



Research Article

## A CLINICAL STUDY TO EVALUATE THE EFFECT OF *PATHYADI KWATHA* AND *ANU TAILA NASYA* IN THE MANAGEMENT OF *ARDHAVBHEDAKA* W.S.R. TO MIGRAINE

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*roga*.

### ABSTRACT

A rise in acute and chronic health issues is caused by the shifting demands of the workplace, especially in light of urbanization and contemporary lifestyles. A large percentage of people suffer from migraines, one of the most prevalent and debilitating chronic illnesses. Migraines are not life-threatening, but it can significantly affect day-to-day functioning. People who suffer from migraines face not only agonizing pain, but often experience social isolation, disrupted personal relationships, and discrimination at work. In Ayurveda clinical features of *Ardhavabhedaka* resembles to the symptoms typically associated with migraine, including intense, one sided headache. Treatment modality which are currently available in modern medicine are also not satisfactory and are financially burdensome for many patients. Migraine is managed generally with NSAIDS's and analgesics drugs which give only short term relief and pain may rebound. The purpose of this study was to find out an effective and well accepted drug with minimal or no complications for this illness. 50 patients who were diagnosed with *Ardhavabhedaka* w.s.r. migraine were allocated randomly into two groups. The trial drug i.e., *Pathyadi Kwatha* 50ml twice a day was given to 25 patients of Group I and trial drug *Pathayadi kwath* 50ml and *Anu tail Nasya* was given to 25 patients of group II. *Pathyadi Kwath* decoction has ingredients having *Ushana Virya* and *Vatshamak* properties, which may be useful in management of *Ardhavbhedaka* and *Anu Taila* have the property of *Tridoshaghnta* and *Snigdha guna*. Subjective parameters were assessed before and after the completion of trial. Data obtained during the trial was tabulated and statistically analysed.

### INTRODUCTION

In Ayurvedic literature three vital organs has been described under "*Trimarmas*" and have given prime importance to head i.e., *Shirah*. Almost all the *Acharyas* have mentioned about *Shirah* under *Shiro roga* and cardinal feature of which is *Shiro shoola* (headache).<sup>[1]</sup> Headache is a very common problem which cause disturbance in daily routine. Similarly ayurvedic classics have mentioned *Ardhavabhedaka* under *Shiro-roga* which occur due to the vitiation of *Tridosha*<sup>[2]</sup> and on the basis of the sign and symptoms it can be correlated with migraine.

It is characterized mostly by the pain on one side of the head or half sided headache. Ayurveda has been proved effective in *Ardhavbhedhaka* as number of researches in the past have been done on this disease. Ayurveda is the only medical system which gives the way of perfect living with the nature. Nowadays, most of population is looking towards natural ways of life and have lots of expectations from Ayurveda because Ayurveda not merely deals with cure of disease but also prevention of disease. Headache is normally encountered in general practice that is why every patient with the complaint of headache needs to be excluded for migraine type of headache. Migraine is a neurovascular disease caused by neurogenic inflammation and characterized by severe, recurring headache.<sup>[3]</sup> It is second most common cause of headache characterized by an episodic severe pain on one side of the head and usually associated with certain features such as sensitivity to light, sound or

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movement, nausea and vomiting also accompany the headache. Migraine attacks lasting for 4-72hrs, of a pulsating quality, moderate to severe intensity aggravated by routine physical activity. W.H.O. has mentioned migraine as third most common disease in the world with an estimated global prevalence of 47.7% (Around 1 in 7 people). Migraine is more common in women than in men (5:1).<sup>[4]</sup> Migraine is often undiagnosed and untreated and WHO list migraine as one of the world's most debilitating medical condition. The exact mechanism of migraine is not yet known as a result, it is increasingly contemplated as a chronic illness rather than just a headache. It is mainly divided into two subtypes- migraine without aura (common migraine) and migraine with aura (classical migraine). About 20-30% migraine patients experience aura. The common type of migraine occurs in about 70-80% of migraine patients.<sup>[5]</sup> Most of the drugs employed in modern medicine for this disease are almost limited to suppress the symptoms. Excessive use of such drugs is found to cause serious side effects like memory loss, gastrointestinal disorders, weight gain etc. and tend to be habit forming; Most individual often needs medication during acute attacks and some prophylactic measures to reduce attack but overuse of such medication causes "medication overuse headache" (MOH) and develop unacceptable side effects. In contrast of that Ayurveda has a variety of natural medication in the treatment of *Ardhavbhedaka*.

