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Role of Herbal Medicine on Migraine

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ABSTRACT

Migraine is a prevalent neurological disorder, often accompanied by aura. Although the exact mechanisms behind migraines remain unclear, studies have shown elevated levels of pro-inflammatory cytokines and oxidative stress markers in migraine sufferers. Researchers have conducted numerous investigations into the potential of alternative treatments, specifically herbal supplements and nutraceuticals, in preventing and alleviating migraine attacks. This review aimed to assess the impact of herbal medicines such as feverfew, Butterbur, Caffeine, Ginger, Teaberry, etc. on the frequency, severity, and duration of migraine episodes. A comprehensive search of the review, primarily using Google Scholar, PubMed, and Google focused on studies published within the last decade, involving adult participants aged 18-65, and reported in the English language. The findings from the selected articles indicate that herbal medicines can effectively reduce the frequency of migraine headaches. However, the results varied regarding their influence on headache severity and duration. Notably, the use of these herbs did not result in significant side effects. Consequently, physicians may consider recommending herbal medicines to patients who experience adverse reactions to pharmaceutical drugs and seek a more natural treatment approach.

INTRODUCTION:

Migraine:

Migraine is a prevalent episodic neurological condition characterized by intricate pathophysiology, resulting in recurring attacks typically marked by intense, pulsating, one-sided headaches, often accompanied by symptoms like nausea, sensitivity to sound (phonophobia), and sensitivity to light (photophobia). Approximately one-third of patients experience transient neurological symptoms before the headache, commonly involving visual disturbances, though other senses and speech may also be affected. This condition is referred to as “migraine with aura (MA).” [1]

Migraine is notably prevalent, impacting a significant portion of the population, for instance, affecting 17% of females and 8% of males within the European population [2], Migraine carries a substantial economic burden, with costs amounting to 18.5 billion Euros annually in Europe [3].

It’s worth noting that migraine is a disabling condition and has been recognized as one of the 20 most disabling diseases by the World Health Organization [4]. Hence, migraine represents a significant public health concern with substantial repercussions for both individuals and society at large. Many migraine episodes appear to originate in the brain, as indicated by (a) premonitory symptoms such as speech and reading difficulties, heightened emotionality, and sensory hypersensitivity, which are highly indicative of an impending attack, even when occurring up to 12 hours before the headache [5]. This is further supported by (b) the nature of common migraine triggers, including stress, lack of sleep, excessive sleep, hunger, and prolonged exposure to sensory stimuli [6].

Studies in psychophysics and neurophysiology have yielded compelling evidence that, during the intervals between migraine attacks, individuals with migraines exhibit heightened sensitivity to sensory stimuli and abnormal processing of sensory information. This is characterized by increased amplitudes and a reduced habituation of evoked and event-related potentials [7,8]. It is widely accepted that migraine headaches are closely tied to the activation and sensitization of the trigeminovascular pain pathway [9-12]. Additionally, cortical spreading depression (CSD) is considered the neurophysiological counterpart of the migraine aura [10, 13–15]. CSD can be artificially induced in animals through targeted stimulation of the cerebral cortex, resulting in a slowly spreading wave of strong

depolarization in both neurons and glial cells, covering a rate of 2–6 mm per minute. However, the precise mechanisms governing the initiation and propagation of CSD remain unclear [16, 17].

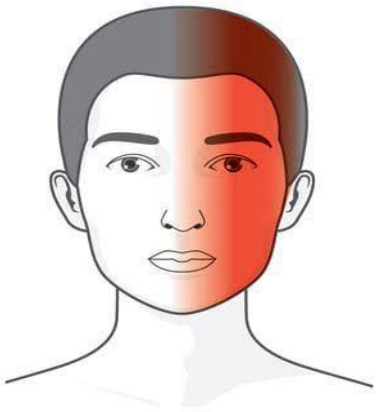
The mechanisms underlying the primary brain dysfunction responsible for triggering a migraine attack, as well as the factors leading to susceptibility to cortical spreading depression (CSD) and the episodic activation of the trigeminovascular pain pathway, remain largely uncharted and represent a prominent unresolved matter within the realm of migraine neurobiology. There are also significant outstanding inquiries related to the processes governing the initiation, persistence, and resolution of migraine pain.

Migraine is a complex genetic disorder, characterized by heritability estimates that can reach as high as 50%. Its inheritance pattern is likely polygenic and multifactorial, as suggested by various studies [17, 18, 19]. The intricate nature of this condition arises from the interplay of numerous genes and gene-environment interactions. This complexity has posed challenges in identifying common susceptibility variants. Furthermore, the absence of a consensus regarding most of the identified susceptibility loci likely stems from the clinical and genetic diversity associated with migraine [17, 18, 19]. Recent genome-wide association studies have managed to pinpoint a handful of risk factors for both migraine with aura (MA) and migraine without aura (MO). These risk factors are located within or near transcribed regions of genes that are considered potentially significant [20–22].

