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Research Article

ETIOPATHOLOGICAL STUDY OF *ARDHAVABHEDAKA* W.S.R. TO MIGRAINE AND TO EVALUATE THE *UPASHAYA* EFFECT OF *VIDANGADI TAILA NASYA* AND *VIDANGADI SHIRO LEPA*

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ABSTRACT

Ardhavabhedaka is described as a type of *Shiroroga* in the classical texts of Ayurveda. The clinical presentation of *Ardhavabhedaka* closely resembles migraine, particularly due to unilateral headache. **Objective:** To study the etiopathogenesis of *Ardhavabhedaka* with reference to migraine and to evaluate the *Upashaya* effect of *Vidangadi Taila Nasya* and *Vidangadi Shirolepa* in patients of *Ardhavabhedaka*. **Methodology:** A single-arm interventional clinical study was conducted on 30 patients aged 16–60 years fulfilling the predefined diagnostic and selection criteria. Patients were selected from the OPD and IPD of Government Ayurvedic College and Hospital, Balangir. Data were collected using a structured proforma containing demographic, clinical, Ayurvedic and modern assessment parameters. *Vidangadi Taila Nasya*, 2 drops in each nostril in the morning, and *Vidangadi Shirolepa* were administered for 30 days. Subjective parameters were graded using predefined scoring criteria and objective parameters included routine laboratory investigations. Wilcoxon Signed Rank Test was used for subjective parameters and Paired t-test for objective parameters. **Result interpretation and discussion:** *Vegadharana* and *Kala Viparyaya* were observed in 100% of patients, followed by *Abhyanga Dvesha* (90%), *Manasa Santapa* (83.33%), *Ati Shitambu Sevana* (66.66%), *Ratri Jagarana* (63.33%), *Adhyashana* (60%), *Divasvapna* (60%), *Atyamla Sevana* (56.66%) and *Guru Ahara* (50%). All patients presented with unilateral headache, photophobia and phonophobia. Subjective parameters showed statistically significant improvement ($p<0.05$), with an average percentage effect of 55.39%. Objective parameters showed an average percentage effect of 3.81% and were statistically non-significant. **Conclusion:** The study demonstrates the multifactorial involvement of *Aharaja, Viharaja* and *Manasika Nidanas* in *Ardhavabhedaka*. *Vidangadi Taila Nasya* and *Vidangadi Shirolepa* produced significant improvement in the subjective clinical manifestations of *Ardhavabhedaka*.

INTRODUCTION

Ardhavabhedaka[1] is described among the important *Shirorogas* in Ayurveda and is characterised primarily by severe pain affecting one half of the head. The disease is predominantly attributed to *Vata Dosha* and may involve *Kapha Dosha*. The classical clinical manifestations include severe unilateral headache with associated symptoms involving the sensory faculties.

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Migraine is a common neurological disorder characterised by recurrent attacks of headache, usually unilateral, and may be associated with photophobia, phonophobia, nausea, vomiting and aura. The similarity between the clinical manifestations of *Ardhavabhedaka* and migraine provides a basis for their clinical correlation.

The etiopathogenesis of *Ardhavabhedaka* can be understood through the interaction of *Nidana*, *Dosha, Agni, Ama*, and *Srotas*. Improper dietary practices may disturb *Jatharagni* and promote *Ama* formation, while suppression of natural urges, disturbed sleep, excessive exertion and environmental factors may aggravate *Vata*. Psychological stress may

further contribute to *Dosha Prakopa* and disease manifestation.

The present study was undertaken to analyse the etiological factors associated with *Ardhavabhedaka* and to evaluate the *Upashaya* effect of *Vidangadi Taila Nasya* and *Vidangadi Shirolepa*.

AIMS AND OBJECTIVES

To study in detail *Ardhavabhedaka* and migraine, and also to evaluate the *Upasaya* effect of *Vidangadi Taila Nasya* and *Vidangadi Shiro Lepa* in patients of *Ardhavabhedaka*.

OBJECTIVES

1. Brief analysis of the etiopathogenesis of *Ardhavabhedaka* and migraine in patients in parlance with modern science.
2. Find out the relationship between classical *Ardhavabhedaka* and migraine.
3. Evaluating the beneficial effect of *Vidangadi Taila Nasya* and *Vidangadi Shiro Lepa* in *Ardhavabhedaka*.

