Aamadasha. It is also useful to reduce Dravansha of Pureesha mala, consistency of Pureesha mala is improved to normal so frequency of Malavega is reduced.

➤ **Udarshool:-**

Percentage of relief in Udarshool was 55.5% in group A and 60.7% in group B. Distribution of “reduction in Udarshool” for group A and group B is significantly different. Thus trial drug and control drug are equally effective in relieving Udarshool at 5% level of significance. This may be due to Deepana, Pachana properties of ingredients.

➤ **Malasamhanan:-**

In group A Malasamhanan was relieved by 59.4% and in Group B it was relieved by 54.1% this values were statistically significant in both groups. As the content of drug has Deepan, Pachana and Grahi properties it helps for Malasamhanan.

➤ **Degree of dehydration:-**

Dehydration was relieved by 100% in both groups. Result is statistically significant. Hence both the drugs has reduced dehydration. This effect may be due to reduction in Malavega frequencies and Pathyapalan by patients.

➤ **Discussion on comparative effect of drugs:-**

The observation of study shows that both drugs were highly significant in Malavega and Degree of dehydration whereas on Malasamhanan and Udarshool moderately significant result were obtained.

**Conclusion:**

The observation of study shows that both drugs were highly significant in Malavega and Degree of dehydration whereas on Malasamhanan and Udarshool moderately significant result were obtained.

By statistical calculation group A is better effective in Malvega and equally effective in Degree of dehydration, Udarshool, Malasamhanan.

This study was completed under the guidance of Dr. Jagruti S. Kharatmal (Guide) Associate Proff. Students - 1. Satish Suresh Patil. 2. Avinash Wankhede. CSMSS Ayurved College, Kanchanwadi, Aurangabad.

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