Nonetheless, our current molecular comprehension of migraine primarily stems from investigations of familial hemiplegic migraine (FHM), a rare, monogenic, autosomal dominant form of migraine with aura (MA) [18, 19, and 23]. Researchers have identified three causative genes for FHM, all of which encode ion channels or transporters [24–26]. It’s important to note that there are likely more FHM-associated genes that are yet to be discovered [27].

Migraine is a highly incapacitating headache condition, encompassing both episodic and chronic variations, impacting approximately 14% of the general population and up to 18% of women [28,29]. According to the World Health Organization (WHO), migraine presently holds the 19th position among the causes of years lived with disability [28]. With the existing challenges, enhancing diagnostic methods and refining treatment approaches have the potential to significantly alleviate this worldwide burden.

As there are no specific biological markers for diagnosing migraine, healthcare professionals rely on the clinical history and the process of elimination for other headache disorders. Diagnostic criteria are applied to guide both diagnosis and subsequent treatment. According to the definition of migraine without aura outlined in the second edition of the International Classification of Headache Disorders (ICHD-2), the following conditions must be met: a) the presence of recurrent headaches (with at least 5-lifetime episodes); b) an untreated or unsuccessfully treated headache lasting between 4 to 72 hours; and c) experiencing at least two of the following pain characteristics: unilateral location, pulsating sensation, moderate or severe intensity, or worsening with routine physical activity. Additionally, migraine attacks are typically accompanied by at least one of the following: nausea, vomiting, sensitivity to light (photophobia), or sensitivity to sound (phonophobia). Lastly, other potential causes of headaches must be ruled out [30].



Migraine

● **Types of migraines -**

1. Migraine without aura:

This type of migraine headache is the most common. It gradually intensifies over several hours before reaching its peak pain, typically lasting for a maximum of 72 hours. Individuals who suffer from this type of migraine usually experience it a few times annually. If these episodes become more frequent, the condition may be diagnosed as chronic migraine."

2. Migraine with aura:

A subset of individuals with migraines may encounter nervous system disruptions known as 'auras.' These auras can manifest as various sensory disturbances, including the appearance of bright spots in the visual field, tingling sensations, temporary vision impairment, perceived odors that are not present, and involuntary movements.

3. Retinal migraine:

Retinal migraines are characterized by temporary vision loss in one eye. Unlike migraines with aura, the visual disturbances in retinal migraines are typically limited to the affected eye."

4. Chronic migraine:

Chronic migraine is described as the occurrence of migraines on more than 15 days per month for a duration of at least three months. This high frequency can severely impact one's quality of life. A medical evaluation is essential to establish a treatment strategy and to determine if any underlying factors are contributing to the frequent migraines.[31]

The relationship between episodic migraine (EM) and chronic migraine (CM) is intricate. EM can progress to CM at a rate of 2.5% per year [32], and CM can also transition back to EM, with a 2-year transition rate of 26 days [33]. The use of a frequency score of 15 or more days per month to classify CM may seem somewhat arbitrary. Nevertheless, these clinical definitions help distinguish groups with variations in epidemiological data, symptom profiles, functional impacts, disability levels, direct and indirect costs, consultation and treatment patterns, and rates of coexisting conditions. Furthermore, the responses to treatment differ between EM and CM, suggesting the presence of both shared and distinct biological mechanisms.

Significant insights into the distinct clinical characteristics of chronic migraine (CM) and episodic migraine (EM) have been gleaned from extensive observational studies [34••, 35••, 36, 37••]. A considerable portion of recent epidemiological data, highlighting the differences between CM and EM, has been derived from three major observational studies: The studies include the International Burden of Migraine Study (IBMS), the American Migraine Prevalence and Prevention (AMPP) study, and the German Headache Consortium (GHC) study. IBMS, for instance, is a multinational web-based cross-sectional survey designed to identify and assess individuals with CM and EM [33••]. The AMPP study, on the other hand, is a substantial United States (US) population-based longitudinal survey conducted via mail, spanning five years (2004–2009) and involving 24,000 respondents with headaches [34••]. Meanwhile, the GHC study, conducted in Germany, is a population-based longitudinal survey where participants completed questionnaires either via mail (n=4642) or phone (n=4708). Respondents were categorized as CM, high-frequency EM (9–14 headache days per month), or low-frequency EM (0–8 headache days per month) and evaluated on an annual basis [37••].

In this article, we focus on recent significant discoveries and present an overview of the commonalities and distinctions between chronic migraine (CM) and episodic migraine (EM). We delve into their epidemiological aspects, symptom characteristics, functional impacts, disabilities, indirect and direct financial burdens, patterns of medical consultation and treatment, as well as the prevalence of coexisting conditions.

Herbal medicines for Migraine are as follows:

Migraines extend far beyond being a mere headache. The intense throbbing, pulsating, and agonizing pain that accompanies a migraine can be incapacitating. The Migraine Research Foundation reports that over 90 percent of individuals who experience migraines find it impossible to carry out their regular tasks or work during an episode.

While conventional medication is a common choice for managing migraines, there's a growing trend towards natural therapies such as relaxation techniques and herbal remedies.

