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EXPLORING THE SCOPE OF INDIVIDUALIZED AND THERAPEUTIC APPROACH FOR MANAGEMENT OF MIGRAINE WITH HOMOEOPATHY: A LITERATURE REVIEW

Dr. Suruchi Sharda[1*], Dr. Shivangi[2], Dr. Amritpreet Kaur[3], Dr. Roopinder Kaur[4], Dr. Meenakshi Singh[5]

[1*]PhD Scholar, Tantia University, Sri Ganganagar, Rajasthan
[2]MD (Hom), PhD Supervisor, Assoc. Professor, Organon of Medicine, Tantia University, Sri Ganganagar, Rajasthan
[3] PhD Scholar, Tantia University, Sri Ganganagar, Rajasthan
[4] PhD Scholar, Tantia University, Sri Ganganagar, Rajasthan
[5]MD (Hom), Professor, Practice of Medicine, HMCH, Sec-26, Chandigarh

***Corresponding Author:** Dr. Suruchi Sharda
[*]PhD Scholar, Tantia University, Sri Ganganagar, Rajasthan

ABSTRACT

Migraine, affecting around 15% of people worldwide and disproportionately impacting women, is a widespread and disabling neurological condition. This review synthesized current knowledge on migraine, exploring its clinical presentation, underlying mechanisms, diagnostic criteria, and role of homoeopathy. A key focus was an evolving discussion on homoeopathy as a potential adjunct therapy, which emphasized personalized interventions aligned with individual symptom patterns and patient histories. The analysis highlighted the unique progression of migraine attacks, distinguishing them from other headache disorders, and underscored the value of individualized treatment plans. While preliminary findings from clinical trials and systematic reviews suggested that homoeopathy may reduce migraine severity and recurrence, however, methodological limitations in existing studies such as variability in protocols and study design issues necessitated cautious interpretation. Future research should prioritize well-structured, large-scale trials with standardized homoeopathic protocols and objective outcome measures to enhance understanding. Integrating evidence-based complementary therapies like homoeopathy with conventional treatments may foster a more holistic care model, addressing both symptom control and overall patient well-being. Such an approach could ultimately improve the quality of life for individuals managing chronic migraine.

1. Introduction

Migraine is a debilitating neurological condition characterized by recurring episodes of moderate-to-severe headaches, which are accompanied by nausea, sensitivity to light (photophobia), and sensitivity to sound (phonophobia). Globally, migraine affects about 15% of individuals, with females experiencing migraine three times more frequently than males (18% vs. 6%). Migraine is ranked as the second-leading cause of disability worldwide and it significantly impairs the quality of life, reduces productivity, and increases healthcare expenditures. The pain and symptoms associated with migraine can be so severe that they can disrupt the daily life of the patient such as work, school, relationships & social activities. [1,2]

2. Literature Review

Definition- According to the *International Classification of Headache Disorders, 3rd Edition (ICHD-3)*, migraine is defined as:

"A recurrent headache disorder with attacks lasting 4–72 hours (untreated), featuring unilateral, throbbing pain of moderate-to-severe intensity worsened by activity, alongside nausea and/or sensitivity to light and sound." [2]

Distinguishing Migraine from Other Headaches:

- **Tension-type headache:** Bilateral, non-throbbing pain without nausea.
- **Cluster Headache:** Intense unilateral pain around the eye with autonomic symptoms (e.g., tearing, nasal congestion).

Pathophysiology:

Migraine involves multiple pathophysiological mechanisms which include cortical spreading depression (CSD), calcitonin gene-related peptide (CGRP) signaling, central and peripheral sensitization, and meningeal inflammation. [4,5,6]

i. Cortical Spreading Depression (CSD):

Cortical spreading depression is a wave of depolarization which is followed by inhibition, that spreads across the cerebral cortex. It is strongly associated with migraine aura and it triggers the activation of trigeminal nociceptive pathways. CSD disrupts the blood-brain barrier which allows the pro- inflammatory substances to enter the central nervous system and sensitizes meningeal nociceptors, which contributes to the onset of headache and other symptoms.

ii. CGRP and Trigeminal Activation:

CGRP, calcitonin gene-related peptide, is a key neuropeptide in migraine which is released from trigeminal nerve terminals, leading to vasodilation, neurogenic inflammation, and enhanced pain signaling. Elevated CGRP levels are observed during migraine attacks, and CGRP-targeted therapies have shown efficacy in migraine prevention and treatment.

iii. Sensitization and Pain Amplification:

Sustained activation of trigeminal afferents lowers the threshold for pain perception in the dura mater, which makes it highly sensitive to normally non-painful stimuli. This is termed as peripheral sensitization. Repetitive nociceptive stimulation increases neuronal excitability in the brain stem and thalamus, which decreases the threshold for pain perception and results in amplified pain signals. Along with neurochemical changes and enhanced synaptic transmission, this whole process lead to sensitivity of brainstem and thalamus to mildly painful stimuli and causing disproportionally intense pain. This process is termed as central sensitization.

iv. Meningeal Inflammation:

Inflammatory mediators such as cytokines, prostaglandins, and CGRP contribute to the activation and sensitization of meningeal nociceptors. This neuroinflammatory process enhances pain signaling and may explain the throbbing nature of migraine headaches.

