



Research Article

TO EVALUATE THE EFFICACY OF HARITAKI CHURNA IN DOSHAJA CHARDI**Harshad Mali^{1*}, Mosim Momin², D.G.Dipankar³, Hridaynath Lad⁴, Shende Krushnadev⁵**¹Asst. Prof., Dept. of Balrog, Dr. N. A. Magadum Medical College, Ankali, Karnataka, India.²Asst. Prof., Dept. of Balrog, ³Asso. Prof., Dept. of Stree rog Prasutitantra, ⁴Prof., Dept. of Kayachikitsa, ⁵Asst. Prof., Dept. of Kayachikitsa, Dr.D.Y. Patil Ayurved College, Pune, M.S. India.**KEYWORDS:** *Doshaja Chardi, Annavaha srotas, Haritaki Churna, Vatanulomana* property.**ABSTRACT**

The detail concept of 'Chardi' was compiled & elaborated in this section from Ayurveda & modern view. The present study includes a sample size of 60 children in and around Institute area. *Haritaki churna* described in Charak, is well & safely practiced drug among many *Vaidyas* by proving its efficacy on *Chardi*. As mentioned before, Research works have covered the diseases of *Annavaha srotas* like that of *Pravahika, Krimi, Atisara* etc. But no consideration was given to the aspect of *Chardi* or such complaints with nature of reoccurrence. The total over all therapy showed that, 28.33 % showed no improvement, 51.66 % showed mild improvement, 18.33 % showed moderate improvement and 1.66 % showed marked improvement. There is progressive improvement occur in number of Vomiting episodes and *Vibandha* because *Haritaki churna* have *Vatanulomana* property which helps in decreasing *Pratiloma gati* of vitiated *Vata* and relieved vomiting episodes also help in bowel motility and relieved of constipation. Mild to Moderate improvement occur in *Udarashoola, Skin fold, Capillary refill* and in Urine output. Probably by correction of dehydration of body due to decrease in episodes of vomiting and also due to *Haritaki* is having *Rasayana* property. No improvement in *Trushna, Mental status, Extremities, Characteristics of pulses.*

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INTRODUCTION

Ayush, the life represents a combination of the body, the sensory organs, the mind and the soul. The word Ayurveda means 'life' or 'Science of life'. It is an ancient science of medicine based on herbs, metals and minerals. Ayurveda, is a Prime & foremost health science with its profound tributaries throughout the world. It has its own everlasting principles regarding life, disease & humanity concerning all psycho-somatic attributes. It influences the human life right from the foetal period & deals with it's all aspect throughout. So the "Kaumarbhritya" is a primitive subject among 'Ashtang Ayurved'. As stated-if a foundation is good, your construction will definitely possess the good strength. Similarly a healthy childhood regrets a healthy & happy adulthood.

"Kaumarbhritya" is a fruitful output of cumulative efforts of our Acharyas, who has tried for rejuvenescence of humanity & eradication of physical & psychological dimensions. It describes various health deprivations & suggests suitable remedies to combat it. Certain diseases may not be life threatening but increasingly annoying to day to day activities.¹

To procure, protect and caress once own progeny is a basic instinct of every living being, naturally

subject related to this Kaumarbhritya finds relatively an important place in ancient literature. Children are always put in a special category and they require more attention. Childhood period is considered as the period of rapid growth and development, as it is the crucial stage of establishing for future. In children, the diagnosis as well prognosis based on strength of the clinical features should be made at the earliest possible, so that the management could be fixed soon. Indeed a child is the strength of the nation but today's changing life style, growing pollution and stress has taken its toll on this budding generation of tomorrow. *Kaumarbhritya* has been considered as an important specialty in Ayurveda. Various terms have been used for this during the ancient period viz. *Kaumarbhrityakam* (Charaka), *Kaumarbhritya, Kaumarbhrityantra* (Sushruta and Kashyapa), *Bala Chikitsa*. (Vagbhata and Harita).²

The word *Kaumarbhritya* is composed of two words *Kaumara* and *Bhritya*. The word "Kumara" was used in Vedas, in the sense of child, boy, youth, son etc. The word Kumara is combination of two words 'Ku' and 'Mara'. The word "Ku" is used as prefix, implying deterioration, depreciation or deficiency. The word Mara is derived from root "mri" means easily dying (Lexicon of

MM Williams).³

Ayu, Varna, Balam, Swasthya etc. are dependent upon Agni. Extinction of this *Jatharagni* leads to death, its proper maintenance helps a person to live a long life, and its impairment gives rise to a disease.⁴

The life of living beings is depended upon the food. The food is responsible for *Varna* (complexion), *Prasada, Svara* (voice), *Jivitam* (longevity), *Pratibha, Sukham* (happiness), *Tushti* (satisfaction), *Pushti* (nutrition), *Balam* (strength) and *Medha* (intellect). The body nourishes by four type of *Anna - Ashita, Pita, Lidha* and *Khadita*. Similarly, *Vyadhi* is also caused by these four types of *Anna*. Intake of *Hita* and *Ahita* *Anna* is responsible for the maintenance of health and production of disease respectively. In the present era, importance is not more given to the body but the tongue. The food that is too cold, heavy, dried, fried and dehydrated is taken frequently as diet or in supplementary diet. Irregular dietary habit and over-eating is most found in a child that leads to vitiation of *Agni*.