Centuries ago, well before the advent of modern medicine, cultures around the world developed herbal remedies to address headaches and other typical migraine symptoms. Many of these herbal traditions have endured over time. Although most herbal migraine remedies

haven't undergone comprehensive scientific testing to confirm their effectiveness, they are increasingly gaining recognition and support within the modern medical community.[31]

• Feverfew
• Butterbur
• Peppermint
• Willow
• Ginger
• Caffeine
• Valerian
• Coriander seed
• Dong Quai
• Lavender oil
• Rosemary
• Linden
• Raw potato cuttings
• Horseradish
• Honeysuckle
• Mullein
• Yarrow
• Teaberry
• Common hops
• Betony
• Evodia
• Ginkgo
• Cannabis

● 1. Feverfew (Tanacetum parthenium) -

Feverfew, originally employed in ancient Greece as early as the fifth century B.C. and sometimes referred to as 'feverfew' or (feather few) has a long history of use in addressing various health issues. Its applications have ranged from treating fever, swelling, and inflammation to alleviating common discomforts like headaches, dating back to the first century.

Originally native to the Balkan Mountains, this plant has spread and can now be found in various regions worldwide. Eastern European cultures, in particular, have a tradition of using feverfew to address headaches, insect bites, and various types of pain. In more recent times, its applications have expanded to include the treatment of:

• Migraines
• Dizziness
• Inflammation
• breathing problems

Feverfew is typically prepared by drying its leaves, flowers, and stems. This dried combination is also utilized to create supplements and extracts, while in some cultures, the leaves are consumed raw.

In a 2011 review, feverfew was found to be effective in treating conditions such as migraines, fever, the common cold, and arthritis. However, a comprehensive Cochrane review, which analyzed five substantial clinical trials, revealed limited to no benefit for the majority of individuals experiencing migraines.

It’s worth noting that feverfew may lead to minor side effects like bloating, canker sores, and nausea. Moderate side effects can also occur upon discontinuation of use, including difficulty sleeping, increased headaches, and joint pain.

Certain groups, including pregnant women, individuals taking blood-thinning medications, and those with allergies to the daisy family, should avoid using feverfew.

● 2. Butterbur (Petasites hybridus) -

Butterbur is a plant that thrives in damp, marshy regions across Europe, Asia, and North America. Its name originates from historical practices of using its leaves to wrap and preserve butter in warm weather. Over the course of history, butterbur has served various purposes. The Greek physician Dioscurides initially employed the plant as a remedy for skin ulcers. Subsequently, it has been utilized for the treatment of:"

• Headaches
• Asthma
• Allergies
• cough
• Fever
• Gastrointestinal problems
• General pain

Many herbal remedies involving butterbur utilize its purified root extract, known as Petasites, which is typically available in pill form. This extract is commonly used to address headaches and migraines. A 2012 study published in Neurology supported earlier findings, indicating that Petasites is effective for migraine prevention when taken in doses of 50 to 75 milligrams twice daily.

However, it's worth noting that if you reside in Europe, obtaining butterbur might prove challenging. Both the United Kingdom and Germany have banned the sale of butterbur due to safety concerns related to leading manufacturers.

● 3. Peppermint (Mentha x balsamea) -

Peppermint, which is a hybrid of spearmint and water mint, is found in various regions including North America, Europe, and Asia. Both peppermint leaves and their essential oils are highly valued for their applications in medicine and cooking. In addition to being used as a remedy for headaches, peppermint is also employed to alleviate:

• Spasms
• Toothaches
• Gastrointestinal problems
• Nausea

Peppermint oil, containing the active ingredient menthol, is available in the form of liquid capsules, and there are also tea options for convenient brewing.

A study conducted in 2010, as published in the International Journal of Clinical Practice, discovered that a 10 percent menthol solution applied to the forehead and temples was effective in alleviating migraine pain and reducing nausea.

While clinical research on its effectiveness is somewhat limited, topical peppermint oil presents itself as a viable herbal option for mitigating migraine pain. The accessibility of peppermint oil in health food stores and pharmacies makes it one of the most convenient herbal remedies to consider.

● 4. Willow (Salix spp.) -

Willow bark extract (WBE) played a significant role in the development of aspirin, a widely recognized over-the-counter pain reliever, fever reducer, and anti-inflammatory medication.

WBE contains salicin, an anti-inflammatory component. Additionally, a study conducted in 2012 suggests that WBE is effective as an antioxidant.

Willow trees can be found in regions spanning Europe, Asia, and North America. Dating back to the time of Hippocrates in 400 B.C., people would chew the bark for its anti-inflammatory and fever-reducing properties. Throughout history, willow bark has been utilized in China and Europe to address a range of issues, including headaches, osteoarthritis, tendonitis, and lower back pain.

Willow bark is available in capsule form and can also be found in chewable bark form at most health food stores.

