



## Review Article

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### CRITICAL ANALYSIS ON ROGAVINISCHAYA PERSPECTIVE OF APABAHUKA WITH SPECIAL REFERENCE TO FROZEN SHOULDER: A REVIEW

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#### ABSTRACT

Apabahuka, described in Ayurvedic texts, as a Vataja disorder affecting the shoulder joint (Amsa Sandhi), characterized by stiffness, restricted movement, and pain. The condition aligns with the modern diagnosis of frozen shoulder (adhesive capsulitis), a disorder with similar clinical presentations. This review explores Apabahuka's Ayurvedic pathophysiology, its overlap with modern medical perspectives, and opportunities for integrative treatment approaches. The review examines the Nidana Panchaka (causative factors, prodromal and manifested symptoms, pathogenesis, and response to treatments) of Apabahuka. It emphasizes the role of Vata Dosha vitiation due to etiological factors such as lifestyle modifications based on diet, physical activity and mental stress, leading to impaired range of movements. Symptoms, such as Amsasosha (shoulder stiffness), Amsabandhana (affected movement), Amsasira akunchana (contraction) are paralleled by frozen shoulder's hallmark features of joint inflammation, capsular fibrosis, and muscle atrophy. Diagnostic approaches in Ayurveda, incorporating Roga Nidana principles, are compared with modern assessments like range of motion testing with Goniometer and functional evaluations. Present review concludes, the importance of interdisciplinary research to validate scientific evidence-based Ayurveda methods and enhances patient outcomes with better diagnostic approach.

**Keywords:** Apabahuka, Vata, Adhesive Capsulitis, Nidana, Frozen shoulder

#### INTRODUCTION

Frozen shoulder, clinically, is a debilitating condition characterized by pain and stiffness in the shoulder joint, leading to restricted movement. This condition not only affects the physical well-being of individuals but also significantly impairs their day-to-day routine activities and quality of life. This condition often arises spontaneously or following distress and its prevalence in the general population is notable, affecting around 10-20% of Indian population. The morbidity associated with frozen shoulder is substantial, with patients experiencing considerable agony, decreased range of motion, and diminished quality of life. In the International Classification of Diseases (ICD), frozen shoulder is categorized under M75.0<sup>1</sup> (adhesive capsulitis of shoulder), highlighting its distinct clinical entity. Charaka Samhita and Sushruta Samhita, provide insights into the etiopathogenesis and therapeutic approaches for Apabahuka, highlighting its clinical relevance. Diagnosis typically involves a comprehensive assessment of clinical features, physical examination, and imaging studies to differentiate other shoulder pathologies. Treatment strategies for frozen shoulder encompass a multidisciplinary approach, including physical therapy, corticosteroid injections, oral analgesics, and in severe cases, surgical intervention.

Understanding the Ayurvedic perspective, Frozen Shoulder aligns with the concept of Apabahuka, which is considered a Vata- Kaphajavyadhi. In Sushruta Nidana, stages of Apabahuka

have been mentioned in the preliminary stage Amsa Shosha is understood and in the later stage Apabahuka is described. After the complete manifestation of Apabahuka, due to the loss of Shleshaka Kapha symptoms like Amsasosha (shoulder stiffness), Amsabandhana (restriction), and Amsa sira akunchana (contraction) are observed. While commenting on this, Vijayarakshita in his Madhukosha Teeka has mentioned that Amsa Sosha is produced by Dhatu Kshaya i.e. Shudha Vata Janya and Apabahuka is Vata Kapha Janya.

This condition impacts specific Amsa Marma (vaikalyakara) points, contributing to the severity and complexity of symptoms. The etiology (Nidana) and pathogenesis (Samprapti) of Apabahuka are intricately linked to the derangement of Vata mainly Ruksha(dryness), Chala(movement) guna especially Vyana vata which is responsible for gati prasarana and akunchana and Prana Vata for overall functioning affecting the amsa pradesha and causing pain, associated with Kapha Dosha mainly decreased Snigdha(Unctous) and increased Stabdha (Stiffness) Guna especially Shleshaka kapha which goes under kshaya avastha leading to sira akunchana, etc. These are exacerbated by factors such as trauma, improper posture, excessive physical exertion, dietary indiscretions and co-morbid conditions. The accumulation of Vata-Kapha Dosha leads to characteristic symptoms such as pain, stiffness, and restricted range of movements in the shoulder joint. In Ayurveda, the management of Apabahuka emphasizes therapies that pacify Vata-Kapha Dosha and alleviate associated symptoms.