MATERIALS AND METHODS

Study Design: The study was conducted as a randomized single-arm clinical trial with a before-treatment and after-treatment assessment design. The effectiveness of treatment was evaluated by comparing clinical observations before and after intervention.

Ethical Considerations: Ethical clearance was obtained from the Institutional Ethical Committee. Written informed consent was obtained from all participants. Confidentiality of patient information was maintained and participants were informed of their right to withdraw from the study.

Study Population: Patients diagnosed with *Ardhavabhedaka*, fulfilling the predefined selection criteria and attending OPD and IPD of Post Graduate Department of Roga Nidana Evam Vikṛti Vijñana, Government Ayurvedic College and Hospital, Balangir, Odisha constituted the study population.

Sample Size: 30 patients

Sampling Technique: Simple random sampling

Inclusion Criteria:

- Age- 15-60 years
- Gender- Both male and female.
- Patients having the classical signs and symptoms of *Ardhavabhedaka* and migraine.
- Patients willing for trial.

Exclusion Criteria

- Age - < 15 years and > 60 years.
- Patients suffering from other types of headaches.
- Patients suffering from sinusitis, hypertension and fever, secondary headache caused by meningitis, tumour, encephalitis, cervical spondylitis and refractive errors.
- Patients using any other systemic drugs which may alter the results of the study will be excluded.

Methods of Data Collection: Data were collected using a specially designed structured proforma. Detailed history, clinical examination and assessment of Ayurvedic and modern signs and symptoms were performed. Subjective and objective parameters were recorded before and after treatment.

Data Collection Tool: The structured proforma included demographic details, history taking, diagnostic criteria, Ayurvedic assessment, clinical examination, *Nidana* assessment and subjective and objective parameters.

Diagnostic Criteria: The diagnosis was based on the presence of classical and clinically correlated features including *Ardhaparshva Shiraḥshula, Prakasha Asahata, Shabda Asahishnuta, Shira Ghurnana*, nausea, vomiting and aura, along with MIDAS assessment.

Assessment Parameters

Subjective Parameters[2,3,4]

- *Ardhaparshva Shiraḥshula*
- *Prakasha Asahata*
- *Shabda Asahishnuta*
- *Shira Ghurnana*
- Nausea
- Vomiting
- Aura
- MIDAS Score

Objective Parameters

- Complete Blood Count (CBC)
- Erythrocyte sedimentation rate (ESR)

Nidana Assessment: A structured *Nidana* proforma was used to record *Aharaja, Viharaja, Manasika* and *Anya Nidanas*. Frequency and percentage of each factor were calculated.

Scoring Method: Subjective parameters were graded according to the predefined severity scale in the thesis. Baseline observations were recorded before treatment and reassessment was performed after completion of the intervention.

Table 1: Grading (Subjective Parameters)

Parameters				**Score**
Ardhaparswa Shirasula (unilateral headache)	Absent			0
	Present			1
Prakasha asahata (photophobia)	1	Absent		0
	2	Mild Discomfort in eyes because of light sensitivity		1
	3	Moderate discomfort in eyes because of light sensitivity		2
	4	Severe discomfort in eyes because of light sensitivity but no limitations		3
	5	Marked limitations because of light sensitivity		4
Shabda asahishnuta (phonophobia)	1	Absent		0
	2	Cannot tolerate loud sounds		1
	3	Cannot tolerate normal sounds		2
	4	Cannot tolerate any sounds		3
Shira ghurnana (vertigo)	1	Absent		0
	2	Feeling of giddiness		1
	3	Patient feels as if everything is revolving		2
	4	Revolving signs + black outs		3
	5	Unconsciousness		4
Nausea	1	Absent		0
	2	Occasionally		1
	3	Moderate but does not disturb routine work		2
	4	Severe, disturbing routine work		3
	5	Severe enough, small amount of fluid regurgitation from mouth.		4
Vomiting	1	Absent		0
	2	Only if headache does not subside		1
	3	Vomiting 1-2 times		2
	4	Vomiting 2-3 times		3
	5	Forced to take medicine to stop vomiting		4
Aura	1	Absent		0
	2	Lasts for 5 minutes		1
	3	Lasts for 15 minutes		2
	4	Lasts for 30 minutes		3
	5	Lasts for 60 minutes		4
Midas score			No of days (in last 3 months)	
	1	Work or School missed		
	2	Productivity at work or school reduced		
	3	Did not do household work		
	4	Productivity in household work reduced		

	5	Family, social or leisure activities missed	
	1	Grade-1 (Score ranging from 0-5) little or no disability	1
	2	Grade-2 (Score ranging from 6-10) mild disability	2
	3	Grade-3 (Score ranging from 11-20) moderate disability	3
	4	Grade-4 (Score ranging from 21 or greater) severe disability	4

Intervention: Patients received *Vidangadi Taila Nasya*[5] and *Vidangadi Shirolepa*[6].