● 5. Ginger (Zingiber officinale) -

Ginger, originating from a tropical Asian plant, has a rich history of use in herbal medicine, particularly in China for over 2,000 years. Its popularity extends to ancient Indian and Arabic medicinal practices as well. Throughout its history, ginger has been employed as a remedy for various purposes, including:

• Headaches
• Stomach pain
• Nausea
• Arthritis
• Cold and flu symptoms
• Neurological problems

Ginger is well-documented for its anti-inflammatory, antiviral, antifungal, and antibacterial properties. Moreover, a 2014 study published in Phytotherapy Research demonstrated that the benefits of ginger powder were comparable to those of sumatriptan, a commonly prescribed migraine medication, but with fewer side effects.

For most individuals, fresh or dried ginger root, supplements, or extracts are generally well-tolerated. However, caution should be exercised when combining ginger supplements with blood thinners, as potential drug interactions may occur.

Both ginger capsules and ginger tea are readily available in most grocery stores or pharmacies, making it convenient for individuals to incorporate ginger into their routines. Another option to consider is drinking ginger water.

● 6. Caffeine -

Caffeinated teas gained prevalence in China during the Ming Dynasty and saw a surge in popularity across Europe during the 18th and 19th centuries. In traditional Chinese medicine, green tea was utilized in combination with other herbs to address migraine pain. Coffee initially gained acclaim in Arabia, while yerba mate, a less recognized caffeinated tea, originated in South America.

Throughout various cultures, caffeine was primarily consumed to aid in the treatment of:

• Headaches
• High blood pressure
• Stomach problems
• Sexually transmitted diseases
• Cancer

• Circulatory problems
• Inflammation
• Skin damage
• Kidney disease

Caffeine is a common component in many over-the-counter pain relievers available today. While caffeine is often studied in combination with other pain-relieving medications, it is generally regarded as a beneficial and safe additive in pills for individuals dealing with migraines. A 2012 study revealed that a combination of 1,000 milligrams (mg) of acetaminophen and 130 mg of caffeine proved to be particularly effective. However, it's important to note that both caffeine withdrawal and excessive caffeine intake can also act as triggers for headaches and migraines.

● 7. Valerian (Valeriana officinalis) -

Valerian, originally native to Europe and Asia, has become prevalent in North America as well. Its use can be traced back to ancient Greece and Rome, dating back to the time of Hippocrates. Several centuries later, it gained recognition as a remedy for insomnia. In the 1500s, valerian earned the nickname 'all-heal' due to its use in treating a wide range of ailments, which included:

• insomnia
• headaches
• heart palpitations
• tremors
• anxiety

While valerian is occasionally used in modern headache treatment, its effectiveness in alleviating migraine pain remains insufficiently researched.

Valerian is typically consumed in the form of supplements, tea, or tinctures made from dried roots. Liquid extracts are also available, often in capsule form, and valerian root capsules are readily available for purchase in the United States.

● 8. Coriander seed (Coriandrum sativum) -

For over 7,000 years, coriander seeds have been treasured for their medicinal and seasoning qualities by diverse cultures. Coriander was praised for its ability to address a wide spectrum of ailments, from allergies to diabetes to migraines. In traditional Ayurveda medicine, coriander was utilized to alleviate sinus pressure and headaches by steeping fresh seeds in hot water and inhaling the steam.

While research on the medicinal effects of coriander seeds often focuses on their potential for treating arthritis and diabetes, further studies are needed to determine their efficacy in relieving migraine pain. Nevertheless, the anti-inflammatory properties of coriander seeds may offer potential benefits for some individuals dealing with migraines.

Coriander seeds can be chewed, incorporated into food or teas, and are also available in the form of oral extracts.

● 9. Dong quai (Angelica sinensis) -

Dong quai root, belonging to the same botanical family as carrots, parsley, and celery, has a rich history of use spanning over a thousand years. It has been employed as a spice, tonic, and medicinal cream, particularly within the traditions of Japanese, Chinese, and Korean herbal practices. In contemporary applications, it is frequently combined with other herbs to address a variety of health concerns, including:

• Headaches
• Fatigue
• Inflammation
• Nerve pain

Despite its longstanding historical use, there is a limited body of research on dong quai root to substantiate its effectiveness as a treatment for migraine pain. Further scientific investigation is needed before it can be recommended as a reliable remedy.

● 10. Lavender oil (Lavandula angustifolia) -

Lavender oil, renowned for its sweet fragrance, is derived from the flowers of the lavender plant and has a rich history of perfuming hygiene products. Originally found in the mountainous areas around the Mediterranean, lavender is currently grown extensively in Europe, Australia, and North America.

In ancient Egypt, lavender oil was employed in the mummification process. Its antimicrobial properties and pleasant aroma led to its inclusion in baths in Rome, Greece, and Persia. The aromatic flowers and their oil were used to address a range of issues, from headaches and

insomnia to mental health concerns like stress and fatigue. Many of these historical applications continue to be popular today.

A study conducted in 2012 suggests that inhaling lavender oil during a migraine may provide quick relief from symptoms. To use lavender oil, one can either inhale the scent or apply a properly diluted solution to the temples. It's essential to ensure proper dilution, as undiluted oil may irritate the skin at the application site. Additionally, it's important to note that lavender oil can be toxic when taken orally at certain doses.