**Objectives of the review**

This review aims to achieve the following objectives:

1. To analyze the Ayurvedic pathophysiology of Apabahuka
2. To associate Ayurvedic and contemporary science perspectives of Apabahuka
3. To identify future research directions

**Nidana Panchaka of Apabahuka**

**Nidana (Etiological Factors)**

Nidana refers to the causative factors or triggers that lead to the disease condition. In the case of Apabahuka, Vata Dosha<sup>2</sup> vitiation is primarily responsible, as documented in classical texts<sup>3</sup>:

**Table 1: Etiological factors of Apabahuka**

<b>Aharaja Nidana (Dietary causes):</b>	Consumption of Ruksha (dry), Laghu (light), and Sheeta (cold) food articles aggravates Vata., Alpa anna sevana, Excessive intake of Katu (pungent), Tikta (bitter), and Kashaya (astringent) rasa also increases Vata
<b>Viharaja Nidana (Lifestyle causes):</b>	Ati Vyayama (excessive physical exertion): Overuse of the shoulder joint causes Vata aggravation, Sheeta Sparsha (exposure to cold)
<b>Manasika Nidana (Psychological factors):</b>	Excessive Chinta (anxiety) and Bhaya (fear) are known to vitiate Vata
<b>Swabhavika Nidana (Age-related causes):</b>	As a person ages, Vata naturally increases, predisposing the individual to Vata disorders like Apabahuka

**Purvarupa (Prodromal Symptoms)**

Referencing of specific purvarupa or prodromal symptoms of Apabahuka is not mentioned in samhitas. As the purvarupa of Vatavyadhi - Avyakta Lakshanas (uncertain symptoms) is described.

According to Chakrapani, the term "Avyakta" refers to either alpa (minimum) or ishat (less severe) vyakta. Therefore, in the case of Apabahuka, mildly restricted shoulder joint movements, vague shoulder discomfort, mild upper extremity stiffness, and other similar symptoms of Apabahuka in their minimal severity can be regarded as purvarupa before the actual manifestation.

**Rupa (Manifested Symptoms)**

Rupa refers to the fully developed clinical features of the disease. In Apabahuka<sup>4</sup>, the following Rupa are noted:  
 Amsasosha (dryness in shoulder joint): Intense pain in the shoulder joint, often aggravated by movement or cold exposure.  
 Amsabandhana (stiffness in shoulder joint): Severe stiffness and inability to raise the arm, particularly overhead

Siraakunchana (restricted range of shoulder movements): Long-term immobilization of the joint can lead to muscle atrophy and weakness in the arm

This classical description aligns with modern diagnoses like frozen shoulder, where pain and restricted movement are predominant features.

**Table 2: Range Of Motion (ROM) of shoulder joint<sup>5</sup>**

Active movements of the shoulder complex	ROM
Elevation through abduction	170°-180°
Elevation through forward flexion	160°-180°
Elevation through the plane of the scapula	170°-180°
Lateral (external) rotation	80°-90°
Medial (internal) rotation	60°-100°
Extension	50°-60°
Adduction	50°-75°