Vedas contain large number of references pertaining to this subject which are as below -

1. To get a child of high intellect, the prayers were offered during fetal stage.⁵
2. To get a son possessing virility proves and prayers were offered to various God. Concept of wet-nurse was also existing.⁶
3. For protection of just delivered child the *Agni* was prayed.⁷
4. Specific hymn (religious song of praise) to be recited before feeding ceremony was mentioned.⁸
5. Detailed management of child is given in which "*Vrihi*" etc drugs were used for protection of child, it was indicated that clothes covering the child should be pleasurable, tonsure.
6. The *Agni, Mitravaruna* and *Aditi* were prayed to bestow the child with all qualities, make him free diseases protect his from diseases, and *Pishacha* etc.⁹
7. The subject of *Kaumarbhritya* has been described in *Samhitas* like *Charaka Samhita, Sushruta samhita, Bhela Samhita, Astanga Samgraha, Astanga Hridaya, Harita Samhita, and Kashyapa Samhita* is the book of this specialty.

In other remaining classics the subject matter of *Kaumarbhritya* is in scattered form and provide sufficient scope for interdisciplinary knowledge. Thus, childhood is a very tender but superb stage of human life. The effect on physical development and mental status of this has its effect over rest of life period. In day to day pediatric practice, pediatricians come across a good number of patients suffering from diseases related to gastrointestinal tract. The common symptoms of gastrointestinal tract disorder include abdominal pain, bowel disturbances (like diarrhoea, constipation), nausea, vomiting, abdominal distension, anorexia and failure to thrive due to disturbed digestion (i.e. functional derangement of GIT). Certain diseases may not be life threatening but increasingly annoying and irritating to the individual in his routine activity. More over when neglected they may lead to a series of

complications later. A very common clinical condition, *Chardi* (Vomiting) is one among them increasingly prevalent now a day, demanding greater concern over it. The subject has been emphasized since thousands of years now. If reviewed briefly, the references are available regarding the subject from *Charaka samhita* to the latest texts with increasing importance. As a part of *Ashtanga Ayurved, Kaumarbhritya* is at seventh place, in *Charaka samhita*. At fifth place, in *Sushruta samhita* and at second place, in *Ashtanga samgraha* and *Astanga hridaya* followed by the text of *Kaumarbhritya, Kashyap Samhita*. From this ancient work of *Kaumarbhritya* to Resent Research works carried out for M.D. and Ph.D. thesis under various Institutes of Ayurveda, Problems related to *Annavaha srotas* have been given much importance.

Why the topic is selected?

Researchers are the stepping stone to develop any science. Unfortunately no more work has been carried out on the '*Chardi*' in the field of *Kaumarbhritya*. "*Haritaki churna*" described in *Charak*, is well & safely practiced drug among many *Vaidyas* by proving its efficacy on *Chardi*. As mentioned before, Research works have covered the diseases of *Annavaha srotas* like that of *Pravahika, Krimi, Atisara* etc. But no consideration was given to the aspect of *Chardi* or such complaints with nature of reoccurrence. This has very high percentage of Children visiting any Paediatric O.P.D. now a day.

The people and even many doctors feel that Ayurvedic remedies are to be used only in chronic conditions (such as arthritis etc) and have got a long latent period before they start acting in the body. The primary idea behind selection of this topic was to show that this belief is false and that Ayurvedic remedies can work even in acute conditions. The idea was also to choose a disease, which is of a common concern. "*Chardi*" is one of the commonest disease found particularly in early childhood period with increasingly prevalence now a days. 40% of paediatric OPD & up to one third of paediatric admission in the hospitals are due to diseases of gastrointestinal tract like vomiting, diarrhoea etc.¹⁰ When it occurs in children, it is a cause of concern for the parents as the child will have severely ill look and weak, even if vomiting occurs for a day or two. The parents would want the doctor immediately to stop it within a short duration, as this may lead to severe complications in the children, if not treated at the earliest. The disease *Chardi* is nothing but vomiting, however vomiting is considered as a symptom of many disorders in modern medical science. There are varieties of *Chardi* explained in the classics¹¹. *Chardi* occurs with major problems like *Baddhodara, Kaphaja Gulma*, cancer of stomach and duodenum etc., and also occurs due to psychogenic factors such as unpleasant site, odour and eating disagreeable food¹² etc. and the line of treatment varies in such cases. "Vomiting" encompasses all retrograde ejection of gastrointestinal contents from the mouth.¹³ Violent descent of diaphragm & constrictions of abdominal muscle with relaxation of the gastric cardia actively force gastric contents back in the esophagus.

Haritaki churna has been described as being effective against all *Doshas (Tridosahar)* and thus can

be used in many ailments in one or other forms.¹⁴ *Haritaki* is quite easily available in large quantity in all parts of world. This makes it a cheap asset as far as poor countries are concerned. In fact, *Haritaki churna* is one of the very few drugs, which appropriately fits into the definitions of an ideal drug as has been described in the Ayurvedic literature. The *Shamana* line of treatment that includes oral administration of medicine is of utmost importance as the administration is very easy and also effective compared to *Shodhana* in children. Very few research works have been carried out in relation to the *Shamana* treatment for *Chardi* as directed in Ayurveda and their therapeutic effect is proved. Many more herbal combinations are described in Ayurveda and their therapeutic effect in *Chardi* is yet to be explored. So considering all the above mentioned factors, it is thought to be the need of an hour to work in this regard. For this what has to be done, is to go back to the basics. Concentrating on the Basic principles, few scattered references and physiology of digestion, a concept can be formulated covering all above points under heading of *Chardi Dosh*, which is accepted and well supported by classics too. Taking in to consideration of *Rasa, Veerya, Vipak, Guna, Dosh, Karma* of *Haritaki churna*, it was decided that the most commonly and easily available drug *Haritaki churna* should be tried in patients of *Chardi* as a disease of an acute onset. This is an attempt towards a scientific inquiry. Therefore, the present research work entitled "A Clinical study on the the role of "*Haritaki Churna*" in the management of '*Doshaja Chardi*' in Children." is planned to evaluate the relative merit of the oral administration of *Haritaki churna* and *Madhu* in *Chardi*.