## AIMS AND OBJECTIVES

### Primary Objective

To evaluate the effect of *Pathyadi Kwatha* and *Anu Taila Nasya* in the management of *Ardhavbhedaka* w.s.r to migraine.

### Secondary Objective

To evaluate the clinical safety of *Pathyadi Kwatha* and *Anu Taila Nasya* in the management of migraine.

## MATERIAL AND METHODS

### Selection of the Patient

- 1) The patients were selected from the O.P.D. and I.P.D. of Kayachikitsa of R.G.G.P.G. Ayurvedic College and Hospital Paprola, Distt. Kangra (H.P.) 176115.
- 2) Total 50 patients were selected for the present study irrespective of the gender, caste and religion etc.

### Study design

Study type - Randomized clinical trial

Masking- Single blind

Timing- Prospective

Study Subjects- 50

No. of group- 2

Duration of trial - 08 weeks

Follow up visit- Follow up was done after every 2 weeks till the completion of the trial.

## Diagnostic Criteria

### Subjective criteria

The patients were diagnosed on the basis of signs and symptoms as described in Ayurvedic literature

- *Ardha Parshwa Shoola* (unilateral pain)
- *Bheda, Toda, Shoola* (pulsating, throbbing type of pain)
- *Parkshat, Akasmat* (paroxysmal in nature)
- *Prakasha Asahishnut* (photophobia)

The diagnosis was made on the basis of criteria of Migraine provided by International Headache Society (ICHD-3)

### I. Migraine without aura

- A positive history of at least five attacks.
- Headache attacks lasting 4-72 hrs.

Headache has atleast two of the following:

- ✓ Unilateral pain
- ✓ Pulsating quality
- ✓ Moderate to severe pain intensity
- ✓ Aggravation by or causing avoidance of routine physical activity.
- ✓ During headache at least one of the following
- ✓ Nausea/ vomiting
- ✓ Photophobia and phonophobia.

### II. Migraine with Aura

At least 1 of the following fully reversible aura symptoms:

- ✓ Visual
- ✓ Sensory
- ✓ Speech and language

### Inclusion criteria

- Patient who fulfilled the diagnostic criteria.
- Patients of age group between 18-70 yrs will be selected for the study.
- Patients willing to participate and able to provide signed informed consent.

### Exclusion Criteria

- Patients with chronic renal failure, uncontrolled diabetes mellitus & HTN will be excluded.
- Patients with status migrainosus, ophthalmic migraine or hemiplegic migraine
- Secondary headache caused by sinusitis, meningitis, brain tumour, encephalitis, cervical spondylitis, refractive error and increased intraocular pressure.
- Individuals not willing to undergo the clinical trial.
- History of hypersensitivity to any of the trial drug or other ingredients.
- Individuals who have completed participation in any other clinical trial during the past six months.
- Any other condition, which the principal investigator thinks might compromise the study.

### Criteria of Assessment

On the basis of improvement reported by patients assessment was done and scoring system was

adopted to give objectivity to the symptoms for statistical analysis.

**Severity of Headache- Grade**

- No headache - 0
- Mild headache, patient is aware only if she/he pay attention - 1
- Moderate headache, can ignore at time - 2
- Severe headache, can't ignore he/she can do his or her usual activities - 3
- Excruciating headache, can't do anything - 4

**Frequency of headache**

- No attack- 0
- Once in 21 to 30 days - 1
- Once in 11 to 20 days - 2
- Once in 1 to 10 days - 3
- Continuous/daily - 4

**Duration of headache (Assessed in term of hours/day)**

- Nil- 0
- 1-3 hours/day - 1
- 3-6 hours/day - 2
- 6-12 hours/day - 3
- More than 12 hours/day - 4