***Vidangadi Taila Nasya*:** Two drops were administered into each nostril in the morning for 30 days. *Pathya-Apathya* advice was given according to *Shiroroga Cikitsa*.

Composition: *Viḍanga Kalka* - 1 part, *Murchita Tila Taila* - 4 parts and water -16 parts.

Vidangadi Shirolepa: *Vidangadi Shirolepa* was applied externally over the head in the required quantity for 30 days.

Composition: *Viḍanga Kalka* - 1 part, *Tila Kalka* - 1 part and water as required.

Plan for Data Analysis: Data were compiled and analysed statistically. Descriptive statistics were used for demographic and Nidana observations. The Wilcoxon Signed Rank Test was used for subjective parameters and the Paired t-test was used for objective quantitative parameters. A p-value <0.05 was considered statistically significant.

RESULT

Subjective and objective parameters were assessed before and after treatment. The percentage improvement was calculated for each parameter.

Demographic and Clinical Observations

Among 30 patients, females constituted 63.33% and males 36.67%. The highest proportion belonged to the 31–40 years age group (40%). Most patients were married (70%), literate (100%) and belonged to the middle socioeconomic class (83.33%). Housewives constituted 30% and students 20% of the study population.

Most patients consumed a mixed diet (80%), had poor appetite (76.67%), disturbed sleep (80%), constipation (76.67%) and routine physical activity (63.33%). *Vata-Pitta Prakṛti* was predominant (56.67%). *Rasavaha Srotas* was involved in 100% of patients, followed by *Annavaha* (93.33%) and *Purishavaha Srotas* (83.33%).

Before treatment, unilateral headache, photophobia and phonophobia were present in all patients. Nausea was present in 76.67%, vomiting in 60%, vertigo in 40% and aura in 30% of patients.

Nidana Observation and Results

Table 2: Incidence of *Nidana* in Patients (n=30)

Nidana	**Frequency**	**Percentage**
Vegadharana	30	100.00%
Kala Viparyaya	30	100.00%
Abhyanga Dvesha	27	90.00%
Manasa Santapa	25	83.33%
Ati Shitambu Sevana	20	66.66%
Ratri Jagarana	19	63.33%
Adhyashana	18	60.00%
Divasvapna	18	60.00%
Atyamla Sevana	17	56.66%
Guru Ahara	15	50.00%
Avashyaya	14	46.67%
Upadhana	13	43.33%
Atyashana	11	36.67%
Haritam Ati	9	30.00%
Meghagama	9	30.00%
Pratatekshana	7	23.33%

Statistical Analysis of Assessment Parameters

Table 3: *Ardhaparshva Shiraḥshula* (Unilateral headache) before and after treatment in patients (n=30)

Parameters	Mean		Median		S.D. (±)		S.E (±)		Wilcoxon Z	'P' value	% Effect	Result
	BT	AT	BT	AT	BT	AT	BT	AT				
Ardhapārśva Śiraḥśūla	1.00	0.5	1	0.5	0.00	0.51	0.00	0.09	-3.873[b]	0.000108	50	Sig
Prakāśa Asahatā	2.03	0.87	2.0	1.0	0.72	0.57	0.13	0.10	-5.0144[b]	0.000001	57.38	Sig
Śabda Asahiṣṇutā	1.57	0.67	2	1	0.50	0.48	0.09	0.087	-5.1962[b]	0.000001	57.45	Sig
Śira Ghūrṇana	0.53	0.20	0.0	0.0	0.73	0.41	0.13	0.07	-2.8868[b]	0.003893	64.71	Sig
Nausea	2.03	1.03	3.0	1.0	1.25	0.81	0.23	0.15	-4.3881[b]	0.000011	49.18	Sig
Vomiting	1.40	0.77	2.0	0.5	1.22	0.86	0.22	0.16	-3.7547[b]	0.000174	45.24	Sig
Aura	0.40	0.10	0.0	0.0	0.67	0.31	0.12	0.06	-3.0000[b]	0.002700	72.73	Sig
MIDAS Score	1.87	1.17	2.0	1.0	0.35	0.38	0.06	0.07	-4.5826[b]	0.000005	46.43	Sig

Since observations are on an ordinal scale (gradations), we have used Wilcoxon Signed Rank Test to test efficacy. From the above table, we can observe that, P-values are less than 0.05. Hence, we can conclude that, effect observed is statistically significant.