Aims and Objectives

AIM: To evaluate the efficacy of '*Haritaki churna*' in '*Doshaja Chardi*'.

Objectives

- 1) To study the etiopathology of '*Chardi*' in children from Ayurvedic Texts.
- 2) To study the etiopathology of 'Vomiting' in children from Modern Texts.
- 3) To study the clinical properties of *Haritaki & Madhu* from Ayurvedic Texts

MATERIAL AND METHODS

From the primitive age to the modern age man is always interested primarily in the well being of his body and curing the ailments to which he fell prey. Man's survival on this planet depends upon its success. The development of science greatly depends upon experimentation to reveal the mysteries of nature and to confirm the previous innovation. To confirm the efficacy of the drug, though experimental study plays an important role, yet a study remains incomplete unless it is supported by clinical trials. Thus the data obtained from the clinical study is useful in ascertaining the beneficial effect seen in experimental study. In addition certain sign and symptoms like the sense of well being and dejection can be assessed only in human beings. Hence the clinical study adds and confirms the findings of the experimental study.

Ethical Clearance: The proposed clinical study was

presented in form of synopsis in front of institutional ethics committee and send to the M.U.H.S.Nashik. The clinical trial was started after the approval from chairman of ethics committee of M.U.H.S. Nashik.

3) Plan of Work - Review of Literature

The detail concept of '*Chardi*' was compiled & elaborated in this section from Ayurveda & modern view. Drug review was include the compilation of literature related to *Haritaki churna* with its pharmacological action. Previous work on this particular disorder will be reviewed from articles, journals & internet.

Type Of Study: Single blind clinical study

Statistical Analysis: The collected data analyzed using Wilcoxon Signed Ranks Test.

Drugs

- 1) *Haritaki churna*
- 2) *Madhu*

Haritaki Churna was prepared in the Pharmacy of R.S. & B.K. department of our Institute. *Haritaki Churna & Madhu* were authenticated, standardized.

Source of Data: Sample Size

Total 60 patients suffering from '*Chardi*' was selected by clinical examination in the OPD of Kaumaryabhritya. A general examination was carried out in all patients presenting with *Chardi* and then as per the below mentioned criteria random selection of the patients was made.

Selection Criteria

Inclusion criteria

Patients presenting with *Chardi* with two or more symptoms described in the context of *Chardi* were selected.

Chardi less than 2 days duration with No degree dehydration were selected. Patients presenting *Chardi* as well as *Vibandha*. Patients were selected irrespective of sex, cast, socio-economic status & between the age group of 2-8 years.

Exclusion criteria

- 1) *Sannipataja Chardi*
- 2) *Beebhatsa darshan Chardi*
- 3) Patient suffering from *Chardi* as well as *Atisar*
- 4) Patient suffering from *Chardi* as a *Upadrava* of other diseases
- 5) Patient with 2nd & 3rd degree of dehydration.
- 6) Patient having concomitant other systemic disorders like Meningitis, Encephalitis & Malignancies etc. were excluded.
- 7) Organic causes of vomiting including congenital anomalies & intestinal obstruction, chronic systemic infections etc. were excluded.

Criteria for withdrawal: During the course of the study treatment, if any serious condition or any serious complication which requires urgent treatment or if patient himself want to withdraw from the study or aggravation of the disease symptoms, such subjects may be withdrawn from the study.

Methods: 60 Patients complaining of *Chardi* were selected.

a) Study group - 60 cases-Treated with *Haritaki churna + Madhu*

Written informed consent of parent was taken.

(Which is best understood by them). The present study includes a sample size of 60 children in and around Institute area. All of them and their guardian were made to understand about the study and the informed consent was obtained. Only after getting the informed consent, they were included in the study.

The clinical study was divided into two parts,

(I) Survey for Agni *Vikriddikar hetus* and

(II) Clinical trial of *Haritaki churna + Madhu* in the management of *Doshaja Chardi*.

SURVEY: As Recurrent G.I.T. disturbances are very common in Paediatric Age group. So, to work in this regard the Survey was planned to evaluate the etiological factors. For the base of the Survey, An Ayurvedic principal Aahar Vidhi Visheshayatanani was selected. A special Research Performa was prepared for the Survey. Dividing the Performa in the following points,

1. *Aahar prakriti*
2. *Aahar samyoga*
3. *Aahar kala*
4. Method of food consumptions.

For *Aahar prakriti* and for *Aahar samyoga*, few very common Child Preferred Food items were selected and screening was done. For *Aahar kala*, trimmings of Lunch and Dinner were evaluated along with, the Number of Feeds per day. And lastly various questions were asked to evaluate various Methods of Food consumptions.

Dose & Duration

Dose: 2 - 8 years -0.7gm - 2gm/day (acc. to Dilling formula).

Kala- *Apanakala*

Time- 2 times in a day

Route of administration- Oral Route

Anupan- *Madhu* (as per requirement)

Duration- 5 days

Dietary Restrictions: The Patients were advised to follow the restrictions regarding food, food habits, Dietary Regimen & life style. They were instructed to avoid the possible causative factors of disease.

