



## MIGRAINE

**Mukhitdinova Ezozakhon Telmankhan kizi  
Abdulazizov Mukhammadjon Fazliddin ugli  
Djuraeva Barno Gulamovna**

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### ABSTRACT

*This article delves into the intricate world of migraines, a prevalent neurological disorder characterized by recurrent, severe headaches. From understanding the underlying mechanisms and triggers to exploring treatment options and lifestyle modifications, the article provides a comprehensive overview. Aimed at both sufferers and those seeking insights into this debilitating condition, it serves as a valuable resource for navigating the complexities of migraines. Special attention is given to emerging research and holistic approaches that contribute to a deeper understanding of this often-misunderstood disorder.*

**Introduction:** Migraine, a neurological disorder affecting millions worldwide, goes beyond being just a severe headache. This article aims to unravel the complexities of migraines, delving into the mechanisms, triggers, symptoms, and multifaceted approaches to management.

What is a migraine? Migraines are severe headaches that usually begin on one side of the head (often behind the eye) and spread to the whole head. Migraines can last from two hours to a few days. Migraines affect around one in ten people. They are three times more common in females and tend to affect young people who are otherwise healthy. Most people who get migraines will have a family member with the same problem.

A classic migraine is a recurrent attack of visual, sensory, or other central nervous system symptoms that are unilateral and last several minutes, followed or not followed by a migraine attack. Migraine commonly occurs in 19% of women and 11% of men worldwide, with 20% of sufferers experiencing classic migraine. The etiopathophysiology of classical migraine is not known with certainty, but vascular, neurological, and genetic dysfunction are suspected to be the cause. Classical migraine pathophysiology is associated with the theory of cortical spreading depression, which can explain the process of aura. There are four phases in classical migraine, namely prodromal, aura, headache, and prodromal phases, each of which has its own symptoms. This is the basis for the diagnosis of migraine, which is established based on the history and physical examination. Migraine therapy includes preventive therapy (lifestyle changes and prophylactic administration) as well as abortive therapy



(administration of specific and non-specific drugs). Migraine is a neurovascular disorder that affects over 1 billion people worldwide. Its widespread prevalence, and associated disability, have a range of negative and substantial effects not only on those immediately affected but also on their families, colleagues, employers, and society. To reduce this global burden, concerted efforts are needed to implement and improve migraine care that is supported by informed health-care policies. In this Series paper, we summarise the data on migraine epidemiology, including estimates of its very considerable burden on the global economy. First, we present the challenges that continue to obstruct provision of adequate care worldwide. Second, we outline the advantages of integrated and coordinated systems of care, in which primary and specialist care complement and support each other; the use of comprehensive referral and linkage protocols should enable continuity of care between these systems levels. Finally, we describe challenges in low and middle-income countries, including countries with poor public health education, inadequate access to medication, and insufficient formal education and training of health-care professionals resulting in misdiagnosis, mismanagement, and wastage of resources.

**Incidence of migraine.** Epidemiological studies of migraine focus mainly on prevalence; only a few population studies have estimated incidence rates. In a 12-year longitudinal Danish study, overall incidence was 8.1 per 1000 person-years in individuals without migraine initially.<sup>5</sup> People aged 25–34 years (the youngest included) reported the highest incidence rates: 23 per 1000 person-years in women and 10 per 1000 person-years in men. Reported incidence rates declined with age thereafter. In a similar but dissenting 5-year longitudinal Turkish study, incidence was 23.8 per 1000 person-years overall, again higher in women than men.<sup>6</sup> Another approach to estimating incidence uses reported age of migraine onset. This methodology was applied in the American Migraine Prevalence and Prevention Study,<sup>7</sup> which found peak incidence rates at age 20–24 years in women (18.2 per 1000 person-years) and 15–19 years in men (6.2 per 1000 person-years). Nevertheless, median age of onset was marginally lower in women (23.2 years) than in men (25.5 years). Of both sexes, 75% reported onset of migraine before the age of 35 years.