Together, these mechanisms create a self-perpetuating cycle of neuronal hyperexcitability, inflammation, and sensitization, leading to the recurrent and disabling symptoms of migraine.

Common migraine triggers are stress, irregular sleep patterns, exposure to loud noises or bright lights, hormonal changes (e.g., premenstrual migraines or increased severity linked to oral contraceptives), alcohol consumption, and delayed meals. Notably, while specific foods are often assumed to be triggers, they rarely play a significant role in most cases.

Attack Phases [3]**:**

i. Prodrome: Precursor symptoms (e.g., fatigue, mood shifts) hours before the headache.

ii. Aura: Transient neurological disturbances (e.g., visual, sensory, or speech changes) occurring in ~25% of cases.

iii. Headache: Unilateral, pulsating pain exacerbated by physical activity.

iv. Postdrome: Residual fatigue or cognitive fog after pain subsides.

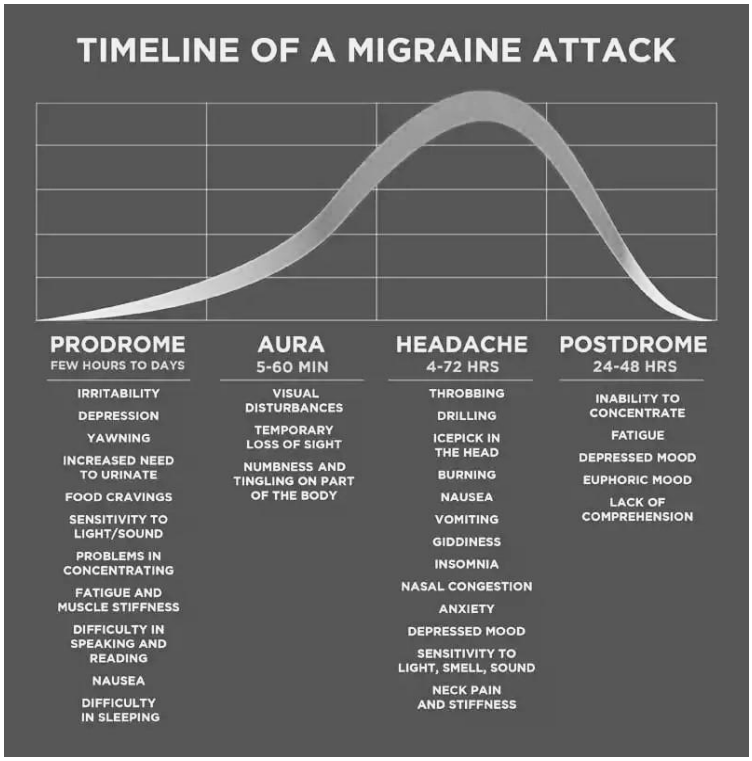


Figure 1 – Timeline of migraine attack. [3- American Migraine Foundation. https://americanmigrainefoundation.org/migraine-signs-symptoms/]

Classification of Migraine[2] :

1. Migraine Without Aura (previously known as hemicrania simplex/common migraine): Unilateral pulsating headache along with nausea and associated symptoms of photophobia and/or phonophobia.

Diagnostic criteria: at least 5 attacks of headache lasting 4-72 hours exhibiting at least two of the following characteristics: unilateral location/pulsating / moderate to severe pain / worsening with or leading to avoidance of routine along with nausea and/or vomiting and photophobia/phonophobia and confirm that any other condition in ICHD-3 does not account for these symptoms.

2. Migraine With Aura (Previously known as Classical migraine/ ophthalmic, hemiparaesthetic, hemiplegic, or aphasic migraine/complicated migraine): Recurrent attacks of Unilateral, fully reversible visual, sensory, and/or other CNS symptoms that develop gradually, followed by headache and associated migraine symptoms.

Aura: Aura refers to the reversible neurological symptoms that often precede or accompany a migraine attack (e.g., visual scintillations, sensory tingling, speech difficulties), which lasts 5–60 minutes.