Table 4: Objective Parameters

Parameters	Mean		S.D. (±)		S.E (±)		't' value	'P' value	% Effect	Result
	BT	AT	BT	AT	BT	AT				
Total leucocyte count	9.703	9.287	2.3	1.1981	0.420	0.362	0.7535	0.4572	4.29	NS
Total red blood cell count	5.129	4.948	0.6403	0.7189	0.1169	0.1313	1.2377	0.2258	3.53	NS
Platelet count	311.77	299.73	76.84	62.79	14.03	11.46	0.5926	0.5581	3.86	NS
Erythrocyte sedimentation rate	19.17	18.90	3.51	2.11	0.64	0.38	0.4025	0.6903	1.41	NS

Since observations are quantitative, Paired t-test is carried out to test significance. From above table, we can observe that P- value is greater than 0.05. Hence, we can conclude that there is no significant change observed.

Overall Effect

Table 7: Overall Effect of Treatment (Patient-wise)

Overall Effect	N	Percentage
Remarkable improvement	5	16.67%
Moderate improvement	14	46.67%
Mild improvement	10	33.33%
Unsatisfactory	1	3.33%
Total	30	100%

The majority of patients showed moderate improvement (46.67%), followed by mild improvement (33.33%), remarkable improvement (16.67%) and unsatisfactory improvement (3.33%).

DISCUSSION

Demographic and Clinical Observation

The study included 30 patients of *Ardhavabhedaka* within the age group of 16–60 years. Females constituted 63.33% of the study population. The highest proportion of patients belonged to the 31–40 years age group.

The predominance of *Vata-Pitta Prakṛti* (56.67%) provides an Ayurvedic basis for understanding the involvement of Vata and Pitta in the manifestation of the disease. *Rasavaha Srotas* involvement was observed in all patients, while *Annavaha* and *Purishavaha Srotas* were also frequently involved. The high prevalence of poor appetite and

constipation suggests an association between impaired digestive and bowel functions and the manifestation of *Ardhavabhedaka*.

Clinically, unilateral headache, photophobia and phonophobia were present in all patients, while nausea, vomiting, vertigo and aura were also observed. These manifestations demonstrate considerable clinical correspondence between *Ardhavabhedaka* and migraine.

Discussion on *Nidana*

The study showed that most patients were exposed to multiple *Nidanas*, suggesting that the manifestation of *Ardhavabhedaka* involves the cumulative effect of several etiological factors rather than a single cause.

Aharaja Nidanas

Among the dietary factors, *Ati Shitambu Sevana* (66.66%), *Adhyashana* (60%), *Atyamla Sevana* (56.66%), *Guru Ahara* (50%) and *Atyashana* (36.67%) were frequently observed.

Adhyashana and *Atyashana* may impair the normal process of digestion and contribute to *Agnimandya*. *Guru Ahara* may further increase the burden on *Jatharagni*. Impaired digestion may result in *Amotpatti*, while *Ama* with its *Guru, Picchila* and *Abhishyandi* properties may contribute to *Srotorodha*.

Atyamla Sevana and *Madya Sevana* may aggravate *Pitta* and contribute to *Rakta Dushṭi*. Thus, the dietary factors observed in the present study may collectively contribute to *Agni Dushṭi, Amotpatti, Dosha Prakopa* and *Srotorodha*.

Viharaja Nidanas

Vegadharana was present in all patients (100%), followed by *Abhyanga Dvesha* (90%), *Ratri Jagarana* (63.33%), *Divasvapna* (60%) and *Avashyaya* (46.67%).

Vegadharana, Abhyanga Dvesha, Ratri Jagarana, Ayasa, Ati Vyayama, Ucchairbhashana and *Bashpa Nigraha* predominantly contribute to *Vata Prakopa*. Since *Vata* is the principal *Dosha* involved in *Ardhavabhedaka*, these factors may have an important role in disease manifestation.