**Samprapti (Pathogenesis)**

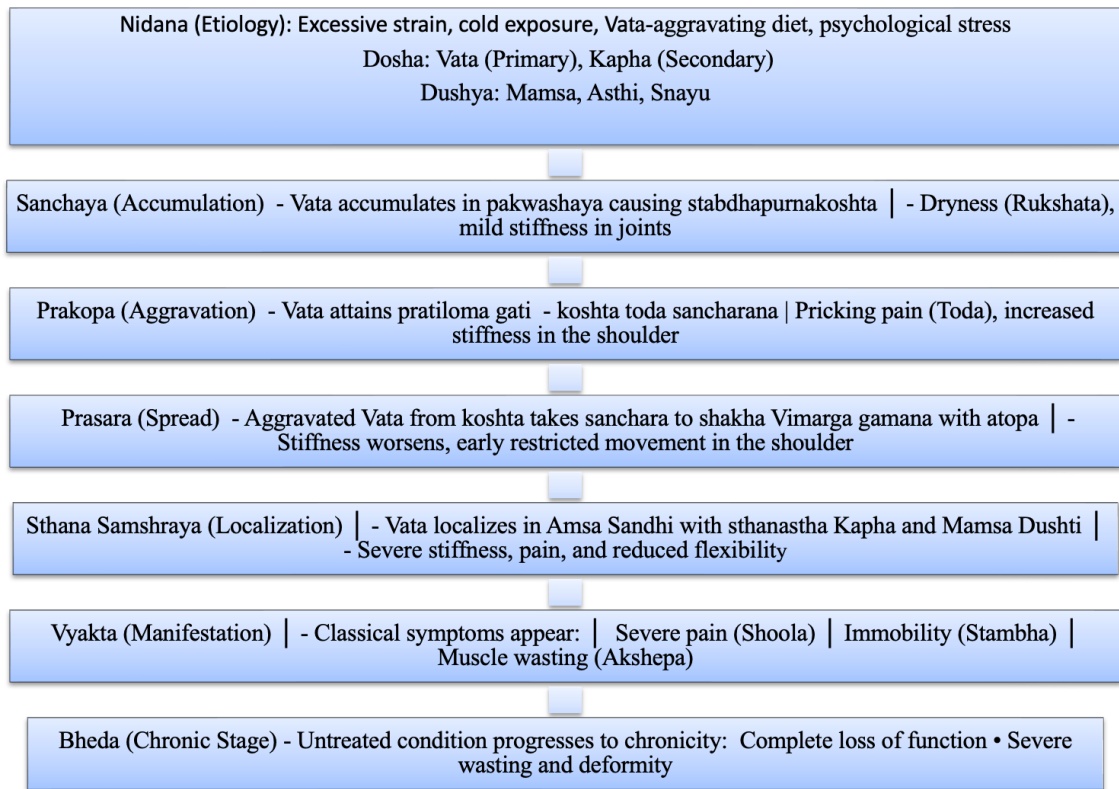
**Samprapti Ghatakas (Components of Pathogenesis)**

The Samprapti Ghatakas refer to the key factors involved in disease formation. For Apabahuka, they are as follows

**Table 3: Samprapti Ghatakas**

<b>Dosha</b>	Vata Dosha is the primary dosha involved, particularly Vyana Vata, which governs movement and flexibility of the joints and muscles. Shleshaka Kapha- kshaya avastha (Dravyataha kshaya)
<b>Dushya (affected body tissues):</b>	Snayu (ligaments): The primary Dushya affected in Apabahuka is Snayu, which controls the flexibility and function of the joint. Sandhi (joints): The Amsa Sandhi (shoulder joint) is structurally involved. Mamsa Dhatu (muscle tissue): In long-term cases, Mamsa Kshaya (muscle wasting) can occur due to restricted movement.
<b>Agni (digestion):</b>	Dhatvagni Mandya (impairment of tissue metabolism), specifically at the level of Mamsa Dhatu and Snayu, leads to improper nourishment of muscles and ligaments.
<b>Ama</b>	Jathragnimandya janya ama and respective dhatvagni mandya janya ama
<b>Srotas (channels):</b>	Mamsavaha, Asthivaha: These channels that carry nutrients to the muscles and ligaments are obstructed due to Srotorodha (blockage).
<b>Adhithana (site of disease):</b>	Amsa Sandhi (shoulder joint) is the main site of affliction, and this is where the localized Vata disturbance manifests.
<b>Srotodushti (types of channel disturbances):</b>	The Srotas (channels) are affected by Sanga (obstruction), which leads to restricted movement and improper circulation in the shoulder region.
<b>Udbhavasthana (disease origin):</b>	The pakwashaya- Pakvashaya (colon) is the sites where Vata is primarily aggravated, but the localization occurs at the Amsa Sandhi.
<b>Sancharasthana</b>	Rasayanis
<b>Vyaktasthana</b>	Bahu pradesha, Amsasandhi
<b>Rogamarga</b>	Madhyama
<b>Roga avastha</b>	Chirakari

**Mechanism of Pathogenesis**



**Contemporary pathophysiology of Apabahuka (frozen shoulder)**

In modern medicine, Apabahuka is closely related to adhesive capsulitis or frozen shoulder, characterized by pain and stiffness in the shoulder joint leading to loss of motion. In the international classification of diseases (ICD) frozen shoulder is categorized under M75.0 (adhesive capsulitis of shoulder), highlighting its distinct clinical entity.