Diagnostic criteria: The diagnosis of migraine with aura is established when a patient experiences at least two attacks meeting the following criteria: Firstly, there should be one or more fully reversible aura symptoms: visual, sensory, speech or language, motor, brainstem, or retinal. Additionally, the aura must exhibit at least three out of six defining characteristics: the gradual spread of at least one symptom over five minutes or more, the occurrence of two or more symptoms in succession, a duration of each symptom ranging from 5 to 60 minutes, the presence of at least one unilateral aura symptom, one aura positive symptom, or the development of a headache within 60 minutes of the aura. It is essential to rule out other possible diagnoses using

the ICHD-3 to confirm the presence of aura.

Subtypes:
Migraines with aura are categorized into subtypes based on distinct neurological symptoms.

Typical Aura
involves reversible visual, sensory, or speech disturbances without motor weakness, lasting up to an hour.

It can occur with or without a subsequent headache.
Brainstem Aura (formerly Basilar Migraine) originates from the brainstem. It includes symptoms like vertigo, slurred speech, double vision, tinnitus, or hearing loss.
Hemiplegic Migraine is characterized by temporary, reversible motor weakness. It can be **Familial Hemiplegic Migraine (FHM)**, a rare genetic form inherited in an autosomal dominant pattern, often presenting with ataxia or partial motor function loss. FHM subtypes include FHM1 (CACNA1A gene mutation), FHM2 (ATP1A2 mutation), and FHM3 (SCN1A mutation). On the other hand, **Sporadic Hemiplegic Migraine** presents similarly without a family history.
Retinal Migraine is a rare type that causes temporary visual disturbances in one eye, such as flashing lights, partial vision loss, or temporary blindness, often followed by a migraine headache.

3. Chronic Migraine: Headache which occurs on 15 or more days per month for more than 3 months which on at least 8 days/month has features of migraine.
Diagnostic criteria: Diagnosis requires a history of at least five migraine attacks that meet the criteria for Migraine with or without Aura. Additionally, on at least eight days per month, the headaches must either meet migraine criteria or be perceived as a migraine by the patient on onset and respond to migraine-specific treatments like triptans or ergot derivatives. Other potential diagnoses must be excluded using the ICHD-3 guidelines**.**

4. Complications

- **Status Migrainosus:** Severe, unrelenting attack of migraine with/without aura lasting >72 hours.
- **Persistent Aura Without Infarction:** Aura symptoms persist for >1 week without stroke evidence/infarction on neuroimaging.
- **Migrainous Infarction-** The presence of one or more migraine aura symptoms linked to an ischemic brain lesion in the corresponding vascular region, as identified through neuroimaging, with onset occurring during a typical migraine with aura episode.
- **Migraine aura-triggered seizure**- Seizure triggered due to migraine with auras

Clinical Features:

Phase	Clinical Features	Duration	Notes
Premonitory (Prodromal)	• **Neck discomfort** • **Higher center disturbances**: - Cognitive impairment (brain "fog") - Mood changes (e.g., irritability, depression) - Fatigue • **Homeostatic disruptions**: - Excessive yawning/sleepiness - Polyuria/polydipsia (increased thirst/urination) - Food cravings	Hours to days (24–48 hours)	Often precedes headache by up to 48 hours. Subtle symptoms may go unrecognized.

Aura	• **Neurologic disturbances**: - Visual (e.g., scintillating scotoma, zigzag lines) - Sensory (e.g., tingling, numbness) - Speech/language difficulties (less common)	5–60 minutes	Occurs in ~25% of migraineurs. Symptoms are reversible and typically progress gradually.
Headache Phase	• **Pain**: Unilateral or bilateral, pulsating, moderate-to-severe intensity • **Nausea/vomiting** • **Sensory sensitivity**: - Photophobia (light sensitivity) - Phonophobia (sound sensitivity) - Osmophobia (smell sensitivity) - Allodynia (pain from non-painful stimuli) - Vertigo/dizziness	4–72 hours	Worsened by physical activity. Autonomic symptoms (e.g., rhinorrhea) may overlap.
Postdrome	• **Tiredness** • **Weariness** (feeling "drained") • **Concentration impairment**	Up to 48 hours	Often described as a "migraine hangover." Residual symptoms may mimic the premonitory phase.

Diagnosis:

Diagnosis relies on clinical evaluation to exclude secondary causes (e.g., tumors, vascular events).

Diagnostic Approach:

• **Clinical History:** Assess attack frequency, duration, pain characteristics, triggers (e.g., stress, diet), associated symptoms, and family history.

• **Physical Exam:** Neurological assessment to identify "red flags" (e.g., papilledema, focal deficits).

