

Q&A: Why do women suffer migraines more frequently and severely than men?

June 19 2023, by Laura Kelley



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Ten percent of the world's population suffers from migraines, with women suffering from the painful headaches at significantly higher rates than men, according to the *Journal of the American Medical Association*.

For National Migraine Awareness Month, Laura Kelley, media relations professional in the University of Colorado Anschutz Medical Campus Office of Communications, speaks with Danielle Wilhour, MD, an assistant professor in the Department of Neurology at the CU School of Medicine, about how women and men experience migraines differently and [proper treatment](#).

What are the primary differences you see in male and female patients when it comes to migraines?

Migraine is seen more commonly in women, although it can also affect men. Studies have shown that women have a higher likelihood of developing migraines from puberty onward and throughout their lives. Forty-three percent of women and 18% of men have experienced migraines at some point in their lives.

However, newer findings suggest that the risk of developing migraines is 3.25 times higher for women compared to men. These [gender differences](#) in migraines also have an impact on the clinical aspects of the condition. Women tend to experience more frequent, longer-lasting and more disabling [migraine attacks](#) compared to men. As a result, they often seek help from specialists more frequently and rely on [prescription drugs](#) more than men do.

Migraine is considered a significant cause of disability, with women being affected more than men. According to the Global Burden of Disease study in 2015, [migraine](#) ranked fourth in terms of causing years lived with disability for women and eighth for men. This highlights the impact of migraines on women's quality of life.

Women are 1.34 times more likely than men to report severe disability due to migraines. In general, women tend to experience more of the

typical symptoms that come with migraines, such as nausea, vomiting, sensitivity to sound (phonophobia), sensitivity to light (photophobia) and heightened sensitivity to touch (cutaneous allodynia). Women who experience migraines also tend to have more other [health issues](#), particularly related to mental health (such as anxiety and depression).

On the other hand, men with migraines are more likely to have physical health problems like obesity. Additionally, women are more likely than men to seek emergency medical care for severe migraine pain.

Why are migraines typically more common in women than in men?

There are several reasons why men and women experience migraine attacks differently. These include hormones, genetics, how certain genes are activated or deactivated (epigenetics) and the environment. All these factors play a role in shaping the structure, function and adaptability of the brain when it comes to migraines.

Estrogen and progesterone, through different mechanisms, play a role in regulating many biological functions. They affect various chemicals in the brain and may contribute to functional and structural differences in specific brain regions that are involved in the development of migraines. Additionally, [sex hormones](#) can quickly influence the tone of blood vessels, which can predispose people to migraine attacks.

Are treatments regimens for migraines different for women and men? Are some treatments more effective for one over the other?

In general, there does not appear to be a difference on how the genders respond to headache medicines. One study compared four different

triptans (a migraine-specific prescription medicine) and found no significant difference in treatment response at 24 and 48 hours between men and women. However, we know that there are differences on how women and men take medicine. When it comes to [prescription medications](#), women tend to use them more often compared to men.

They are also more likely to use triptans or combinations of drugs. Women are less likely to skip taking their rescue medications when needed. There wasn't a significant difference between men and women when it came to using nonsteroidal anti-inflammatory drugs or ergot derivatives. Interestingly, women are more inclined than men to use preventive treatments to try and reduce the frequency of their migraines.

One gender-specific difference is that there are various treatment options for menstrual migraine. Treatment can include long-acting triptans, such as frovatriptan, NSAIDS and [hormonal therapy](#). Hormonal therapy can be used to regulate hormone fluctuations and prevent menstrual migraines.

Options may include hormonal birth control methods, such as combined [oral contraceptives](#) (containing estrogen and progestin), or progestin-only contraceptives (like the mini-pill, hormonal IUD or implant). In general, estrogen-containing contraceptives should be avoided in women with migraine with aura, as this can increase the risk of stroke.

How do ovulation, pregnancy, menstruation and menopause affect migraines respectively?

Migraines and PMS

As a principle, rapid fluctuations in hormones can trigger migraine attacks, while steady or slow changes can be protective. Thus, the rapid

changes in estrogen during ovulation and menstruation can be a migraine trigger. It's estimated that about 50% to 60% of women with migraines experience menstrual migraines.

These migraines typically occur in the days leading up to menstruation or during menstruation itself. They are believed to be triggered by the drop in estrogen levels that occurs during this time. Menstrual migraines can be more severe and last longer than migraines at other times of the month.

Migraines and pregnancy

Migraines during pregnancy can be variable, but generally tend to improve throughout pregnancy. Most women find that their migraines improve or even disappear during pregnancy, especially during the second and third trimesters. This is partially due to the gradual and steady increase in hormones during pregnancy including estrogen.

However, for some women, migraines can worsen during pregnancy, particularly in the first trimester. This period can be particularly challenging for women as they may also experience morning sickness, making it difficult for them to eat, sleep or stay properly hydrated as they normally would. All of which can be triggers for migraines.

Migraines and perimenopause

Migraines attacks tend to increase during perimenopause and then lower during menopause. During the transitional phase of perimenopause, hormonal changes can trigger migraine attacks in about 50% of women who already experience migraines related to their menstrual cycle. Perimenopause can also bring along other symptoms like sleep disturbances, chronic pain and depression, which can contribute to an

increase in migraines.

During menopause, hormone levels, including estrogen, decrease. This hormonal transition can lead to changes in migraine patterns. Most women experience fewer migraines, and for some there is even complete resolution of migraines after menopause. However, for a minority of women, migraines may persist or even worsen during this time. Hormone replacement therapy or other medications may be considered to manage migraines during menopause, depending on individual circumstances.

At what point in life are migraines usually the worst for women? At what point are they typically the worst for men? Why?

Hormonal changes are believed to play a significant role in the frequency and intensity of migraines experienced by women. Migraines are generally reported to be the worst for men during their early adulthood, particularly in their 20s, 30s and 40s. The reasons behind this are not as well understood as they are for women.

It is believed that genetic and environmental factors, as well as lifestyle choices, may contribute to the higher prevalence and severity of migraines in men during this period. Migraines can fluctuate throughout a person's lifetime, and the severity and frequency of migraines can be influenced by many factors, including stress levels, overall health status and individual differences in sensitivity to triggers.

What are the best methods/practices for anyone who needs to treat a migraine at home? How do you know when it's time to see a neurologist about your

migraines?

When it comes to treating migraines at home, there are several methods and practices that can help alleviate symptoms. Common approaches include: rest in a quiet, dark room, applying ice or heating pads, using over-the-counter pain relievers (ibuprofen, acetaminophen or aspirin). You can discuss with a healthcare provider the best options for you, staying hydrated and using relaxation techniques.

Knowing when to see a neurologist about your migraines can depend on various factors, including the frequency, severity and impact on your daily life. You can consider seeing a neurologist if:

- Your migraines are more frequent than one to two times per week or are becoming more severe.
- Over-the-counter medications are not providing adequate relief.
- Your migraines significantly interfere with your daily activities, work or personal life.
- You experience other additional neurological symptoms in addition to pain, such as vision changes, difficulty speaking or weakness.
- Your headaches change in the way they manifest.

Your primary care provider can also make recommendations for migraine treatment and work up. As always, if you were to experience the worst headache of your life, this should be urgently evaluated in the emergency room.

Provided by CU Anschutz Medical Campus

Citation: Q&A: Why do women suffer migraines more frequently and severely than men? (2023, June 19) retrieved 27 April 2024 from <https://medicalxpress.com/news/2023-06-qa-women->

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