● 11. Rosemary (Rosmarinus officinalis) –

Rosemary, indigenous to the Mediterranean region, has a rich history of medicinal applications, which have included the treatment of:

• Muscle and joint pain
• Memory problems
• Concentration difficulties
• Nervous disorders
• Circulatory problems
• Liver ailments
• Migraines

Rosemary oil can be diluted and applied topically or inhaled for aromatherapy purposes. The dried leaves of the plant can be ground and encapsulated. Additionally, rosemary can be used in teas, tinctures, and liquid extracts. It is believed to possess antimicrobial, antispasmodic, and antioxidant properties. However, its effectiveness in alleviating migraine pain has not been extensively researched.

● 12. Linden, lime tree (Tilia spp.) -

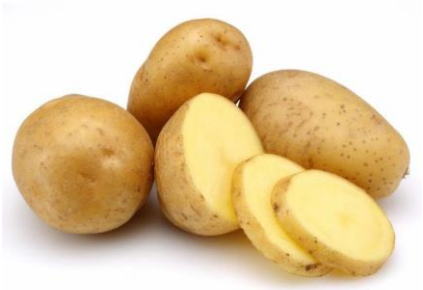
Linden, also known as the lime tree or Tilia is a tree with blossoms that have been a part of medicinal teas in both European and Native American cultures. This plant has historically been utilized to soothe nerves and alleviate anxiety, tension, and inflammatory issues, among other health concerns. The blossoms can be prepared in various forms, including tinctures, liquid extracts, and capsules.

Linden has demonstrated properties that induce sweating and sedation. It has been employed to ease tension, and sinus headaches, promote mental relaxation, and encourage sleep. Furthermore, the flowers have been used to alleviate nasal congestion and reduce high blood pressure.

In modern alternative medicine, linden tea is occasionally used for the treatment of headaches and migraines. However, there is currently insufficient research on the impact of linden tea on migraines to recommend it as an established natural remedy.

● 13. Raw potato cuttings -

The potato has held a place in European folk medicine for more than two centuries. In rural folk medicine, there have been anecdotal reports supporting the use of thick slices of raw potato to alleviate migraine pain. Historically, these slices are wrapped in a thin cloth and either placed around the head or applied directly to the temples to alleviate tension and pain. However, it's important to note that there is currently no scientific research supporting the effectiveness of topically applied raw potato slices in the treatment of migraines.



● 14. Horseradish (Armoracia rusticana) –

Horseradish, native to Europe, has been a part of medicinal folk remedies for generations, typically in the form of oil extracts or utilizing dried or fresh roots. It has traditionally been employed to address a range of health issues, including:

• Bladder infections
• Kidney disease
• Respiratory problems
• Joint pain
•arthritis
• Muscle strains

While horseradish's potential to constrict blood vessels may suggest its usefulness in treating migraines, it's important to note that there are no clinical trials or scientific studies that currently support the use of horseradish as a migraine treatment.

● 15. Honeysuckle (Lonicera japonica) -

Native to Asia, the Japanese honeysuckle found its way to North America during the 1800s. In traditional Chinese medicine, it has been employed to address a variety of health issues, including:

• Wounds
• Fever
• Colds and viruses
• Inflammation
• Sores
• Infections

In addition to its known anticancer and antimicrobial properties, research has revealed anti-inflammatory properties in various parts of the honeysuckle plant, including its leaves, stems, and flowers. These properties are akin to the pain-relieving effects of aspirin and may also be potentially effective against migraine pain.

● 16. Mullein (Verbascum) -

Throughout history, individuals in Europe and Asia have harnessed the medicinal properties of mullein for various purposes. This versatile plant has been employed to address inflammatory conditions, spasms, diarrhoea, and even migraines. The leaves and flowers of mullein can be utilized to create extracts, capsules, poultices, and dried preparations. In modern homeopathic therapies, tinctures derived from mullein are utilized for migraine treatment. Furthermore, research has indicated that mullein possesses diuretic properties.

● 17. Yarrow (Achillea millefolium) -

Yarrow believed to have been named after the Greek mythical hero Achilles, boasts a rich history of use in healing wounds and stemming blood loss. In folk remedies, yarrow has been recommended for the treatment of various conditions, including inflammatory issues, muscle spasms, anxiety, and insomnia. More recent folk practices have turned to yarrow to alleviate symptoms of colds, flu, coughs, and diarrhoea.

Yarrow has demonstrated properties that include pain relief, anti-anxiety effects, and antimicrobial activity. While further research is required, the plant also possesses anti-inflammatory properties that may offer relief to individuals experiencing migraines. Yarrow can be employed in different forms, such as capsules and tinctures.

● 18. Teaberry (Gaultheria procumbens) -

Teaberry, widely recognized as wintergreen, is indigenous to the eastern regions of North America. It can be employed to create teas, tinctures, and oil extracts.

