



Women & Headaches January 15, 2013

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Key Facts. Headache disorders are among the most common disorder of the nervous system; approximately 47% of adults had at least one headache within the last year. Headaches are associated with personal and societal burdens, including pain, disability, reduced quality of life, and financial costs. Only a minority of sufferers with headache disorders are diagnosed appropriately; therefore, headache is under-estimated, under-recognized, and under-treated throughout the world. A major barrier to care is the lack of knowledge among healthcare professionals about the extent and treatments available. Only a minority of headaches are ever professionally diagnosed, so most people finally believe it's just something they have to live with.

There are three major types of headaches: migraine, tension-type headache, and medication-overuse headache. They are all of public health importance because they are responsible for high levels of disability and ill-health. 97% of all headaches are benign, but the key is to recognize the other 3%.

Tension Type Headaches are the most common primary headache disorder:

- Affects up to 70% of some populations, more common in women
- Usually stress-related or due to musculoskeletal issues in the neck
- Characterized by tightness or pressure band around the head
- Lower-level, less disabling than migraines
- Episodic tension-type headaches last several hours or days
- Chronic tension-type headaches can be unremitting and more disabling than episodic type

Medication Overuse Headaches are the most common type of secondary headaches:

- Caused by excessive use of medications that are, ironically, used to treat headaches
- Oppressive, persistent, and worse upon waking, sometimes starts with a migraine

Migraine Headaches are the most debilitating.

- Most often begin in puberty, most severe during most productive time in life (age 35-45)
- PET studies indicate that they may be caused by a migraine-generator deep in the brainstem that leads to the release of inflammatory substances around the nerves and blood vessels of the head (which causes the pain)
- Lifelong, characterized by attacks that may be due to external and internal triggers.
- 18-24% of women, 6-9% of men in US experience migraine at some point in their lives
- 2.2% of US population suffers from chronic migraine (migraineurs); 44.5 million US adults.
- Headaches are largely a subjective complaint, so little money has been invested into research, (costs \$581-\$7089 per patient per year to treat)
- 64% of migraineurs have only migraine without aura; 18% have only migraine with aura; 12 % have both types

Genetics of Migraine. They run in families in about two thirds of cases and believed to be polygenetic (caused by multiple genes). Anxiety, depression, and bipolar disorder are co-morbidities. The only single gene disorders are familial hemiplegic migraine and CADASIL, but these are not common everyday causes.

Migraine Attacks feature headache of moderate or severe intensity (much more intense than tension headache), nausea, one-sided pulsating pain (usually with a preference to one side), throbbing, incapacitating, aggravated by routine physical activity, can last hours to days.

Migraine Aura includes flashing lights about 20 minutes before headaches starts, usually moves from one side of visual field to the other; it differs from stroke – positive visual phenomenon, as opposed to a loss of vision (only migraine and seizure cause this positive phenomenon).

Mechanism of Migraine. It is a cortico-spreading depression, described since early 19th century, but the more we study, the more we realize how complicated it is. It begins in the area in the cortex of brain that is excitable externally or internally. Spreading depression in brain eventually causes a slow wave of polarization, triggering a reduction in cerebral blood flow, which eventually causes the pain. Pain takes place long after the process of migraine begins. There are no actual pain structures in the brain itself—the pain is caused by vasoconstriction of the meninges and blood vessels around brain. Migraineurs often know several hours to a few days before a migraine happens because of changes in mood, etc.

Migraine Triggers: Internal: hormones; external: disrupted sleep, skipping meals, caffeine (chronic use worsens migraine), food triggers (chocolate, MSG, alcohol, especially red wine), barometric pressure (well described trigger but poorly understood). Caffeine is a major contributor in the transformation of headaches from episodic to chronic; acutely caffeine helps headaches (if you're not a regular drinker, minimal amount at onset can help), but daily consumption of as little as two cups of coffee or other caffeinated drinks plus analgesics can cause chronic headaches.

Hormones & Headaches. Women may experience various hormonally-related migraines: premenstrual migraine, pregnancy and migraine (migraine improve enormously during pregnancy), menopause (migraines get worse if not well aware of triggers), birth control (variable response, but more positive than initially thought).

Pharmacological Therapy for Migraine. Abortive therapy (to stop a migraine that has already begun): triptans- ergot alkaloids and derivatives; non-specific meds- analgesics, NSAIDS, combination analgesics, opiates, barbiturates. Preventative therapy: propranolol, timolol, topiramate, valproic acid (these four FDA-approved for migraine specifically). Additional preventative therapy includes anti-depressants (amitriptyline, nortriptyline, doxepin), anti-convulsants (topiramate, valproate, gabapentin), botox (good success, just approved for treatment of chronic migraine, but only indicated for people with migraine more that 14 days per month lasting more than 4 hours a day, who have failed multiple other meds); same as cosmetic botox, but also inject the back of the head and neck muscles.

Lifestyle Modifications for Migraine. Aerobic exercise has been proven to be effective for preventing migraine; 40 minutes three times a week helps prevent onset.

Complementary Medicine for Migraine. Biofeedback provides long-term benefits, works well in conjunction with other therapies, involves learning to control bodily functions that are not normally under conscious control. With regular daily practice, 10 weekly sessions, benefits may last up to 5 years. Butterbur (comes from the daisy plant) seems to work, but you have to be careful to get the right type, pyrrolizidine alkaloids are TOXIC TO LIVER, so you have to get PA-free versions. Magnesium can help. Riboflavin seems to work a little but takes a long time to start working (about 3 months). Gluten sensitivity is associated with headaches and many patients say that going on a gluten-free diet improved headaches, but you also have to try for a minimum of a month to see benefits to migraine. Other therapies include: Co-enzyme Q-10 and Feverfew. Consult with a physician before trying any of these!