**Etiology**

The exact cause of frozen shoulder is unknown, but risk factors include:

Age and Gender: More common in people between 40-60 years of age and in women.

Injury or Surgery: Immobilization of the shoulder after surgery or injury can trigger adhesive capsulitis.

Systemic Conditions: Diabetes, thyroid disorders, and cardiovascular diseases are commonly associated.

**Pathophysiology**

Inflammation: Initially, inflammation occurs in the joint capsule, leading to thickening and fibrosis of the surrounding ligaments and synovial tissues.

Adhesions: The inflammation leads to the formation of adhesions between the shoulder capsule and humeral head, resulting in restricted movement.

Capsular Thickening: The joint capsule becomes thickened and contracts, which further limits the range of motion.

Muscle Atrophy: Prolonged immobilization and pain lead to muscle disuse and atrophy, particularly affecting the rotator cuff muscles.

**Clinical presentations**

Freezing Phase: Painful stage where shoulder movement becomes progressively restricted due to inflammation.

Frozen Phase: The shoulder becomes stiff with a significant reduction in the range of motion.

Thawing Phase: Gradual improvement in shoulder movement as inflammation subsides and adhesions slowly release.<sup>6</sup>

**Symptoms**

Pain: Persistent pain in the shoulder, often worse at night or with movement.

Stiffness: Significant reduction in shoulder mobility, particularly in lifting or rotating the arm.

Affected range of movements of shoulder joint: Flexion, Extension, Internal rotation, External rotation, Abduction, Adduction.

**Upashaya and Anupashaya (Relieving and Aggravating Factors)**

Upashaya are the factors that provide relief from the disease, while Anupashaya are factors that aggravate the condition. In Apabahuka, the following are important:

**Table 4: Upashaya and Anupashaya**

<b>Upashaya (Relieving Factors)</b>	Snehana (oleation)- Application of warm medicated oils, helps pacify Vata and relieves stiffness in the shoulder Swedana (sudation)- Steam therapy or fomentation with hot packs provides warmth and improves mobility by reducing Vata's cold quality Lavana Upanaha (salt poultices)- Application of salt and warm poultices relaxes stiff muscles and eases pain.
<b>Anupashaya (Aggravating Factors)</b>	Sheeta (cold exposure)- Cold weather or cold baths worsen Vata and aggravate stiffness and pain in the shoulder joint. Ruksha (dryness)- Dry climates, foods, or lack of internal/external oleation intensifies Vata's drying effect, worsening the condition. Ati Vyayama (overexertion)- Excessive movement or strain on the shoulder increases pain and restricts mobility

**Diagnosis of Apabahuka:** Diagnosing Apabahuka involves a comprehensive assessment through traditional Ayurvedic methods as well as modern clinical evaluations. The following components are essential in the diagnostic process:

**History and Physical Examination**  
**Trividha pariksha<sup>7</sup>**

**Table 5: Trividha Pariksha for Apabahuka**

<b>Darshana Pariksha (Observation)</b>	<b>Posture and Movement:</b> Restricted shoulder movement. Inability to raise the arm or perform rotational movements. Deviation in normal arm alignment or holding the arm close to the body. <b>Muscle Wasting:</b> Visible atrophy of muscles around the shoulder joint (deltoid, scapular region). <b>Skin Changes:</b> Possible dryness or discoloration due to Vata aggravation Swelling (if Kapha involvement is significant).
<b>Sparshana Pariksha (Palpation)</b>	<b>Pain Assessment:</b> Tenderness over the shoulder joint. Intensity and location of pain can guide Dosha involvement (e.g., pricking pain for Vata). <b>Stiffness (Stambha):</b> Palpable rigidity in the joint and surrounding muscles. <b>Temperature:</b> Coolness over the affected area due to Vata dominance. Warmth or slight swelling if Kapha is also involved. <b>Snayu (Ligament/Tendon) Tension:</b> Tension or contraction in ligaments, especially during passive movement.
<b>Prashna Pariksha (Questioning)</b>	<b>Pain Characteristics:</b> Onset: Sudden or gradual. Nature of pain: Pricking (Toda), throbbing, or heaviness. Aggravating and relieving factors (e.g., aggravated by cold exposure or activity). <b>Stiffness and Range of Motion:</b> Ask about difficulty in daily activities like combing hair, dressing, or lifting objects. <b>Associated Symptoms:</b> Any neck stiffness or radiating pain to the arm. History of trauma or repetitive strain. <b>Diet and Lifestyle:</b> Consumption of Vata-aggravating foods (dry, cold, or light). Occupation or habits that involve prolonged strain on the shoulder

**Symptom Analysis:** Identification of classic symptoms: Severe shoulder stiffness (Bahu Stambha), Pain in the shoulder joint (Shula), Restricted range of motion (Pravritti Hani)

**Associated co morbidities:** Patient having ongoing history of Diabetes mellitus, Hypertension, Hypothyroidism

**Locomotor examination – Range of Motion Testing:**

Active and passive shoulder movements to assess limitations and stiffness.