Historically, Teaberry has also been used as an astringent and a stimulant to combat fatigue. Of particular significance to individuals dealing with migraines is Teaberry's potential in the treatment of neuralgias, headaches, as well as stomach pain and vomiting. To experience its healing benefits, one can brew Teaberry in hot water for 3 to 4 minutes and consume the resulting mixture.

● 19. Common hops (Humulus lupulus) -

Hops, originally native to Europe and western Asia, have since spread throughout North America. In ancient Roman culture, they were utilized not only as food but also for their notable medicinal attributes. Hops have a historical track record of being used to address a range of health concerns, including:

• sleep problems

• Inflammation
• Infections
• neuralgia (pain from nerve damage)
• Fever
• cramps
• Spasms
• Anxiety

While modern medicine recognizes the sedative properties of hops, it has not conducted extensive research into its potential effects on migraine pain.

● 20. Betony (Stachys officinalis) -

This perennial herb, prevalent in Europe and Asia, has a medicinal history dating back to classical times. Traditionally, this plant has been employed to alleviate symptoms such as headaches, facial swelling, and pain. The leaves of this herb can be utilized in various forms, including as a juice, poultice, or ointment.

The herb's mild sedative properties have been harnessed to treat conditions such as headache and migraine pain, menstrual cramps, stress, and tension. When combined with lime flowers and comfrey, it may also offer relief from sinus headaches and congestion.

It's worth noting, however, that there have been no human clinical trials conducted to substantiate the herb's effectiveness against migraine pain. Availability in health food stores may vary, making it necessary to either cultivate it yourself or purchase it online.

Furthermore, betony can exert a tonic effect on the body, but it should be avoided during pregnancy.

● 21. Evodia (Evodia rutaecarpa) -

The deciduous evodia tree, native to China, has a history of use in Chinese medicine dating back to the first century A.D. Traditionally, evodia has been employed to address various health issues, including abdominal pain, headaches, diarrhea, and vomiting. Additionally, the fruits of this tree have been associated with potential blood pressure reduction. The fruit's anti-inflammatory and pain-reducing properties suggest it may offer relief from migraine pain. [31]

● 22. Ginkgo (Ginkgo biloba) -

Although ginkgo has been proposed as a migraine therapy[39], both as an acute treatment and as prophylaxis, trials evaluating the potential efficacy have all been open-label studies [40-44]. Gingko appears to be a safe and well-tolerated option for use, and future clinical trials will add to the limited safety data currently available.

● 23. Cannabis -

Cannabis sativa, also known as cannabis or marijuana, has a rich history as both a traditional medicine and a substance with spiritual significance within the Cannabaceae family. However, its legal status is a matter of controversy and varies widely across the globe.

As the legalization of cannabis expands and research opportunities increase, it will likely receive more attention as a potential treatment for migraines, given its strong historical reputation in this regard. Historical documentation indicates that cannabis was beneficial for alleviating migraines, with the renowned Canadian-American physician, William Osler, describing it as “perhaps the most effective remedy” within his influential publication, “The Principles and Practice of Medicine,” migraines were thoroughly addressed. [45,46]. Surprisingly, even Dr. Morris Fishbein, a staunch advocate of conventional medicine and the editor of the Journal of the American Association of Medicine, argued that cannabis effectively treated menstrual migraines [47]. Nevertheless, research on cannabis for migraines has been constrained due to legal and political challenges.

Notably, there have been no randomized, double-blind trials conducted to investigate the use of cannabis for migraine treatment. Paradoxically, the absence of prior supportive data has been used as a rationale for preventing such trials, creating a challenging situation. However, a retrospective analysis of 121 adults in Colorado who used medical cannabis found that the frequency of migraine headaches decreased by more than 50%, with 40% of the group reporting benefits [48]. Common adverse effects included drowsiness and difficulties in managing the variable doses of cannabis. This underscores the need for more refined dosing methods. Regrettably, a double-blind trial conducted in 2007, which utilized a metered dose inhaler delivering pure tetrahydrocannabinol (THC, dronabinol) for acute migraine patients, was completed without the publication of its results, hinting at possible ineffectiveness[49].

In laboratory studies, THC has been shown to inhibit serotonin release from platelets during acute migraines, and more recently, cannabidiol, a non-psychoactive component of cannabis, exhibited moderate activity on 5-HT1A receptors in vitro [50,51]. However, THC did not show similar activity in this model. These receptors are known to be involved in brain-stem changes during acute migraines [52]. While cannabinoids and cannabis likely have multiple mechanisms of action for migraine treatment, the precise details remain unclear.

Based on the limited existing data and clinical reports, it is generally found that inhaled cannabis is more effective than oral dosing for both treating and preventing migraines. Patients are advised to begin with low doses, typically products containing 1 mg of THC and 1–2 mg of CBD per dose. These dosages can be adjusted as needed, either during a migraine attack or every week for prevention, until the desired effect is achieved or adverse effects become intolerable. The use of characterized extracts in a vaporizer is strongly recommended for inhalation, as opposed to smoking, to mitigate potential risks to lung health associated with the use of electronic cigarettes with undisclosed additives.