What causes a migraine? The cause of migraines is unclear. Studies suggest that a migraine is caused by swelling of the blood vessels in the scalp and tissues around the brain, causing more blood to pump through the brain. Changes in brain activity and chemicals also appear to play a part. Doctors believe there are ‘triggers’ that bring on a migraine, although finding out an individual’s trigger is not always easy. Some common triggers include:

- Alcohol, especially red wine.
- Flickering lights from a TV or computer screen.
- Heat, light (glare), or noise.
- Chemicals, such as those found in petrol and perfume.
- Cheese, coffee, nuts, chocolate, oranges, tomatoes, some food additives and preservatives.
- Hunger.
- Hormonal changes – periods, hormone pills and menopause.
- Exercise.
- Emotions – stress, excitement or fatigue.
- Relaxation – after a stressful working week, you relax and a migraine attack occurs

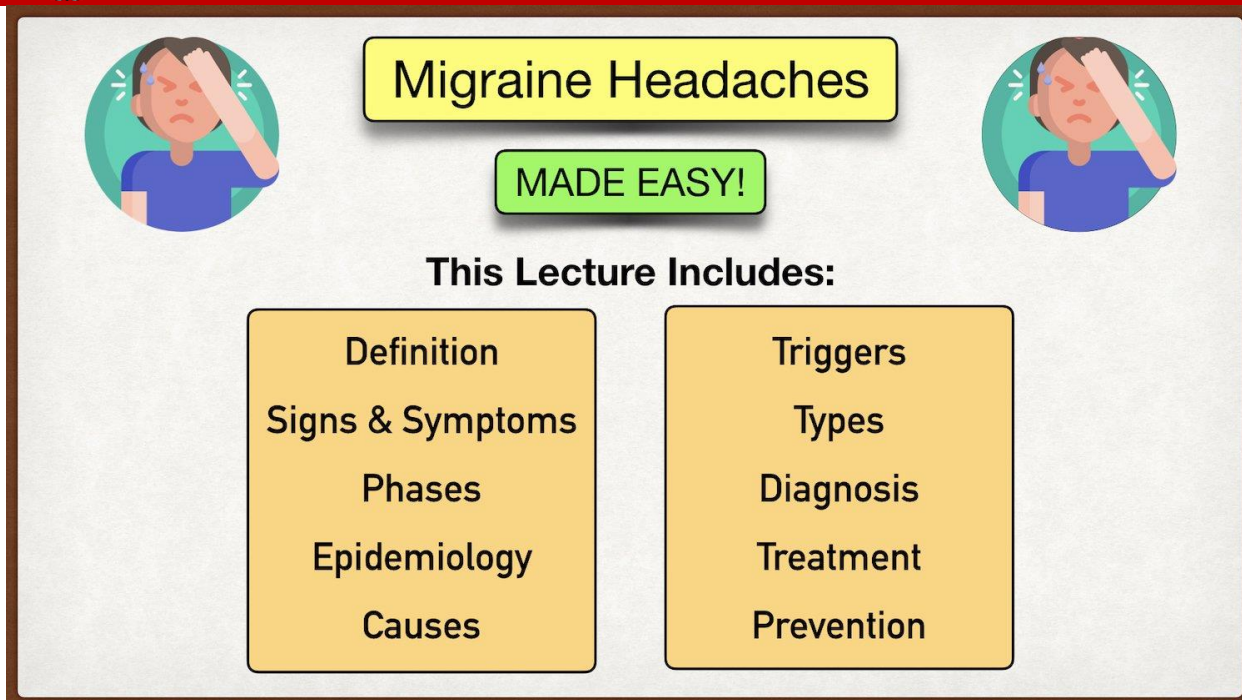


What are the symptoms? Migraine pain can be throbbing, pulsing or squeezing and it gets worse with movement and normal activities. Other symptoms include:

- A warning sign (aura) such as blurred vision, flashing lights, numbness, tingling and funny smells.
  - Nausea and vomiting
  - A dislike for bright lights.
  - A dislike for loud noises. The attacks may be few and far between, or frequent and severe.
- Migraines are often unpredictable