Divasvapna, Ati Svapna and *Avashyaya* may aggravate *Kapha* and contribute to *Agnimandya*, *Amotpatti* and *Srotorodha*. *Upadhana*, *Pratatekshana*, *Dhuma Sevana, Raja Sevana, Mṛja Dvesha, Atapa Sevana* and *Meghagama* may produce repeated irritation or strain in the *Shiras* and contribute to *Khavaigunya*.

Manasika Nidanas

Manasa Santapa was observed in 83.33% of patients, while *Ati Rodana* was present in 13.33% and *Bashpa Nigraha* in 16.66%.

Manasa Santapa may contribute to *Vata-Pitta Prakopa* and impair *Jatharagni*, thereby favouring *Amotpatti*. *Ati Rodana* and *Bashpa Nigraha* may further contribute to *Vata* aggravation. Psychological stress and emotional disturbances may also act as precipitating factors in migraine.

Anya Nidanas

Kala Viparyaya was observed in 100% of patients, while *Desha Viparyaya* was observed in 10% and *Asatmya Gandha* in 6.67%. These factors may disturb *Dosha* equilibrium, particularly *Vata* and *Kapha*, and contribute to *Khavaigunya* and *Sthanasaṃshraya* in the Shiras.

Overall Discussion on Etiopathogenesis

The observed *Nidanas* may be understood through the following sequence:

Nidana Sevana
↓
Agni Dushṭi/Agnimandya
↓
Dosha vitiation
(*Pradhana Vata + Anubandha Kapha*)
↓
Srotodushti
(Shirogata Rasa–Rakta Vaha Srotas)
(Khavaigunya in *Shiras)*
↓
Dosha prasara
(Vata + Kapha prasara - (Koshtha → Shakha → Shiras)
↓
Sthanasamshraya
(*Doshas* lodge in *Shiras*
→ *Manya, Bhru, Shankha, Akshi, Lalata, Karna*)
↓
Vyakti (Ardhavabhedaka)
(unilateral severe headache *(Shoola)*

Discussion on Assessment Parameters

Incidence of assessment parameters in registered participants (n=30)

It was observed that 100% of patients presented with *Ardhaparshwa Shirashula*, *Prakasha Asahata*, *Shabda Asahishnuta*, and elevated MIDAS score, indicating the cardinal features of *Ardhavabhedaka*. Associated symptoms such as nausea (76%), vomiting (60%), *Shira Ghurnana* (40%), and aura (30%) suggest involvement of *Vata* aggravation, impaired *Agni*, and *Srotorodha*.

Discussion on Subjective Parameters

***Ardhaparshwa Shirashula* (Unilateral Headache)**

Ardhaparshva Shirashula is the cardinal symptom of *Ardhavabhedaka,* primarily caused by vitiation of *Vata Dosha* in the *Shiras,* often associated with *Kapha*-induced *Srotorodha*. Obstruction of the normal movement of *Vata* results in severe unilateral headache of intermittent nature. Statistical analysis

revealed significant improvement after treatment. This reduction indicates effective *Vata Shamana*, removal of *Srotorodha (Srotoshodhana),* restoration of normal circulation in the cranial channels, and improved neuronal function. Consequently, both the intensity and frequency of headache episodes decreased, leading to better daily functioning and quality of life.

***Prakasha Asahata* (Photophobia):** *Prakasha Asahata* is commonly observed in *Ardhavabhedaka* due to aggravation of *Vata* and *Pitta Doshas*, affecting the *Chakshurindriya* and *Manovaha Srotas*. Increased *Pitta* causes heightened sensitivity to light, while disturbed *Vata* enhances sensory excitability. The treatment produced statistically significant improvement. This suggests successful pacification of *Vata-Pitta Doshas*, normalization of sensory processing, reduction in neuronal hypersensitivity, and improvement in tolerance to bright light during migraine attacks.

***Shabda Asahishnuta* (Phonophobia):** *Shabda Asahishnuta* results from *Vata* aggravation affecting the auditory pathways along with the involvement of *Manovaha Srotas.* Disturbed *Prana Vata* increases sensitivity to external auditory stimuli, making even normal sounds intolerable during migraine episodes. A highly significant improvement was observed following treatment. The findings indicate stabilization of *Vata*, reduction in sensory over-reactivity, improved regulation of auditory perception, and decreased sound intolerance.