Method – **Goniometric assessment<sup>8</sup>** - A tool used in physical therapy to gauge a joint's range of motion (ROM) is called a goniometer. Two "arms" are hinged together, one of which is movable and the other of which is stationary. Each is placed at particular bodily locations, with the goniometer's center lining up with the relevant joint. The therapist can accurately assess range of motion in degrees thanks to hash marks on the hinge.

The patient performs active movements in all functional planes for the shoulder. This includes flexion, extension, abduction,

adduction and internal and external rotation. Estimate the range of movement or measure with a goniometer and compare the affected with the unaffected shoulder and with the normal expected range.

**Strength Testing:** Evaluation of muscle strength in the shoulder and arm to determine any muscle atrophy or weakness.

**Imaging Studies**

**X-rays:** To rule out bony abnormalities.

**MRI:** To assess soft tissue involvement, including ligaments and joint capsule.

**USG:** Ultra sonography of affected soft tissue.

**CRP-** Inflammation marker

**Ayurvedic Diagnostic Tools**

Apabahuka can be well explained in Ayurveda using Aptopadeshgamy bhavas<sup>9</sup>.

**Table 6: Aptopadeshgamy bhava's**

<b>Roga (Disease)</b>	Apabahuka is characterized as a vyadhi primarily affecting the shoulder region, leading to pain and restricted movement.
<b>Prakopana (Vitiatio)</b>	The prakopana(vitiatio) of Vatadosha, particularly its vindhya (an increase in vata), manifests as pain and stiffness in the affected area.
<b>Yoni (Origin cause)</b>	The yoni of this prakopana may include factors such as overexertion, trauma, or prolonged improper posture, contributing to the vitiatio of Vata.
<b>Utthana (Disease causative factor)</b>	The utthana of Apabahuka typically occurs after an acute episode of stress or injury, indicating the sudden emergence of symptoms.
<b>Aatmanam (Nature of disease)</b>	The cardinal signs and symptoms (lakshanas) include shoola (pain), rukshata (dryness), and aashru (tearing sensation), which are indicative of vitiated Vata.
<b>Adhithana (Place of occurrence)</b>	The adhithana or sthaana of the disease is primarily in the bahu (shoulder) and may radiate to the upper back and neck.
<b>Vedana (Nature of pain)</b>	The vedana manifests as acute shoola, sparsha (sensitivity), and a feeling of heaviness in the affected region.
<b>Sansthana (Symptoms)</b>	The sansthana of vitiatio may occur in the mamsa (muscle) and snayu (tendons) around the shoulder joint, indicating a localized pathology.
<b>Shabda, Sparsha, Rupa, Rasa, Gandha</b>	The sensory modalities may be affected, with increased sensitivity to sparsha (touch) and altered perception of rasa (taste) due to discomfort.
<b>Upadrava (Complication)</b>	Potential upadravas include chronic pain syndromes and restricted mobility, complicating the clinical picture of Apabahuka.
<b>Vridhhi, Sthana, Kshaya (Functionality of dosha)</b>	Assessment of the dosha reveals vridhhi (increase) of Vata in acute cases, while chronic conditions may exhibit kshaya (depletion) of dhatus due to prolonged suffering.
<b>Udarka (Management)</b>	The udarka of Apabahuka can vary; acute cases typically have a better prognosis with appropriate treatment, while chronic cases may require more intensive management.

<b>Naama (Nomenclature)</b>	The naamakara (nomenclature) of the disease is based on the predominant symptoms and affected sites, facilitating clear communication among practitioners.
<b>Pravritti (Indications)</b>	Indicated pravritti involves vatahara therapies such as abhyanga (oil massage), heat applications, and gentle stretching to restore balance.
<b>Nivritti (Contraindications)</b>	Contraindicated nivritti includes exposure to cold, excessive physical strain, and activities that further aggravate Vatadosha.