Method of study: Initially the vital data like, Name, age, sex, religion, occupation, Education, habitat, diet, socio economic status, type of family was recorded. While

1) Number of episodes of vomiting

Absence of vomiting	- 00
1-2 episodes of vomiting	-01
2- 4 episodes of vomiting	-02
More than 4 -6 episodes of vomiting	- 03

ii) Amount

Scanty	- 00
Moderate	- 01
Profuse	- 02

1) Udara shoola

No pain	- 00
Mild (Tolerable by patient)	- 01
Moderate (Twisting pain but not rolling type)	- 02
Severe (Untolerable & rolling type)	- 03

2) Aruchi (Anorexia)

Normal instinct of taking food	- 00
Person dislikes the touch or smell of food	- 01
Person doesn't like to take food at all	- 02

taking the history of present illness (*Nidana Panchaka*), every patient was enquired for various etiological factors described for *Vataja*, *Pittaja* and *Kaphaja Chardi*. This consisted of the general etiological factors like *Ativyayama*, *Bhojanasya vimarga gamana*, *Tikshna aushadi*, and special factors like *Rookshahara*, *Upavasa*, *Bhaya*, *Shoka* etc mentioned in the context of *Vataja Chardi*. Similarly *Katu*, *Ushna*, *Vidaahi*, *Amla*, *Kshara Ahara sevana* for *Pittaja Chardi* and *Swapna vicheshta*, *guru*, *Abhishyandhi* and *Snigdhaahara* for *Kaphaja Chardi*. All the patients were enquired for the presence of symptoms of *Poorva roopa* mentioned for *Chardi* like *Hrrullasa*, *Utklesha*, *Aruchi*, *Jrumbha* etc. An effort was made to evaluate the status of *Lakshanas* of individual *Chardi* with the help of preformed table before and after the treatment. With the questionnaire the mode of onset of *Chardi*, Number of episodes of vomiting, Amount of vomitus, *Anubandhi vedana*, Dehydration grades in the pattern was recorded before and after the treatment. Under *Rogi pareeksha*, relevant data such as *Kula vrittanta*, *Jaata poorva vrittanta*, *Jattottara vrittanta* as well as developmental mile stones and *Samskaras* performed were noted initially. The *Prakriti* of the patient was evaluated. By enquiring with the patient's guardian, the *Saatmyata* of the patient to *Madhura*, *Katu*, *Amla*, *Ushna* and *Sheetahara* etc was noted. The *Samhanana*, *Satva*, *Sara*, *Agnibala*, *Ahara shakti* and *Koshta* of the patient was ascertained. The *Pramana* of the patient like weight was recorded using necessary instruments. Under *Vikruti pareeksha*, effort was made to evaluate the *Doshas* with the help of *Ashta vidha pareeksha*. All the *Srotas* were examined using available Ayurvedic and modern parameters before and after the treatment. Special emphasis was given to *Annavaha sroto pareeksha*. Detailed evaluation of Alimentary system was made to diagnose the disease and to know the severity of the disease. It was also helpful in assessing the improvement in the condition of the patient before and after treatment. The diagnosis of *Chardi* was made on the presence of two or more *Lakshanas* mentioned under specific variety of *Chardi*.

Assessment Criteria

Subjective Criteria

No vomiting	- 00
Non projectile vomiting	- 01
Projectile vomiting	- 02
No vomiting	- 00
Non Bilious vomiting	- 01
Bilious vomiting	- 02

3) Vibandha (difficult stool pass)

- Normal - 00
- Alpasha, Grathita Malapravrutti - 01
- Avashthambhit Malapravrutti - 02

4) Trushna

- Drinks normally; might refuse liquids - 00
- Thirsty; eager to drink - 01
- Drinks poorly - 02

Table1: Objective Criteria

Symptoms	Dehydration		
	Minimal or No Dehydration	Mild to Moderate Dehydration	Severe Dehydration
	NO(0)	(01)	(02)
	(<3% Loss of body wt.)	(3-9% Loss of body wt.)	(>9% Loss of body wt)
Mental status	Well alert	Restless, irritable	Lethargic, unconsciousness
Heart rate	normal	Normal to increase	Tachycardia, with bradycardia in more severe cases
Characteristic of pulses	Normal	Normal to weak	Thready or feeble
Breathing	Normal	Normal ; fast	Shallow
Eyes	Normal	Slightly sunken	Deeply sunken
Tears	Present	Decreased	Absent
Mouth and tongue	Moist	Dry	Parched
Skin fold	Instant recoil	Recoil in <2 sec.	Recoil in >2sec.
Capillary refill	Normal	Prolonged	Prolonged; minimal
Extremities	Warm	Cool	Cold, mottled, cyanotic
Urine output	Normal	Decreased	Minimal

1. Assessment was made on the basis of improvement in the clinical features.
2. The assessment was based on the gradation of both Subjective and Objective clinical features before and after treatment.

Laboratory Investigations – Whenever necessary, required investigations were done.

OBSERVATIONS AND RESULTS

Sixty six patients were registered for the clinical trial. By following the inclusion and exclusion criteria 66 patients were randomly selected. Six patients discontinued the treatment as four patient developed diarrhoea after taking *Haritaki Churna* and two patients couldn't continue full course of treatment, hence dropped from treatment. Thus the complete clinical trial was completed on sixty patients. The observations made were graded and tabulated as follows.