***Shira Ghurnana* (Vertigo):** *Shira Ghurnana* occurs due to *Shirastha Vata* vitiation and vestibular dysfunction. Impaired movement of *Vata* affects equilibrium, resulting in dizziness and a sensation of spinning. Statistical analysis showed significant improvement. The results suggest restoration of normal *Vata* function, improvement in neurologicalal balance, enhanced vestibular regulation, and marked reduction in the frequency and severity of vertigo episodes.

Nausea: Nausea in *Ardhavabhedaka* may be attributed primarily to the vitiation of *Prana Vata*, which governs the functions of the *Shiras, Indriyas*, and higher neurologicalal activities. During a migraine attack, disturbance of *Prana Vata* may be correlated with activation of the chemoreceptor trigger zone (CTZ) and the vomiting centre in the medulla, resulting in the sensation of nausea. Statistical analysis revealed a highly significant reduction after treatment with, suggesting normalization of *Prana Vata*, reduced activation of the CTZ and vomiting centre, and effective reduction in nausea.

Vomiting: Vomiting in *Ardhavabhedaka* may be attributed to the vitiation of *Udana Vata*, resulting in abnormal *Urdhvaga Gati* of the *Doshas*. This may be correlated with activation of the vomiting centre in the medulla, triggering the emetic reflex during migraine attacks. Statistical analysis demonstrated significant improvement after treatment indicating normalization of *Udana Vata*, regulation of the abnormal upward movement of *Doshas*, suppression of the emetic reflex, and a marked reduction in the frequency and severity of vomiting episodes.

Aura: Aura represents early manifestation of *Vata-Pitta* disturbance in *Manovaha Srotas*. Maximum improvement suggests stabilization of neuronal excitability and prevention of attack progression.

MIDAS Score: MIDAS score reflects disability caused by recurrent headache episodes. Significant reduction indicates improvement in functional capacity and quality of life.

Discussion on Objective Parameters

Total Leucocyte Count: Total Leucocyte Count showed no significant change (p=0.4572), indicating absence of systemic inflammatory or infective involvement and suggesting the disease is mainly functional in nature.

Lymphocyte Percentage, Monocyte Percentage, Granulocyte Percentage: These parameters showed non-significant changes, indicating no marked alteration in immune or inflammatory response and stability of systemic physiological functions.

Total Red Blood Cell Count: Total red blood cell count showed no significant variation (p=0.2258), indicating stable hematopoietic function and oxygen-carrying capacity.

Platelet Count: Platelet count remained unchanged (p=0.5581), indicating hematological safety and no significant effect on coagulation pathways.

Erythrocyte Sedimentation Rate: Erythrocyte Sedimentation Rate showed no significant change (p=0.6903), suggesting absence of systemic inflammatory activity and supporting the non-inflammatory nature of *Ardhavabhedaka*.

Discussion on Overall Effect

The average percentage effect on subjective parameters was 55.39%. The highest improvement was observed in aura (72.73%), followed by *Shira Ghurnana* (64.71%), *Shabda Asahishnuta* (57.45%) and *Prakasha Asahata* (57.38%).

The improvement may be understood through the *Vata-Kapha Shamaka, Srotoshodhana*, *Vedana sthapana* and *Shirogata Dosha*-balancing properties attributed to the intervention. *Nasya* provides a therapeutic route for *Shirogata* disorders, while *Shirolepa* provides direct external application over the affected region.

Clinical Adverse Effects and Tolerability

No major adverse effects were reported during the study. The interventions were tolerated by the participants throughout the treatment period.

Discussion on Mode of Action of Trial Therapy

Ayurvedic Perspective

***Rasa*:** *Vidanga* and *Tila Taila* possess predominantly *Kaṭu*, *Tikta* and *Kashaya Rasa*, which support *Vata-Kapha Shamana* and help in reducing *Srotorodha* and *Ama*. This may contribute to relief in headache and associated sensory symptoms.

***Guna*:** The *Laghu*, *Ruksha* and *Tikshna Guna* of *Vidanga* help in reducing *Kapha*-related obstruction, while the *Snigdha Guna* of *Tila Taila* helps in pacifying *Vata* and maintaining nourishment of *Shiras*. The properties of the formulation may facilitate its therapeutic action through *Nasya* and *Shirolepa*.

***Virya*:** The *Ushna Virya* of *Vidanga* and the *Snigdha-Ushna* nature of *Tila Taila* support *Srotoshodhana* and *Vata Shamana*. These actions may contribute to improvement in headache, vertigo, photophobia, phonophobia and MIDAS score.