• **ICHD-3 Criteria:** Confirm alignment with standardized diagnostic guidelines.

• **Differential Diagnosis:** Rule out secondary headaches (e.g., meningitis, hemorrhage) and other primary headache types.

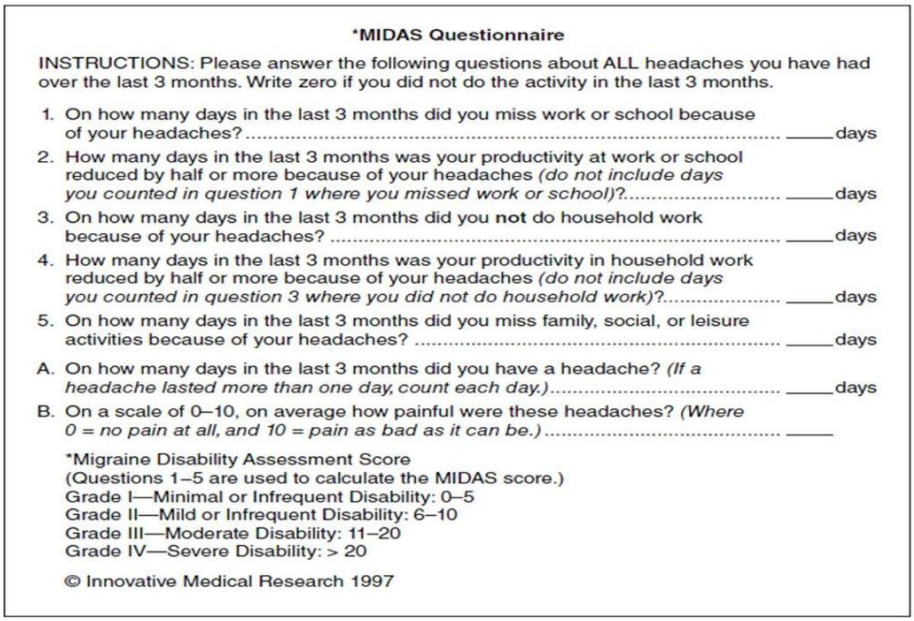
▪ **Ancillary Tests:**

▪ Neuroimaging (MRI/CT): Recommended for atypical features (e.g., sudden-onset "thunderclap" headache).

▪ Blood tests: Evaluate for metabolic or inflammatory conditions.

▪ **Assessment Tools:**

• **MIDAS (Migraine Disability Assessment):** Quantifies impact on daily functioning.[6]



***MIDAS Questionnaire**

INSTRUCTIONS: Please answer the following questions about ALL headaches you have had over the last 3 months. Write zero if you did not do the activity in the last 3 months.

1. On how many days in the last 3 months did you miss work or school because of your headaches? ..... ____days
2. How many days in the last 3 months was your productivity at work or school reduced by half or more because of your headaches *(do not include days you counted in question 1 where you missed work or school)*? ..... ____days
3. On how many days in the last 3 months did you **not** do household work because of your headaches? ..... ____days
4. How many days in the last 3 months was your productivity in household work reduced by half or more because of your headaches *(do not include days you counted in question 3 where you did not do household work)*? ..... ____days
5. On how many days in the last 3 months did you miss family, social, or leisure activities because of your headaches? ..... ____days

A. On how many days in the last 3 months did you have a headache? *(If a headache lasted more than one day, count each day.)* ..... ____days

B. On a scale of 0–10, on average how painful were these headaches? *(Where 0 = no pain at all, and 10 = pain as bad as it can be.)* ..... ____

*Migraine Disability Assessment Score
(Questions 1–5 are used to calculate the MIDAS score.)
Grade I—Minimal or Infrequent Disability: 0–5
Grade II—Mild or Infrequent Disability: 6–10
Grade III—Moderate Disability: 11–20
Grade IV—Severe Disability: > 20

Figure 3 – MIDAS assessment scale

- **Headache Diaries:** Documenting attack patterns, triggers, and medication use.

3. Homoeopathic perspective

Homoeopathic prescription is based on symptom similarity and a highly individualized approach. The approach of highly individualized prescription forms the cornerstone of homoeopathy. Treatment of any disease in homoeopathy takes into account the patient's lifestyle, emotional state and constitution in addition to the physical symptoms. Homoeopathy gives more emphasis on individualized prescriptions than conventional medicine, which frequently uses a set procedure (such as NSAIDs or triptans) to treat migraines.