**Nausea**

- Nil - 0
- Mild, occasionally - 1
- Moderate but does not disturb the routine work - 2
- Severe, disturbing routine work - 3
- Severe enough - 4

**Vomiting**

- Nil - 0
- Only if headache does not subside - 1
- Vomiting 1-2 times - 2
- Vomiting 2 -3 times - 3
- Forced to take medicine to stop vomiting - 4

**Vertigo**

- Nil - 0
- Feeling of giddiness - 1
- Patient feels as if everything is revolving - 2
- Revolving signs + blackout - 3
- Unconsciousness - 4

**Aura**

- Nil- 0
- Last for 5 minutes - 1
- Last for 15 minutes - 2
- Last for 30 minutes - 3
- Last for 60 minute - 4

**Investigations were done before and after trial**

- a. CBC
- b. ESR
- c. FBS
- d. SGOT, SGPT
- e. B. Urea, S. Creatinine
- e. Urine - Routine and microscopic examination

**Grouping**

Eligible enrolled patients were randomly divided into following two groups:

**a) Group I** – 25 patients were enrolled in this group and they were managed with *Pathyadi Kwatha* in the dose of 50 ml twice a day.

**b) Group II** – 25 patients were enrolled in this group and were managed with *Pathyadi Kwatha* 50ml twice a day with *Anu taila Nasya* 2 drops in each nostril once a day.

**Pathyadi Kwath [6]**

पथ्याक्षधात्रीभूनिम्बनिशानिम्बामृतायुतैः ।  
 कृतः काथः षडंगोऽयं सगुडः शीर्षशूलहृत् ।  
 भृशंखैकर्णशूलानि तथार्धशिरसो रूजम् ।  
 सूर्यावर्त शखंक दन्तपातं च तद्रुजम् ।  
 नक्तान्धं पटलं शुक्रं चक्षुःपीडां व्यपोहति ॥ (शा. म. ख. 2/143, 144, 145)

S.No	Name of Drug	Rasa	Guna	Virya	Vipaka	Dosha Karma
1.	Haritaki	Pancharasa (Lavanvarjita)	Laghu, Ruksha	Ushna	Madhura	Tridoshaghna
2.	Bibhitaki	Kashaya	Laghu, Ruksha	Ushna	Madhura	Kaphapittahara
3.	Amalaki	Pancharasa (Lavanvarjita)	Laghu Ruksha, Mrudu	Sheeta	Madhura	Tridoshaghna
4.	Haridra	Tikta, Katu	Laghu, Ruksha	Ushna	Katu	KaphaVata Shamaka
5.	Guduchi	Katu, Tikta, Kashaya	Laghu	Ushna	Madhura	Tridoshaghna
6.	Bhunimba	Tikta	Laghu, Ruksha	Ushna	Katu	Pitta-Kapha Shamaka
7.	Nimba	Tikta, Kashaya	Laghu	Sheeta	Katu	Pitta Kaphahara

**Anu Taila[7]**

जीवन्तीजलदेवरूजलदत्वक्सेव्यागापीहिमं दार्वील्मधुकप्लवागुरूवरीपुण्ड्राहिल्वोत्पलम् ।  
 धावन्यौ सुरभिस्थिरे कृमिहरं पत्रं त्रुटिं रेणुका किंजल्कं कमलाद्वलां शतगुणे  
 दिव्येऽम्भसि काथयेत । तैलाद्रसं दशगुणं. परिशष्य तेन तैलं पचेत सलिलेन दशैव  
 वारान् । पाके क्षिपच्च दशमे सममाजदुग्धं नस्यं महागुणमुशन्त्यणुतैलमेतत् । (अ.ह.सू. 20/37, 38)