Table 2: Age wise distribution of 60 patients

Age in yrs	No. of cases	%
2	5	8.3
3	10	16.7
4	10	16.7
5	17	28.3
6	8	13.3
7	7	11.7
8	3	5.0
Total	60	100.0

Table 3: Sex wise distribution of 60 patients

Sex	No. of cases	%
Females	24	40
Males	36	60
Total	60	100.0

Table 4: Birth History wise distribution of 60 Patients

Birth History	No. of cases	%
FTLSCS	16	26.7
FTND	37	61.7
Instrumental	7	11.7
Total	60	100.0

Table 5: Immunization wise distribution of 60 Patients

Immunization Status	No. of cases	%
Improper	19	31.7
Proper	41	68.3
Total	60	100.0

Table 6: Sibling having wise distribution of 60 Patients

Sibling	No. of cases	%
Nil	17	28.3
One	29	48.3
Two	14	23.3
Total	60	100.0

Table 7: Residential Hygiene wise distribution of 60 Patients

Residential Hygiene	No. of cases	%
Rich	1	1.7
Good	10	16.7
Moderate	18	30.0
Poor	31	51.5
Total	60	100.0

Table 8: Parental awareness wise distribution of 60 Patients

Parental awareness	No. of cases	%
Good	22	36.7
Satisfactory	31	51.7
Poor	7	11.7
Total	60	100.0

Table 9: Sharirika Prakriti wise distribution of 60 Patients

Sharirika prakriti	No. of cases	%
Pitta-Kaphaja	25	41.7
Vata-Kaphaja	20	33.3
Vata-Pittaja	15	25.0
Total	60	100.0

Table 10: Appetite wise distribution of 60 Patients

Appetite	No. of cases	%
Good	8	13.3
Moderate	33	55.0
Poor	19	31.7
Total	60	100.0

Table 11: Agni Bala wise distribution of 60 Patients

Agni	No. of cases	%
Madhyam	24	40.0
Manda	24	40.0
Teekshna	11	18.3
Visham	1	1.7
Total	60	100.0

Table 12: Approximate time of Lunch

Lunch Time	No. of cases	%
After 1 pm	14	23.3
Between 11-1 am	29	48.3
Not Fixed	17	28.3
Total	60	100.0

Table 13: Sleep Duration wise distribution of 60 Patients

Duration of Sleep	No. of cases	%
>10 Hrs	10	16.7
9-10 Hrs	17	28.3
7-8 Hrs	33	55.0
Total	60	100.0

Table 14: Sleep Pattern wise distribution of 60 Patients

Nature of Sleep	No. of cases	%
Disturbed	18	30.0
Sound and Deep	42	70.0
Total	60	100.0

Table 15: Vaya wise distribution of 60 Patients

Vaya	No. of cases	%
Annada	55	91.7
Kshirannada	5	8.3
Total	60	100.0

Table 16: Jihwa Pariksha wise distribution of 60 Patients

Jihwa	No. of cases	%
Anupalipta	24	40.0
Upalipta	36	60.0
Total	60	100.0

Table 17: Shabda Pariksha wise distribution of 60 Patients

Shabda	No. of cases	%
Avishesha	53	88.3
Vishesha	7	11.7
Total	60	100.0

Table 18: Sparsha Pariksha wise distribution of 60 Patients

Sparsha	No. of cases	%
Avishesha	57	95.0
Vishesha	3	5.0
Total	60	100.0

Table 19: Drika Pariksha wise distribution of 60 Patients

Drika	No. of cases	%
Avila	4	6.7
Avishesha	48	80.0
Pandura	8	13.3
Total	60	100.0

Table 20: Akruti wise distribution of 60 Patients

Akruti	No. of Cases	%
Krishna	9	15
Madhyama	45	75
Sthula	6	10
Total	60	100

Table 21: Sara wise distribution of 60 Patients

Sara	No. of cases	%
Avara	8	13.3
Madhyama	44	73.3
Pravar	8	13.3
Total	60	100.0

Table 22: Samhanan wise distribution of 60 Patients

Samhanan	No. of cases	%
Avara	8	13.3
Madhyama	44	73.3
Pravar	8	13.3
Total	60	100.0

Table 23: Satmya wise distribution of 60 Patients

Satmya	No. of cases	%
Avara	5	8.3
Madhyama	49	81.7
Pravar	6	10.0
Total	60	100.0

Table 24: Satva wise distribution of 60 Patients

Satva	No. of cases	%
Avara	3	5.0
Madhyama	52	86.7
Pravar	5	8.3
Total	60	100.0

Table 25: Abhyavarana Shakti wise distribution of 60 Patients

A.Shakti	No. of cases	%
Madhyam	56	93.3
Pravar	4	6.7
Total	60	100.0

Table 26: Mala Pravrutti wise distribution of 60 Patients

Mala Pravrutti	No. of cases	%
Constipated	10	16.7
Normal	50	83.3
Total	60	100.0

Table 27: Mutra Pravrutti wise distribution of 60 Patients

Mutra pravrutti	No. of cases	%
Avishesh	60	100
Total	60	100.0

Table 28: Showing the Type of Chardi

Type of Chardi	No. of Cases	%
Vataja Chardi	17	28.33
Pittaja Chardi	11	18.33
Kaphaja Chardi	32	53.33

Table 29: Showing Nidana in Chardi patients

Nidana	No. of Cases	%
Aama	11	18.33
Ajirna	13	21.66
Vidahi Aahara	24	40
Akala Bhojana	16	26.66
Katu Amla Aharasevana	8	13.33
Atisnigdha Atiguru Aharasevana	5	8.33
Ativyayam	13	21.66
Bhaya Shoka	3	5

Table 30: Showing Poorvaroopa in the patients of Chardi

Poorvaroopa	No. of cases	%
Aruchi	37	61.66
Nidra	18	30
Jrumbha	7	11.66
Hrullasa	4	6.66
Udgara	5	8.33
Kaphapraseka	12	20

Table 31: Showing the statistical analysis of number of Episodes of Vomiting before and after treatment

Variables	Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Number of Episodes of Vomiting	BT 1.75	.680	6.581	<0.001 HS

Table 32: Showing the statistical analysis of Udara Shoola before and after treatment

Variables	Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Udara Shoola	BT 1.07	.634	4.372	<0.001 HS
	AT .67	.542		