***Vipaka*:** The *Kaṭu Vipaka* of *Vidanga* supports *Agni* and *Vata-Kapha Shamana*, while *Tila Taila* provides *Snigdha* and nourishing effects. Together, these may help in maintaining functional balance and reducing recurrence.

***Karma*:** *Vidangadi Taila Nasya* and *Shirolepa* may exert *Vata Shamana*, *Vedanasthapana*, *Srotoshodhana* and *Indriya Prasadana* actions, thereby reducing unilateral headache and sensory hypersensitivity.

Modern Pharmacological Perspective

Vidanga (*Embelia ribes*) contains bioactive constituents such as embelin, flavonoids, alkaloids and tannins, which have been reported to possess antioxidant and anti-inflammatory activities. These properties may contribute to reduction of pain and sensory hypersensitivity.

Tila Taila (*Sesamum indicum*) contains sesamin, sesamolin, oleic acid and linoleic acid, which are associated with antioxidant, anti-inflammatory and analgesic effects. These properties may support tissue nourishment and reduction of inflammatory and oxidative stress.

The combined therapy may therefore contribute to modulation of pain, reduction of neuroinflammatory processes and stabilization of neuronal function, which may explain the observed improvement in headache, aura, vertigo, photophobia, phonophobia and MIDAS score.

Role in *Samprapti Vighaṭana*

The therapy may act at different stages of *Ardhavabhedaka* pathogenesis through:

- ***Vata Shamana*:** Helps reduce unilateral headache and pain.
- ***Pitta* regulation:** May reduce sensory hypersensitivity such as photophobia and phonophobia.
- ***Srotoshodhana*:** Helps alleviate obstruction and restore normal flow.
- ***Indriya Prasadana*:** Supports normalization of sensory functions.
- ***Shirogata Vata* stabilization:** May help reduce recurrence and associated symptoms.
- ***Manovaha Srotas* support:** May contribute to better mental stability and functional capacity.

The therapeutic effect of *Vidangadi Taila Nasya* and *Shirolepa* may be attributed to the combined Ayurvedic actions of *Vata-Kapha Shamana*, *Srotoshodhana*, *Vedanasthapana* and *Indriya Prasadana*, along with the antioxidant and anti-inflammatory properties of *Vidanga* and *Tila Taila*. These effects may collectively contribute to reduction of headache severity, associated symptoms and functional disability in *Ardhavabhedaka*. The findings support the potential therapeutic utility of this intervention in migraine-like disorders, although further controlled studies are required to establish its mechanism and efficacy.

CONCLUSION

The present study was undertaken to evaluate the etiopathology of *Ardhavabhedaka* with reference to migraine and to assess the *Upashaya* effect of *Vidangadi Taila Nasya* and *Vidangadi Shirolepa*.

The study demonstrated that *Ardhavabhedaka* was associated with multiple *Aharaja, Viharaja*, *Manasika* and *Anya Nidanas. Vegadharana* and *Kala Viparyaya* were observed in 100% of patients, followed by *Abhyanga Dvesha* (90%), *Manasa Santapa* (83.33%), *Ati Shitambu Sevana* (66.66%), *Ratri Jagarana* (63.33%), *Adhyashana* and *Divasvapna* (60% each), *Atyamla Sevana* (56.66%) and *Guru Ahara* (50%).

These findings suggest that faulty dietary practices, suppression of natural urges, disturbed sleep, behavioural factors, environmental factors and psychological stress collectively contribute to *Dosha Prakopa, Agni Dushṭi, Amotpatti, Srotorodha* and *Khavaigunya* in *Ardhavabhedaka*.

Vidangadi Taila Nasya and *Vidangadi Shirolepa* produced statistically significant improvement in all subjective parameters, with an average percentage effect of 55.39%. The maximum percentage effect was observed in Aura (72.73%). Objective laboratory parameters showed an average percentage effect of 3.81% and were statistically non-significant.

Overall, 16.67% of patients showed remarkable improvement, 46.67% moderate improvement, 33.33% mild improvement and 3.33% an unsatisfactory response.

The findings of the present study indicate that *Vidangadi Taila Nasya* and *Vidangadi Shirolepa* may provide clinical improvement in *Ardhavabhedaka*. However, the single-arm design, limited sample size and short treatment period warrant further controlled studies with larger samples and longer follow-up.

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