<b>Anu Taila</b>						
<b>S.No</b>	<b>Name of Drug</b>	<b>Rasa</b>	<b>Guna</b>	<b>Virya</b>	<b>Vipaka</b>	<b>Dosha Karma</b>
1.	<i>Daruharidra</i>	<i>Tikta, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphapittaghna</i>
2.	<i>Jeevanti</i>	<i>Madhura</i>	<i>Laghu, Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridoshashamaka esp. Vatapittashamaka</i>
3.	<i>Bilva</i>	<i>Kashaya, Tikta</i>	<i>Laghu, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavata shamaka</i>
4.	<i>Sariva</i>	<i>Tikta, Madhura</i>	<i>Guru, Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridoshashamaka</i>
5.	<i>Musta</i>	<i>Tikta, Katu, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapittashamaka</i>
6.	<i>Chandana</i>	<i>Tikta, Madhura</i>	<i>Laghu, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapittashamaka</i>
7.	<i>Tvaka</i>	<i>Katu, Tikta, Madhura</i>	<i>Laghu, Rukshna Teekshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
8.	<i>Ushira</i>	<i>Tikta, Madhura</i>	<i>Laghu, Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vatapittashamaka</i>
9.	<i>Vidanga</i>	<i>Tikta, Katu</i>	<i>Laghu, Ruksha, Teekshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
10.	<i>Tejpatra</i>	<i>Katu, Madhura</i>	<i>Laghu, Pichchhila Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
11.	<i>Shalaparni (Sthira)</i>	<i>Tikta, Madhura</i>	<i>Guru, Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridoshashamaka</i>
12.	<i>Padmakesara</i>	<i>Madhura, Tikta Kashaya</i>	<i>Laghu, Snigdha Pichchhila</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Kaphapittashamaka</i>
13.	<i>Yashtimadhu</i>	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vatapittashamaka</i>
14.	<i>Devadaru</i>	<i>Tikta</i>	<i>Laghu, Snigdha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
15.	<i>Bala</i>	<i>Madhura</i>	<i>Laghu Snigdha, Pichhila</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Pittavatanashaka</i>
16.	<i>Nirgundi</i>	<i>Tikta, Katu</i>	<i>Laghu, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
17.	<i>Nagakeshara</i>	<i>Kashaya, Tikta</i>	<i>Laghu Rukshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphapittashamaka</i>
18.	<i>Shatavari</i>	<i>Tikta, Madhura</i>	<i>Guru, Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vatapittashamaka</i>
19.	<i>Prishniparni</i>	<i>Tikta, Madhura</i>	<i>Laghu, Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridoshashamaka</i>
20.	<i>Brihati</i>	<i>Katu, Tikta</i>	<i>Laghu, Rukshna, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
21.	<i>Agruu</i>	<i>Tikta, Katu</i>	<i>Laghu, Ruksha, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
22.	<i>Prapaunda (Kamla)</i>	<i>Madhura, Tikta Kashaya</i>	<i>Laghu, Snigdha Pichchhila</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Kaphapittashamaka</i>
23.	<i>Utpala</i>	<i>Madhura, Tikta Kashaya</i>	<i>Laghu, Snigdha Pichchhila</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridoshahara (Vatapittashamaka)</i>
24.	<i>Sugandhbala (Tagar)</i>	<i>Tikta, Katu, Kashaya</i>	<i>Laghu, Snigdha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
25.	<i>Pallava</i>	<i>Tikta, Katu, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Pittashamaka</i>
26.	<i>Vyaghri (Kantkaari)</i>	<i>Tikta, Katu</i>	<i>Laghu, Ruksha Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>
27.	<i>Surabhi (Rasana)</i>	<i>Tikta</i>	<i>Guru</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatashamaka</i>

### Statistical Analysis

- ❖ Data was collected and recorded in detailed in clinical proforma. The obtained data was analyzed statistically and expressed in the terms of mean score before treatment (BT), after treatment (AT), difference of mean (BT-AT), standard deviation (SD) and standard error (SE). Overall percentage improvement of each patient was calculated.
- ❖ Data was arranged in MS Excel. Student's unpaired 't' test was used to compare difference in mean

values between the two groups. Paired 't'-test has been used for within group analysis. The results were considered significant or insignificant depending upon the value of p.