Table 33: Showing the statistical analysis of Aruchi before and after treatment

Variables	Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Aruchi	BT .73	.542	2.138	0.033 Sig
	AT .60	.516		

Table 34: Showing the statistical analysis of *Vibhandha* before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
<i>Vibhandha</i>	BT	.65	.633	4.097	<0.001 HS
	AT	.25	.437		

Table 35: Showing the statistical analysis of *Trushna* before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
<i>Trushna</i>	BT	.80	.659	1.347	0.178 NS
	AT	.92	.869		

Table 36: Showing the statistical analysis of Mental Status before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Mental Status	BT	.43	.500	1.414	0.157 NS
	AT	.50	.504		

Table 37: Showing the statistical analysis of Heart Rate before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Heart Rate	BT	0.38	0.490	2.111	0.035 Sig
	AT	0.45	0.502		

Table 38: Showing the statistical analysis of Characteristic of Pulses before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Characteristic of Pulses	BT	0.38	0.490	2.309	0.021 Sig
	AT	0.42	0.497		

Table 39: Showing the statistical analysis of Breathing before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Breathing	BT	0.32	0.469	0.816	0.414 NS
	AT	0.28	0.454		

Table 40: Showing the statistical analysis of Eyes before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Eyes	BT	0.47	0.503	2.121	0.034 Sig
	AT	0.37	0.486		

Table 41: Showing the statistical analysis of Tears before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Tears	BT	0.45	0.502	1.134	0.257 NS
	AT	0.40	0.494		

Table 42: Showing the statistical analysis of Mouth and Tongue before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Mouth and Tongue	BT	0.37	0.486	1.069	0.285 NS
	AT	0.30	0.462		

Table 43: Showing the statistical analysis of Skin fold before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Skin fold	BT	0.30	0.462	3.357	0.001 Sig
	AT	0.08	0.279		

Table 44: showing the statistical analysis of Capillary Refill before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Capillary Refill	BT	0.18	0.390	2.530	0.011 Sig
	AT	0.05	0.220		

Table 45: Showing the statistical analysis of Extremities before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Extremities	BT	0.42	0.497	0.447	0.655 NS
	AT	0.43	0.563		

Table 46: Showing the statistical analysis of Urine output before and after treatment

Variables		Mean	Std. Deviation	Wilcoxon Signed Ranks Test Z	P
Urine output	BT	0.50	0.504	2.309	0.021 Sig
	AT	0.37	0.486		

Overall Effect of Therapy**Table 47: Showing the statistical analysis of Overall effect of therapy**

Category of Improvement	No. of Cases	%
Marked Improvement	1	1.66
Moderate Improvement	11	18.33
Mild Improvement	31	51.66
No Improvement	17	28.33

DISCUSSION

Discussion is the most imperative part in any kind of research work. Discussion is the logical reasoning, starting with critically analyzing the problem, relating it to previous knowledge and ideas then implicating the observations made and results obtained to draw a conclusion can fulfill the purpose of research work i.e. to draw some conclusion from the observations and results. Thus it is a bridge which connects the findings of a trial with conclusions.

A) Discussion on conceptual study

Concept of Chardi: Chardi is defined as the impurity comes out through mouth with forceful impulses covering the mouth and producing tearing pain in the body. Vomiting is very troublesome both to the parents as well as to children and sometimes it may be fatal if proper care is not taken for hydration. This disease can occur as a separate entity, or as a symptom of systemic pathology or as a complication of other diseases. The vomiting may be due to functional disturbance or due to infection or due to other systemic causes.

B) Discussion on drug review & its mode of action- Discussion on selection of drugs

For this study, *Haritaki Churna* was selected to evaluate its effect on vomiting due to the following reasons:

1. '*Haritaki*' described in the context of Charak chikitsa, Bhaishajyaratnavali, Bhavaprakasha, Dhanavantari Nighantu etc by proving its efficacy on *Chardi*.
2. As our study is on *Doshaja Chardi*, *Haritaki churna* has been described as being effective against all *Doshas (Tridosahara)* and thus can be used in many ailments in one or other forms.
3. *Haritaki* is quite easily available in large quantity in all parts of world. This makes it a cheap asset as far as poor countries are concerned.

Discussion on selection of Drug form : For our study we have selected our drug in the form of *Churna* because of its Suitability, Good Presentation, Acceptance, Effectiveness and it becomes more convenient for the physician to prescribe specific amount of medicaments according to weight of child with proper dose for good result. In fact, *Haritaki churna* is one of the very few drugs, which appropriately fits into the definition of an ideal drug as has been described in the Ayurvedic literature.

Discussion on mode of action drug: At the level of Dosh: *Haritaki* is *Madhura*, *Amla* (Rasa), *Ushna* (Veerya), *Madhura* (vipak), *Vatahara* (*Doshagnata*) helpful in the *Vataja Chardi*. *Madhura*, *Tikta*, *Kasaya* (rasa), *Madhura* (Vipak), *Pittahara* (*Doshagnata*), *Pruthvi Mahabhuta* predominance reduces the *Pittaja Chardi*. While *Katu*, *Tikta*, *Kasaya* (rasa), *Ushna* (veerya), *Kaphahar* (*Doshagnata*), and *Ruksha Laghu* (*Guna*) hence

helpful in *Kaphaja Chardi*.

c) Discussion on clinical study

Discussion on Research design The study was intended as a randomized, single blind clinical study for the efficacy of *Haritaki churna* and *Madhu* in the Management of *Doshaja Chardi* in children aged 2- 8 yrs with irrespective of their sex, religion and socio economic status.

Discussion on single blind study: The blind method is a part of the scientific methods which is used to prevent research outcomes from being influenced by the observer bias.