Here are some home remedies for treatment and prevention of migraine:

There are several home-based approaches that individuals can explore to find relief from migraine symptoms and potentially prevent migraine episodes. These approaches encompass various strategies:

1. Acupressure:-

Acupressure involves applying targeted pressure to specific areas of the body with the goal of pain relief. It can be administered by professionals or practiced at home, but professional guidance is recommended for safety and effectiveness.

One effective acupressure point for relieving headaches is the LI-4 point, located between the base of the left thumb and the index finger. Applying gentle, circular pressure to this point with the opposite hand for about 5 minutes may help alleviate headache pain.

A 2017 study examined the use of acupressure in 98 participants with chronic migraines with aura. They received either standard medication or medication combined with acupressure for 8 weeks. The study found that acupressure reduced migraine-related nausea but did not significantly alleviate pain or improve the participants' quality of life.

It's important to note that while acupressure may provide some relief for certain migraine symptoms, its effectiveness can vary from person to person, and it may not be the sole solution for managing all aspects of migraines. Consulting a healthcare professional for a comprehensive migraine management plan is advisable.

2. Dietary Modifications:-

Making changes to one's diet can be an effective way to prevent migraine episodes. This is because certain foods act as triggers for migraines in some individuals.

Some typical examples of foods that can potentially trigger migraines include:

- Processed meats

- Alcohol

- Chocolate

- Caffeine

Individuals can take steps to identify possible migraine triggers by maintaining a symptom journal and observing patterns in their symptoms. This can be a valuable tool in managing and preventing migraines.

3. Essential Oils:-

Lavender essential oil has been found to have potential benefits in relieving stress, anxiety, and headaches. A literature review conducted in 2021 identified 10 types of essential oils that contain components capable of easing migraine symptoms. These oils include lavender, peppermint, chamomile, and basil.

Some clinical trials have provided supporting evidence for these findings. For instance, a triple-blind trial in 2020 involving 144 participants showed that the topical application of basil oil reduced the intensity and frequency of migraine episodes.

However, it's important to emphasize that further clinical trials are needed to gain a deeper understanding of which essential oils are most effective and the best methods for their use.

Notably, certain essential oils can be harmful to specific groups, including children, individuals with asthma, and those who are pregnant or nursing. Therefore, it is essential to consult a healthcare professional before using essential oils.

When using essential oils, it's recommended to inhale them through a diffuser. If applying topically, always dilute them with carrier oil at a safe concentration to prevent skin irritation or adverse reactions.

4. Ginger:-

According to a review of three clinical trials conducted in 2021, ginger powder is both safe and effective in the treatment of migraine. When compared to control groups, it notably reduced pain within 2 hours of consumption. Additionally, ginger is known for its ability to alleviate symptoms of nausea and vomiting associated with migraines.

Despite its potential benefits, it's essential to be aware of possible side effects and interactions. For instance, individuals taking warfarin may face an elevated risk of bleeding when using ginger. Therefore, it is advisable to consult with a healthcare professional before incorporating ginger into your migraine management strategy.

5. Managing Stress:-

Stress is a common trigger for migraine symptoms, affecting approximately 7 out of 10 individuals with migraines. It can create a vicious cycle where migraine pain exacerbates stress, leading to more migraine episodes.

minimize the impact of stress on migraines, it's advisable to reduce exposure to stress-inducing situations whenever possible. Exploring various stress-relief techniques can also be beneficial. These may include:

- Journaling
- Regular Exercise
- Meditation
- Taking a Warm Bath
- Listening to Soothing Music
- Practicing Breathing Techniques

Additionally, some individuals find stress management classes to be valuable in learning effective strategies for stress reduction. By proactively addressing stress, it's possible to help break the cycle of stress-induced migraines.

6. Yoga:-

An earlier study from 2014 compared conventional migraine treatment with or without the inclusion of regular yoga practice. The results indicated that the group incorporating yoga experienced more significant relief compared to those who received conventional treatment alone. Participants engaged in yoga sessions five days a week for a total of six weeks.

A recent review conducted in 2022 also highlighted the positive effects of short-term yoga interventions. These interventions not only reduced clinical migraine symptoms but also helped alleviate accompanying conditions such as anxiety, depression, and stress, which can exacerbate migraine episodes.

7. Biofeedback Therapy:-

Biofeedback therapy is an approach that focuses on teaching individuals how to consciously control bodily functions that are typically involuntary. This may involve learning to relax specific muscles.

In biofeedback therapy, sensors are placed on the targeted muscles, and these sensors connect to a small device that provides real-time feedback on muscle tension. This feedback assists individuals in recognizing and understanding areas of muscle tension.

By placing sensors along areas like the forehead, jawline, or trapezius muscles in the shoulders, individuals can pinpoint and address muscles that may be contributing to their migraine pain. This technique can be beneficial in managing and potentially reducing the frequency and intensity of migraines.

8. Acupuncture:-

Acupuncture is a therapeutic technique wherein a trained practitioner inserts fine needles into specific points on the body to achieve targeted effects. It shares similarities with acupressure.