**Treatment.** Migraines vary between people and so does the treatment. There are many new treatments that can be used for an attack. If a migraine is in the early stages, simple medications such as aspirin or aspalgin (contains aspirin and codeine) usually 900 mg (or three tablets) and anti-nausea medication may be enough to provide relief. Tell your doctor or health care professional if you are unable to take aspirin. If the pain is severe, stronger medications (usually intravenous – into the vein through ‘a drip’) and hospital treatment may be necessary. Pethidine is no longer used to treat a migraine as more effective medications are now available. Usually, no tests are needed unless the doctor feels there may be another reason for your symptoms.

**Definition.** In migraine, there are attacks of moderate to severe, frequently one-sided pulsating-throbbing headache which increase in intensity on physical activity. One-third of the patients suffer holocranial headache. The individual attacks are accompanied by lack of appetite (almost always), nausea (80%), vomiting (40–50%), photophobia (60%), sensitivity to noise (50%) and hypersensitivity to certain odours (10%). Signs of activation of the parasympathetic system are observed in up to 82% of the patients, most often mild watering eyes. When the head pains are one-sided, they may change sides during an attack or from one attack to another. The intensity of the attacks may vary markedly from attack to attack. The duration of the attacks, according to the definition of the International Headache Society (IHS), is between 4 and 72 h. In children, the attacks are shorter and may manifest without headache, with only severe nausea, vomiting and dizziness. The localization of the head pain is more often bilateral. Epidemiology Migraine is one of the most common forms of headache. The 1-year prevalence of migraine is between 10% and 15%. Prior to puberty, the 1-year prevalence of migraine is 3–7%. Boys and girls are about equally often affected. The highest prevalence is observed between the ages of 20 and 50. In this phase of life, women are up to three times more often affected than men. The difference in the prevalence between the sexes is greatest at about age 30.



**Migraine Headaches**

**MADE EASY!**

**This Lecture Includes:**

- Definition
- Signs & Symptoms
- Phases
- Epidemiology
- Causes
- Triggers
- Types
- Diagnosis
- Treatment
- Prevention

**Understanding the Migraine Experience:** Migraines are often characterized by intense, pulsating headache pain, accompanied by symptoms such as nausea, vomiting, and sensitivity to light and sound. The article explores the different phases of migraines, including the prodrome, aura, headache, and postdrome, providing insight into the varied manifestations of this condition.

**Mechanisms and Triggers:** The intricate mechanisms underlying migraines involve neurochemical changes in the brain, particularly related to serotonin levels. Triggers, ranging from specific foods and hormonal fluctuations to stress and environmental factors, can precipitate migraine attacks. The article examines how identifying and managing triggers play a crucial role in migraine management.

**Treatment Modalities:** The article provides an overview of both abortive and preventive medications commonly used in managing migraines. Triptans, a class of medications targeting serotonin receptors, are explored, along with other pharmaceutical interventions. Additionally, non-pharmacological approaches, such as lifestyle modifications, stress management, and dietary changes, are discussed as integral components of migraine care.

**Holistic Approaches and Emerging Research:** Cognitive Behavioral Therapy (CBT) emerges as a promising approach in managing migraines, addressing psychological factors and enhancing coping mechanisms. The article explores how a holistic view of migraine management, incorporating lifestyle adjustments, dietary considerations, and alternative therapies, contributes to a more comprehensive and personalized treatment plan.

**Challenges of Chronic Migraine:** Chronic migraine, defined by headaches occurring on 15 or more days per month, poses unique challenges. The article delves into the impact on daily life, employment, and overall well-being, emphasizing the importance of tailored interventions for those with frequent migraine episodes.

**Conclusion:** Migraines are more than just headaches; they are intricate neurological events with far-reaching effects on individuals' lives. This article aims to empower both migraine sufferers and the wider community with knowledge, fostering a better



understanding of this complex disorder and encouraging diverse approaches to migraine management.

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