## Differential Diagnosis <sup>10</sup>

**Table 7: Differential diagnosis of Apabahuka**

Condition	Clinical features	Pathogenesis	Etiology
<b>Manyastambha</b>	Neck stiffness, no shoulder involvement	It is characterized by vitiated Vata lodging in the neck region, leading to stiffness (Stambha) and restricted movement.	Commonly due to poor posture, prolonged static neck positions, heavy lifting, or degenerative changes in cervical vertebrae, akin to cervical spondylosis
<b>Amsashosha</b>	Muscle wasting, no pain initially	Wasting of the shoulder muscles primarily due to impaired Vata and muscle tissue depletion.	Prolonged immobilization, neurological impairments, or systemic diseases affecting muscle metabolism
<b>Greevastambha</b>	Neck stiffness, radiating pain	Similar to Manyastambha but with more pronounced rigidity and involvement of Kapha, leading to stiffness and limited cervical spine movement.	Often associated with poor neck ergonomics, sedentary lifestyle, or degenerative changes in the spine
<b>Greevashula</b>	Localized neck pain	Pain localized in the cervical region due to Vata aggravation causing nerve or tissue irritation.	Postural issues, repetitive strain, or early degenerative conditions like cervical spondylosis
<b>Vishwachi</b>	Radiating pain, tingling, numbness	Dysfunction of the brachial plexus, leading to pain, weakness, or loss of sensation in the shoulder and arm.	Trauma, compression, or inflammatory conditions affecting the brachial plexus
<b>Brachial Plexopathy</b>	Weakness, sensory loss	Dysfunction of the brachial plexus causes sensory and motor deficits in the shoulder, arm, and hand.	Common causes include trauma, nerve compression, inflammatory conditions, or radiation-induced damage
<b>Cervical Spondylosis</b>	Radiating neck pain, tingling	Degenerative changes in cervical intervertebral discs and vertebrae, often causing nerve root or spinal cord compression.	Age-related wear and tear, repetitive strain, or prior injuries
<b>Adhesive Capsulitis</b>	Stiffness, loss of motion	Inflammation and thickening of the shoulder capsule lead to restricted movement and pain.	Commonly associated with prolonged immobility, diabetes, or previous shoulder injuries
<b>Supraspinatus Arc Syndrome</b>	Painful arc during abduction	Impingement of the supraspinatus tendon beneath the acromion, causing pain during arm elevation	Repetitive overhead activities, tendon degeneration, or structural abnormalities in the shoulder

Conditions like rotator cuff injuries, tendonitis, bursitis, or cervical radiculopathy should be ruled out through clinical evaluation.

## DISCUSSION

Apabahuka (Adhesive capsulitis) is a Vata-kapha प्रधानजा (predominant) amsa marma sthanastha vyadhi (shoulder region disease). Based on the above explanation, favorable etiology like increased intake of cold and dry substances, injury and over exertion of shoulder joint, co-morbid diseases like Diabetes mellitus, etc. leads to vitiation of Vyana vata and Shleshaka kapha further causing dryness, restricted and painful ROM at the shoulder joint. The clinical picture of Adhesive capsulitis involves 3 stages- Freezing stage, Frozen stage, Thawing stage. Physical examination includes palpation of shoulder joint followed by Goniometric ROM assessment. Supportive laboratory diagnosis is done through MRI of affected shoulder joint. In Ayurveda perspective of diagnosis, Shastrokta laskhana (Symptoms in original text) like Amsa Shosha, Amsa Spandhana and Amsa sira akunchana should be examined using trividha pariksha (Threefold examination) and Aptopadesha Gamyā Bhavas. Upashaya (Relieving factors) is understood based on administration of Ushna (Hot), Tikshna (Sharp penetrating) ahara vihara (food and activities) and aushadha (medicine). As the disease is currently prevailing among population, understanding the pathogenesis of disease with its stages is beneficial for prognosis, and prevention of complication.

## CONCLUSION

This article reflects the importance of diagnosis of Apabahuka with the perspective of both ayurveda and contemporary science parameters. All the criteria and tools used for diagnosis mentioned in this review article depicts its importance in everyday clinical practice. The article also successfully describes the concept of Vyadhi Avastha which plays major role in chikitsa. Hence, the review is relevant from the perspective of cause effect relationship in pathogenesis and treatment aspect.

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