- ❖ Highly significant  $p < 0.001$
- ❖ Significant  $p < 0.05$
- ❖ Insignificant  $p > 0.05$



**OBSERVATIONS AND RESULTS**

24% patients were male and 76% patients were female. Maximum number of patients in the present study i.e. 14 patients (28%) were in the age group 21-30 years followed by 13 patients (26%) in the age group of 41-50 years. Considering the religion, 100% patients were Hindu. 72% patients were married and 28% patients were unmarried. 70% of the patients belonged to rural area and 30% of the patients were from urban area. Among 50 registered patients, maximum patients i.e. 42% were matriculate, 24% were educated up to graduate, 14% were studied upto primary and post graduate were 08% while rest 12% were illiterate. Among the 50 registered study subjects, majority of the patients were belong to middle class i.e. 54 % and 36% belonged to BPL class and rest of the patients belongs to rich class i.e.10%.In this distribution, 24% of patients were doing fieldwork, followed by 20% patients were doing deskwork, 12% patients were labourer and house worker and majority of the patients belong to others i.e.,32%. Majority of the patients i.e., 62% consumed mixed diet while rest i.e. 38% patients were consuming vegetarian type of diet. In this distribution, majority of patients i.e., 50%

have active type of life style, 34% of patients had sedentary lifestyle and 16 % of patients had average life style. Majority of the patients in both the groups i.e., 68% had disturbed sleep followed by 32% had sound and adequate sleep. Among 50 registered patients, maximum i.e., 68 % had normal appetite and 32% had reduced appetite. Maximum number of patients i.e., 42% had regular bowel movements, followed by 38% having constipation and 20% had irregular bowel movements. Data showed that the maximum patients had *Vatapittaja Prakriti* i.e. 48 % followed by *Kaphavataja Prakriti* were 34% and rest 18% were of *Pittajakaphaja Prakriti*. Maximum number of patients i.e., 60% had gradual onset of headache, followed by 40% had sudden onset of headache.

**Effect of Therapy**

All the patients were registered from OPD/IPD of R.G.G.P.G. Ayurvedic College & Hospital, Paprola, 50 patients were given the trial drugs. The effect of *Pathyadi kwatha* and *Anu Taila Nasya* in 50 patients on various assessment criteria was obtained after statistical analysis of the data and is presented in tabular form.

**Effect of Therapies on Subjective Criteria**

S.No.	Variables	Groups	No.	Group-I and Group-II			Changes in %	SD+	SE+	"t" value	P value	Sig.
				Mean								
				BT	AT	Diff.						
1.	Severity of headache	G-I	25	1.880	1.000	0.880	46.80%	0.726	0.145	8.365	<0.001	HS
		G-II	25	2.040	0.440	1.600	78.43%	0.978	0.196	10.474	<0.001	HS
2.	Frequency of headache	G-I	25	1.720	0.880	0.840	48.83%	0.792	0.158	8.887	<0.001	HS
		G-II	25	1.760	0.360	1.400	79.54%	0.879	0.176	14.000	<0.001	HS
3.	Duration of headache	G-I	25	1.760	1.040	0.720	40.90%	0.831	0.166	7.856	<0.001	HS
		G-II	25	1.480	0.280	1.200	81.08%	0.770	0.154	9.295	<0.001	HS
4.	Nausea	G-I	25	1.440	0.760	0.680	47.22%	0.821	0.164	7.141	<0.001	HS
		G-II	25	1.480	0.320	1.160	78.37%	0.770	0.154	9.287	<0.001	HS
5.	Vomiting	G-I	25	1.400	0.720	0.680	48.57%	0.866	0.173	6.107	<0.001	HS
		G-II	25	1.600	0.200	1.400	87.50%	0.707	0.141	12.124	<0.001	HS
6.	Vertigo	G-I	25	1.320	0.720	0.600	45.45%	0.690	0.138	5.196	<0.001	HS
		G-II	25	1.440	0.440	1.000	69.44%	0.712	0.142	5.774	<0.001	HS
7.	Aura	G-I	25	1.200	0.680	0.520	43.33%	0.645	0.129	5.099	<0.001	HS
		G-II	25	1.160	0.320	0.840	72.41%	0.554	0.111	7.584	<0.001	HS

↑- Increase, ↓- Decrease, HS – Highly Significant, S – Significant, IS – Insignificant

**1. Severity of Headache:** The mean score of Intensity of Headache before treatment was 1.880 which reduced to 1.000 after treatment showing a relief of 46.80% in group-I which was statistically highly significant ( $p < 0.001$ ). In group-II the mean score of severity of headache before treatment was 2.040 which reduced to 0.440 after the treatment showing a relief of 78.43% which was statistically highly significant ( $p < 0.001$ ).