Discussion on clinical study method: For the present Clinical study total 66 diagnosed children of *Chardi* (fulfilling the inclusion criteria) were selected for the study, out of which 6 patients were dropped out. The 60 patients were randomly given treatment with *Haritaki Churna + Madhu*. Treatment was carried out for 5 days. Observations like their age, sex, socioeconomic status, personal history etc. were documented. Complaints observed before and after the treatment were recorded separately in tabular form.

Discussion on observations

Age: Maximum numbers of children in this study were in the age of 5 year i.e. total 28.3%. This was followed by 16.7% of children in the age group of 3-4 years, 13.3% of children were of 6 year, While 11.7% of children were in the age group of 7 year and 8.3% of children were in the age group of 2 year. Only 5 % children were in the age group of 8 year. It was observed that this disease was common in young children due to Consumption of outside, Spicy food in improper time and in inappropriate quantity are the contributing factors leading to *Chardi*.

Sex: 60 % of the children were males while 36 % were females. In the present study, the incidence of *Chardi* is found in male children than in female children. However the magnitude of disease is equal in both male and female. Any way a detailed survey has to be undertaken in this direction to come to a definite conclusion in regard to sex and *Chardi* in children.

Religion: Maximum children were Hindus (70 %) followed by Muslims (23.3 %) and none were Christians (6.7 %). The fact is that this area where study was conducted is having maximum numbers of Hindus. Also the patients were selected by a random sampling method, hence such data was obtained.

Occupation of parents: Among the parents of 60 children, 24 (40%) were agriculturists, 15 (25.0 %) were doing business, 16(26.7%)were Labour and 10 (16.7 %) were service holders. This observation shows that most of the children were belonging from agriculture family

due to lack of time and other socioeconomic reasons associated with improper hygiene.

Socio-economical status: Poverty and poor hygiene is the main cause for this disease because they are almost linked with over-crowding. People belonging to poor and middle class society cannot afford a better life style and healthy diet which pulls them into different health problems. In present study it was observed that maximum number of children i.e. 61.7 % were from Poor socio-economic status, 33 % were from Middle class and only 5% were from upper class.

Educational Status: Out of 60 children, 26 (43.3%) were in preschool age group, followed by 18 (30%) children were school going and 16(26.7%) children from Nursery group.

Immunization history: 68.3 % children were having proper immunization & remaining 31.7 % children having improper immunization. Vaccination protects only specific, vaccine related disease. No vaccination can provides specific immunity for *Chardi* (Vomiting). So, *Chardi* can also occur in children having proper immunization.

Parental Awareness: In present study, Maximum children (51.7%) were having satisfactory parental Awareness, 36.7 % were having Good parental Awareness & only 11.7 % children having Poor parental Awareness. Parental Awareness is very important in maintenance of health in general. Above data support the awareness of parents to their child's health.

Residential Hygiene: Maximum 51.6 % children were having poor residential hygiene, followed by 30 % children were having Moderate & 16.7 % children were having good residential hygiene respectively. Poor residential hygiene and contact with unhygienic food materials are most important predisposing factors for manifestation of disease *Chardi*.

Prakriti: In present study 41.7% children were having *Kapha pitta Prakriti*, 33.3% were having *Vata kaphaja prakriti*. *Kapha Dosha* is considered to be the predominant *Dosha* in this particular age group. It is also noted that the *Aruchi*, *Udarashoola* and *Vibandha* are the symptoms of vitiated *Kapha* & *Pitta* in *Chardi* and they have been encountered in the present study.

Koshta: In the present study, Maximum number of children were belonging to *Madhyama Koshta* 40% and 21.7 % were found belonging to *Krura Koshta* and remaining 38.3% were belonging to *Mridu Koshta*. No explanation can be given for this rather than by chance. The knowledge of *Koshta* is helpful in deciding the treatment modality.

Appetite: Among 60 children, 33 (55%) were having moderate appetite, 19(31.7%) children were having poor appetite. There is relation in between *Jatharagni* & manifestation of GI diseases, as *Amanirmana* due to *Mandagni* predisposes to *Chardi*.

Ahara Profile:

Dietary Habit: The study revealed that, maximum children (76.7%) in the series of therapy were having irregular dietary habit while regular diet habit was found in 23.3 % patients.

Diet Type: 56.7% children were belonging to non

vegetarian diet habit. This may be due to the usage of more oily, fried and chilly foodstuffs as well as unwholesome food by the children of non vegetarian diet. The Childhood is the period of *Kapha* predominant where the influence of non vegetarian diet again helps in easy accumulation and aggravation of *Kapha*.

Pradhana rasa in food: In this study it was observed that maximum children (73.3 %) were consuming *Madhura Rasa* followed by *Amla Rasa* in 16.7 % children, *Lavana* and *Katu Rasa* in 5% children in their diet. *Madhura* and *Amla Rasa* in higher doses may aggravate *Kapha*, *Pitta doshas* & creates *Kha-vaigunya* and are considered as *Nidana* of *Chardi*.

Akruti: Maximum children 75% were having *Madhyama Akruti*, 15% children were having *Krishna Akruti* and 10 % were having *Sthula Akruti*. *Akruti* gives an idea about body built. As such there is no relation of *Akruti* with *Chardi*.

Satva: Maximum numbers of children were *Madhyama Satva* followed by *Pravara* and *Avara Satva*. This may be due to the association of psychological factors like fear, sorrow, anxiety, irritability etc. observed which may indirectly pre dispose the disease.

Agni Bala: In present study maximum children's were having *Mandagni* and *Madhyamagni*. As *Mandagni* causes *Ama* production predisposes to *Chardi*.