In a comprehensive systematic review conducted in 2020, researchers examined various studies assessing the efficacy of acupuncture in treating migraines. The findings from this

review indicated that acupuncture was a safe and effective treatment option for individuals experiencing migraine headaches.

It's important to note, however, that the researchers also acknowledged that many of the studies they reviewed were of low quality. Thus, there is a need for more high-quality research in this area to better understand the full extent of acupuncture's effectiveness.

For those considering acupuncture as a treatment option, it's advisable to seek out a registered and licensed practitioner to ensure safe and reliable care.

9. Massage:-

Massaging the muscles in the neck and shoulders has the potential to provide relief from tension and ease migraine pain. It can also be effective in reducing overall stress levels.

Individuals seeking massage for migraine relief may consider both professional massage therapy and self-massage techniques. For a self-massage, a simple method involves using a clean tennis ball. Stand against a wall and apply moderate pressure while rolling the tennis ball along the shoulders and back. This can be a helpful at-home approach to alleviate tension and discomfort associated with migraines.

10. Magnesium:-

A deficiency in the essential mineral magnesium can potentially trigger migraine aura or menstrual migraine headaches. Research has indicated that taking magnesium supplements may help reduce the frequency of migraine episodes for some individuals. However, it's crucial to consult with a healthcare professional before considering magnesium supplementation, especially if there are other underlying health conditions.

11. Vitamins:-

B vitamins are believed to have a positive impact on migraine frequency and severity as they play a role in regulating neurotransmitters in the brain. A 2021 review found that vitamin B2, taken at a dosage of 400 mg daily for 3 months, had a significant effect on the number of days, duration, frequency, and pain score of migraine episodes.

Vitamin D may also influence the frequency of migraine episodes. A 2018 study discovered that individuals with migraines and vitamin D deficiency experienced more days with migraine pain compared to those without the deficiency.

It's important to note that B vitamins are water-soluble, meaning any excess is excreted in urine, making it unlikely to overdose on them. Nevertheless, it's advisable to consult with a healthcare provider before starting any new vitamin supplements to ensure they are safe and appropriate for your specific health needs.

12. Herbal Supplements:-

Butterbur and Feverfew are two herbal supplements that show promise in reducing migraine pain and the frequency of migraine episodes. According to the American Migraine Foundation, a daily dose of 150 mg of butterbur for approximately 3 months may lead to a reduction in the frequency of migraine episodes. They also note that while feverfew is not as effective as butterbur, it might still provide benefits for some individuals.

It's important to be aware that there are potential risks associated with herbal remedies. Therefore, it is advisable to consult with a healthcare professional before considering the use of these supplements.

13. Water:-

Dehydration can act as a migraine trigger for some individuals. Ensuring proper hydration throughout the day may help prevent migraine episodes. Additionally, taking small sips of water can be beneficial in managing certain migraine symptoms, such as nausea. Proper hydration is an essential aspect of migraine management and overall health.

14. Rest:-

When experiencing a migraine headache, some individuals find relief by lying down in a dark room. For some, falling asleep can also be an effective way to alleviate the pain. Adequate and consistent sleep patterns play a crucial role in preventing migraine episodes. Both excessive and insufficient sleep can act as migraine triggers. Striving for 7 to 9 hours of restful sleep each night is recommended.

15. Compresses:-

Applying cool or warm compresses to the head is a technique that some people find soothing and helpful in reducing migraine pain. However, it's essential to note that individuals with circulatory issues, diabetes, or certain skin conditions should avoid extreme temperatures when using compresses to prevent any adverse effects. [5]

Conclusion:

From the above study, we can conclude that migraine is a neurological disorder characterized by throbbing pain causing pulsing sensation which is usually on one side of the head. The reasons behind migraine might be stress, improper diet, hectic lifestyle, and usage of mobile phones for long period, improper sleep and so on. In terms of migraine, aura can be defined as the sensory symptoms that occur during a migraine headache episode. These symptoms are neurologic, gastrointestinal and autonomic in nature. A migraine episode takes place when a hormone called as serotonin gets triggered resulting into narrowing of the blood vessels.

According to the studies, migraine is of 4 types:-

1.) Migraine without aura
2.) Migraine with aura
3.) Retinal migraine
4.) Chronic migraine

Treatment for Migraine:-

Instead of using synthetic medicines which cause wide range of side effects one can prefer herbal medicines for the treatment. Following are the herbal drugs obtained from natural origin used to provide relief from migraine-

Feverfew, butterbur, peppermint, willow, ginger, caffeine, valerian, dong quai, coriander seed, rosemary, linden, lavender oil, raw potato cuttings, horseradish, honeysuckle, mullein, yarrow, evodia, teaberry, common hops, betony, cannabis, ginkgo, etc.

Apart from herbal drugs migraine can also be treated and prevented by:-

Acupressure, dietary modifications, essential oils, Ginger consumption in daily meals, managing stress, yoga, biofeedback therapy, acupuncture, massage, magnesium, vitamins, herbal supplements, water intake, rest, and compress.

Sources used for references are:- PubMed, google scholar and google.

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