**2. Frequency of Headache:** In group-I, the mean value of frequency of headache before treatment was 1.720 which reduced to 0.880 after the treatment with change of 48.83%. This is statistically highly significant with  $p$ -value  $< 0.001$ . In group-II, the result was statistically highly significant ( $p$ -value  $< 0.001$ ) as there was a change of 79.54% and mean score before and after treatment was 1.760 and 0.360 respectively.

3. **Duration of Headache:** In group-I the mean score of duration of Headache before treatment was 1.760 that reduced to 1.040 after treatment with a change of 40.90%. The change was statistically highly significant with p-value <0.001). While in group-II, the mean value of 1.480 reduced to 0.280 after the therapy with change of 81.08%. The change was statistically highly significant (p<0.001).
4. **Nausea:** The mean score of Nausea in group-I before treatment was 1.440 which reduced to 0.760 after treatment with a change of 47.22% that was statistically highly significant with p-value <0.001.
5. While in group-II, there was 78.37% change in mean value of nausea from 1.480 to 0.320. The change in group-II was statistically highly significant with p-value <0.001.
6. **Vomiting:** The mean score of Vomiting before treatment was 1.400 which reduced to 0.720 after treatment showing a relief of 48.57% in group-I which was statistically highly significant (p<0.001).

In group-II the mean score of vomiting before treatment was 1.600 which reduced to 0.200 after the treatment showing a relief of 87.5% which was statistically highly significant (p<0.001).

7. **Vertigo:** In group-I, the mean value of vertigo before treatment was 1.320 which reduced to 0.720 after the treatment with change of 45.45%. This is statistically highly significant with p-value <0.001. In group-II, the result was statistically highly significant (p-value <0.001) as there was a change of 69.44% and mean score before and after treatment was 1.440 and 0.440 respectively.
8. **Aura:** The mean score of Aura before treatment was 1.200 which reduced to 0.680 after treatment showing a relief of 43.33% in group-I which was statistically highly significant (p<0.01). In group-II the mean score of aura before treatment was 1.160 which reduced to 0.320 after the treatment showing a relief of 72.41% which was statistically highly significant (p<0.001).

### Intergroup Comparison of Subjective Criteria

The intergroup testing among two groups was done using unpaired t- test. The results were as follows-

Group-I and Group-II									
S.No.	Variables	Result		Diff in %	SD+	SE+	"t" value	"p" value	Sig.
		G-I	G-II						
1.	Severity of headache	46.80%	78.43%	-31.6%	0.526	0.105	-3.88	<0.001	HS
2.	Frequency of headache	48.83%	79.54%	-30.7%	0.473	0.0945	-4.07	<0.001	HS
3.	Duration of headache	40.90%	81.08%	-40.1%	0.458	0.0917	-3.03	0.004	S
4.	Nausea	47.22%	78.37%	-31.0%	0.476	0.0952	-3.05	0.004	S
5.	Vomiting	48.57%	87.5%	-38.9%	0.557	0.111	-4.48	<0.001	HS
6.	Vertigo	45.45%	69.44%	-23.9%	0.510	0.102	-2.38	0.021	S
7.	Aura	43.33%	72.41%	-29.08	0.510	0.102	-2.12	0.039	S

↑- Increase, ↓- Decrease, HS-Highly Significant, S-Significant, IS- Insignificant

#### In Group-I

- Highly significant changes have been assessed in severity of headache with p<0.001 providing a relief of 46.80%.
- Extremely significant changes have been assessed in frequency of headache with p-value<0.001 and relief of 48.83%.
- Highly significant changes have been assessed in duration of headache with p-value<0.001 and relief of 40.90%.
- Statistically highly significant changes have been assessed in nausea with p-value<0.001 providing a relief of 47.22%. Highly significant changes have been assessed in vomiting with p<0.001 and relief of 48.57%.
- Highly Significant changes have been assessed in vertigo with p-value<0.001 providing a relief of 45.45%.