The concept of individualized homeopathic treatment revolves around identifying a constitutional remedy - a holistic approach that considers a patient's physical, mental, and emotional characteristics. Unlike conventional treatments that primarily target symptoms, constitutional remedies aim to restore overall health by addressing the root cause of migraine susceptibility. [18] Additionally, therapeutic remedies can be used in acute phases of migraine to provide symptomatic relief, minimizing pain intensity and associated symptoms such as nausea, photophobia, and phonophobia.

A "Constitutional remedy" is the one that covers the totality of a patient's mental and physical characteristics over a longer period of time excluding temporary changes due to acute illness. Constitutional remedy treats the patient as a whole, focusing on their mental, emotional, as well as physical symptoms rather than just isolating specific complaints.

Since every migraine sufferer has different symptom patterns, triggers, and related disorders thus it reciprocates with principles of homoeopathy and the need for highly individualized prescription. By addressing the susceptibility to illness, constitutional treatment can reduce the frequency and severity of recurring episodes of migraine.

SELECTION OF CONSTITUTIONAL REMEDY

A constitutional remedy is selected very carefully after taking the proper case and through keen observation of the patient. It takes into account the whole physical, emotional, mental, social, and miasmatic aspects of the patient. Physical aspects include symptoms with location, sensations, modalities, and concomitants while emotional and mental aspects include stress levels, fear, anxiety levels, and mood patterns. Behavioral and social aspects such as relationships, family dynamics, coping mechanisms, and life events are also taken into account for selecting constitutional remedy. Miasmatic background helps us identify the patient's inherited tendency to certain diseases.

Many times, it is very confusing to select a constitutional remedy, and in those cases, a therapeutic remedy can be prescribed to the patient to ease the episode of migraine attack.

THERAPEUTIC MEDICINES FOR MIGRAINE

Therapeutic medicines are selected based on the specific symptoms and patterns of a migraine. Each remedy targets particular characteristics of the headache, considering factors like the location of pain, type of sensation, associated symptoms, and modalities (what worsens or relieves the pain). A few therapeutic medicines covering the symptoms of migraine attacks are listed below, along with their indications. [15,16,17]

1. **Spigelia –** Indicated in left-sided migraines with severe, sharp, or stabbing pain. Pain extends to the left eye and sometimes causes eye strain. There is a sensation as if a band is wrapped around the head and pain worsens with motion, noise, or touch.
2. **Sanguinaria** – Indicated in right-sided migraines that start from the back of the head and move to the right eye. The characteristic symptoms are nausea, vomiting, and a burning sensation in the eyes which worsens with noise, light, or any movement. Pain is better by sleep and lying down.

3. Natrum Muriaticum – Indicated in cases where migraine attacks are associated with chronic grief or stress. There is a bursting pain, particularly in the forehead and areas around the eyes. The patient experiences visual disturbance in extreme cases and pain worsens from mental exertion and sunlight.

4. Belladonna – Indicated in violent throbbing headaches which occur suddenly and abruptly. There is a sensation of congestion in the head as if all of the blood has pooled in the head. There is hypersensitivity to light, noise, and touch. The face is flushed, pupils dilated and the body may feel hot.

5. Iris versicolor – Indicated in migraine attacks associated with gastric symptoms. There is severe nausea and acidic vomiting along with burning in the stomach and pain in the forehead and temple areas

6. Glonoinum – Indicated in migraine attacks with extreme throbbing pain in the head and sensation of pulsation in the head. Useful in cases where migraine is triggered due to sun exposure or heat. Headache is accompanied by dizziness, vomiting, and flushing of the face.

4. Conclusion

Migraine is a multifaceted neurological condition driven by diverse mechanisms such as cortical spreading depression, trigeminal nerve activation, sensitization, and inflammatory processes. Its profound effects extend beyond health, impairing daily functioning, work efficiency, and economic burden. Standard therapies like NSAIDs, triptans, and CGRP inhibitors, though commonly prescribed, pose risks of adverse effects and medication-overuse headaches with prolonged use.

Homoeopathy, as an adjunctive option, offers personalized care tailored to individual symptom profiles and constitutional characteristics. Emerging evidence, including clinical studies and case reports, indicates potential benefits in lowering migraine recurrence and severity, especially among those with limited response to traditional treatments. However, limitations in research methodologies—such as inconsistencies in remedy standardization and challenges in distinguishing placebo effects—highlight the need for rigorously designed, large-scale studies to validate these findings.

Advancing this field requires future investigations to incorporate objective biomarkers, refine trial protocols, and adopt evidence-informed strategies for evaluating homoeopathy's role. A synergistic model blending conventional and complementary therapies could pave the way for comprehensive, patient-focused care. Such an approach would prioritize not only symptom management but also holistic well-being, enhancing overall quality of life for individuals living with migraine.

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