Nidana sevana: In present study *Aharaja Nidana's* like *Vidahi ahara sevana* was observed in 40 % patients, *Akala bhojana* in 26.66 % patients, *Ajirna* in 21.66% patients, *Katu Amla Aharasevana* in 8.33 % patients, *Ama* in 18.33 % patients. According to *Viharaja Nidanans*, most of the patients i.e. 21.66 % having *Ativyayam* as a *Nidana*.

Discussion on Effect of Therapy (Results)

The Discussion made on recorded results is as follows.

1. Number of episodes of vomiting: In present study Vomiting episodes were relieved by 82.9 % which is Highly significant result. Marked improvement occurs in decreasing number of episodes of vomiting due to *Haritaki* have *Vatanulomana* and *Soumya virechaka* property helps in decreasing *Pratiloma gati* of vitiated *Apana* & *Vyana vayu* causes *Sampraptibhang* of *Chardi*.

2. Udarashoola: Improvement in *Udarashoola* was observed (37.4 %) which is highly significant result. Relieve in *Udarashoola* also observed due to the counselling about daily diet regimen and proper intake of food. There is no pain without involvement of *Vata dosha*, due to *Vatahara* as well as *Anulomana* property of *Haritaki* accumulated *Vata dosha* decreases and *Udarashoola* relieved.

3. Aruchi: In present study improvement in *Aruchi* was observed (17.8%) Which is Significant result. *Haritaki* have *Dipana* property which helps in *Agnidipana* and improvement in *Aruchi*.

4. Vibandha: In present study improvement in *Vibandha* was observed 61.5 % which is Highly significant result. *Haritaki churna* showed better improvement because *Haritaki churna* have *Vatanulomana* property which helps in bowel motility and relieved of constipation.

5. Trushna: The effect of therapy on *Trushna* (Thirst) is not significant. It may be due to *Ruksha* & *Ushna* property of drug.

6. Mental status, Characteristics of pulses, Extremities- In present study mental status, Characteristics of pulses and extremities etc status of patients remains same means there is no significant change in these criteria.

7. Heart Rate, Breathing, Tears, Mouth & Tongue, Skin fold, Capillary refill, Urine Output

In present study there is significant result on Heart rate, Breathing, Tears, Mouth & Tongue, Skin fold, Capillary Refill, Urine output. Rehydration of body takes place by improvement in decreasing number of episodes of vomiting, *Aruchi*, *Vibandha*, *Udarashoola* etc. As *Rasakshaya* leads to above symptoms with vitiation of *Vatadosha* or fluid deficit could be replaced during the therapy or treatment. The total over all therapy showed that, 28.33 % showed no improvement, 51.66 % showed mild improvement, 18.33 % showed moderate improvement and 1.66 % showed marked improvement. There is progressive improvement occur in number of Vomiting episodes and *Vibandha* because *Haritaki churna* have *Vatanulomana* property which helps in decreasing *pratiloma gati* of vitiated *Vata* and relieved vomiting episodes also help in bowel motility and relieved of constipation. Mild to Moderate improvement occur in *Udarashoola*, Skin fold, Capillary refill and in Urine output. Probably by correction of dehydration of body due to decrease in episodes of vomiting and also due to *Haritaki* is having *Rasayana* property. No improvement in *Trushna*, Mental status, Extremities, Characteristics of pulses.

CONCLUSIONS

On the basis of the study, following conclusions can be drawn.

- 1) *Chardi* being a common disease has *Pitta* predominance with it's involvement of *Tridosha* which can be evident by observing it's signs and symptoms.
- 2) *Chardi* in modern parlance has similarity with the vomiting which is common symptom of GI disorders.
- 3) In present study majority of the children were found in the age group of 3-5 years which reflects the incidence of *Chardi* is more in this particular range.
- 4) The incidence of 60% males, 70% Hindu religion may not have any reasonable cause for the manifestation of disease *Chardi*.
- 5) In case of *Nidana sevana* & *Strotodushti* the present study Substantiate the theoretical observation made by Acharya's is very relevant in present era.
- 6) Maximum children's had the history of *Vidahi ahara sevana*, *Ajirna* & *Mandagni* which clearly shows the role of *Ama* formation in the pathogenesis of disease *Chardi*.
- 7) Majority of children's of the study were consuming *Madhura Rasa* and *Ruksha guna* dominant food reflects that these are the supplementary agents for the causation of *Chardi*.
- 8) Poor personal hygiene, Poor residential hygiene, Poor eating habits, Poor living standard, Unawareness about health are the important etiological factors for infestation of *Chardi*.
- 9) Involvement of *Kaphaja lakshanas* were more

prevalent in the disease *Chardi* probably due to *Kaphaja* disorders are more common in this age group.

- 10) The incidence of *Chardi* is higher in *Madhyama sharira* (75%), *Madhyama samhanana* (73.3%) and *Madhyama Satmya* (81.7%) have no relation with the manifestation of the disease *Chardi*.
- 11) Distribution of the patients according to the manifested predominant symptoms showed that *Aruchi*, *Nidra*, *Jrumbha* etc were predominant symptoms of the disease *Chardi*, but the incidence of *Aruchi* (61.66%) is more predominant symptom as compared to other predominant symptoms.
- 12) The vomiting symptoms showed better response to the drug *Haritaki churna*. Hence it can be stated that *Haritaki Churna* is effective in relieving the vomiting symptoms in children within the duration of 5 days. However, this is only preliminary study conducted as a part of educational research program in small number of patients & in a fixed duration of time. Further multi-centered clinical & experimental studies are required with large samples to establish the efficacy of the drug *Haritaki* on *Chardi*.

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