- Statistically highly significant changes have been assessed in aura with p-value<0.001 providing a relief of 43.33%.

#### In Group-II

- Highly significant changes have been assessed in severity of headache with p<0.001 providing a relief of 78.43%.
- Extremely significant changes have been assessed in frequency of headache with p-value<0.001 and relief of 79.54%.
- Highly significant changes have been assessed in duration of headache with p-value<0.001 and relief of 81.08%.
- Statistically highly significant changes have been assessed in nausea with p-value<0.001 providing a relief of 78.37%.
- Highly significant changes have been assessed in vomiting with p<0.001 and relief of 87.5%.

- Highly Significant changes have been assessed in vertigo with p-value<0.001 providing a relief of 64.44%.
- Statistically highly significant changes have been assessed in aura with p-value<0.001 providing a relief of 72.41%.

Intergroup comparison revealed that there was statistically significant difference between the therapy

given in Group-I and Group-II. However, the therapy given in Group-II (*Pathyadi Kwatha* and *Anu Taila Nasya*) proved more significant than Group-I (*Pathyadi Kwatha*) in relieving various features like severity, duration, frequency of headache, nausea, vomiting, vertigo, aura.

**Effect of Therapy on Biochemical and Haematological Parameters**

Group-I and Group-II												
S No.	Variable	Group	N	Mean			Change in %	SD+	SE+	“t” value	P value	Significance
				BT	AT	Diff.						
1	Hb	G-I	25	11.83	11.66	0.172	1.45%	1.540	0.308	1.901	0.069	IS
		G-II	25	11.900	11.76	0.136	1.14%	1.622	0.324	1.797	0.085	IS
2.	TLC	G-I	25	7.015	6.469	0.546	7.78%	1.515	0.303	2.027	0.054	IS
		G-II	25	6.936	6.623	0.314	4.51%	1.627	0.325	1.612	0.120	IS
3.	FBS	G-1	25	94.320	92.600	1.720	1.82%	7.576	1.515	1.021	0.317	IS
		G-II	25	95.120	93.560	1.560	1.64%	6.579	1.316	1.381	0.180	IS
4.	ESR	G-1	25	16.440	15.720	0.720	4.37%	6.520	1.304	1.341	0.193	IS
		G-II	25	15.480	14.840	0.640	4.13%	6.526	1.305	1.039	0.309	IS
5.	SGOT	G-1	25	26.400	25.200	1.200	4.54%	7.853	1.571	1.317	0.200	IS
		G-II	25	28.038	26.423	1.615	5.76%	6.109	1.198	1.605	0.121	IS
6.	SGPT	G-1	25	27.160	25.520	1.640	6.04%	6.511	1.302	1.578	0.128	IS
		G-II	25	28.400	27.000	1.400	4.93%	5.944	1.189	1.329	0.196	IS
7.	B.Urea	G-1	25	26.360	26.240	0.120	0.45%	3.365	0.673	1.809	0.083	IS
		G-II	25	27.080	26.800	0.280	1.03%	4.425	0.885	1.371	0.183	IS
8.	S.Creat.	G-1	25	0.848	0.836	0.0120	1.42%	0.243	0.0487	1.141	0.265	IS
		G-II	25	0.864	0.860	0.004	0.46%	0.230	0.045	1.000	0.327	IS

It was found that all the Biochemical and haematological parameters were within normal limits before and after the trial

**Intergroup Comparison of Hematological & Biochemical Parameters**

S.No.	Variables	% Change		Diff. in % age	SD+	SE+	“t” value	“P” value	Sig.
		G-1	G-II						
1.	Hb	1.45%	1.14%	0.31%	0.452	0.090	0.305	0.762	IS
2.	TLC	7.78%	4.51%	3.27%	1.332	0.266	0.751	0.456	IS
3.	FBS	1.82%	1.64%	0.18%	8.480	1.696	0.216	0.830	IS
4.	ESR	4.38%	4.13%	0.24%	2.634	0.527	0.148	0.883	IS
5.	SGOT	4.54%	5.76%	1.22%	4.534	0.907	-0.173	0.864	IS
6.	SGPT	6.04%	4.93%	1.11%	5.195	1.039	0.530	0.598	IS
7.	B. Urea	0.46%	1.03%	0.57%	0.332	0.066	-0.745	0.460	IS
8.	S. Creat.	1.42%	0.46%	0.96%	0.052	0.010	0.711	0.481	IS

All the hematological parameters were within normal limits before and after the trial in both the groups. There was no statistically significant difference between the two trial groups

**DISCUSSION**

**Mode of Action of Trial Drug**

Majority of the ingredients of *Pathyadi kwatha* possessed *Ushna veerya* and *Madhura vipaka* whereas the predominant *Doshkarma* of the ingredients was

*Tridoshaghna* so under the effect of all the virtues narrated above *Pathyadi kwatha* normalizes the vitiated *Tridosha*.

It is reported that *Haritaki*, *Bibhitaki*, *Amalaki*, *Bhunimba*, *Haridra*, *Guduchi*, and *Nimba* have Anti-inflammatory action while *Amalaki*, *Haridra*, and *Guduchi* are CNS depressant whereas *Guduchi* and *Nimba* are having analgesic effect. 50% of the drug



mentioned here are *Tridoshashamak* in *Pathyadi kwath*.

*Anutaila* is *Vataghna*, *Bruhana* and *Snehan*. It is *Sukshma srtotogami*. After administration of *Anutaila Nasya* profuse secretions occur. *Kapha dosha* invaded in chest, head, pallet and throat. Firstly *Anutaila Nasya* mobilise *Kaphadi doshas* from these *Sthanas* and secondarily it acts there as *Bruhana*. Most importantly oil (*Sneha*) reaches to minute *Srotasas* and strengthening the ligaments and tendons of upper part of the body. Thus it is helpful in headache, rhinitis, migraine and trembling of neck. It increases the efficiency of *Indriyas* e.g. *Nasa*, *Karna*, *Netra*.

In *Charaka Samhita* regular use of *Anutaila* dissolved all *Doshas* and expelled out them from the site and ultimately it improves efficiency of *Indriya*.

### **Nasya Mode of Action**

**नासा हि शिरसो द्वारम् ।**

*Nasa* is considered a gateway to brain and other vital centers in the head. *Nasya karma* improve airflow and oxygen exchange in the body, thereby also clearing all the morbid *Doshas*. *Doshas* provoked in *shirah* as a result of the drug's irritating effect, which cause the brain's blood circulation to rise and ultimately these morbid *Doshas* are expelled out by the nasal discharge, tears and by salivation.

### **CONCLUSION**

After the careful and critical review of the results obtained from the study, following conclusions can be drawn:

- The therapy given in Group-II (*Pathyadi Kwatha* and *Anu Taila Nasya*) proved more significant in relieving various features like severity, duration, frequency of headache, nausea, vomiting, vertigo, aura.
- However, the therapy given in Group-I (*Pathyadi Kwath*) was less effective in relieving various features like severity, duration, frequency of headache, nausea, vomiting, vertigo, aura.

- In Group-II (*Pathyadi Kwath* and *Anu Taila*), statistically highly significant reduction was seen in various features like severity, duration, frequency of headache, nausea, vomiting, vertigo, aura.
- No considerable change in haematological and biochemical investigations was noted as a result of the therapy in both the groups.
- No adverse effects of the trial drugs were observed during the study period.
- Though, clinically combined therapy in Group-II proved to be better in the management of *Ardhavbhedaka* on the basis of subjective parameters but statistically there was no significant difference in the effect of both the therapies on haematological and biochemical parameters.
- *Pathyadi kwath* and *Anu taila nasya* proved to be a good effective therapy in curing the disease.

It can be concluded that there is satisfying scope of suggesting these Ayurvedic management as safe and effective procedure for *Ardhavbhedaka*.

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