



Health Matters

Great Smokies Medical Center of Asheville

A small, occasional publication

Volume 7, Issue 3

The Role of Gender in Health and Disease

The following article, originally published in the July 2008 issue of *New Life Journal* (www.newlifejournal.com), is reprinted here with permission. It has been adapted and expanded to fit this space. Note: Although the cultural use of the word “gender” is used to refer to societal and cultural traits and differences associated with each sex, in medical writing, it has historically also been used in reference to biological differences between the sexes. —Ed.



Inequality of the Sexes

From the cradle to the grave, gender’s influence on health flies in the face of any notion of equality.

Size Doesn’t Matter

On average, a male brain weighs nine percent more than a female brain. However, women’s brains have more folding, which increases brain capacity, and a more prominent corpus callosum, the connection between the right and left hemispheres of the brain that allows women to process information more quickly. Men’s and women’s IQ scores are the same overall, but men score more frequently on both the lower and higher ends of the IQ scale than women. Men perform better on spatial questions, while women perform better on verbal skills and reading. Women fare better in emotional intelligence, i.e., the ability to perceive and use emotion in relating to others, an attribute that enhances communication. In addition to helping assure that standup comedians have good material, the biological differences between the sexes synergistically favor survival of the species.

Biology ≠ Destiny

Biology is far from being the only determinant of health and intelligence. Worldwide, variables including economics, education, diet, and sex can either support or undermine biology.

Even though an estimated 115 males are conceived for every 100 females around the globe, approximately 105 males are born for every 100 females due to increased fetal demise of males.

Although outnumbered at birth, females become a majority of the population in their mid-twenties, increasing eventually to 85 percent of the population by age 100. Statistics in industrialized nations in Europe and North America now reveal a decline in male birth rates, a decline linked by some scientists to endocrine-disrupting or “gender-bender” toxins from industrial toxins that seem to be preferentially harder on the Y chromosome. In an attempt to explain these and other gender differences, medical experts point to men’s higher testosterone levels, which are associated biologically with higher “bad” (LDL) and lower “good” (HDL) cholesterol levels (that are linked to increased risk of heart disease and strokes), and to risky, competitive, and aggressive behaviors.

This male vulnerability that starts in the womb is also evident in life expectancy: women outlive men by up to 10 years worldwide (life expectancy is currently 79.8 years for women and 74.4 years for men in the U.S.). Men suffer from diseases that are more quickly fatal, such as heart disease and cancer, while women bear the medical risks of pregnancy and childbirth and live longer with less rapidly fatal health problems, like osteoporosis and autoimmune disorders. This results in men living with the effects of poor health for an average of 12 years and women for 15 years.

However, the longevity gap is narrowing in western nations—a change theorized to be related to women adopting riskier behaviors formerly characteristic of men.



Disease and Gender

Eighty percent of osteoporosis sufferers are women, 80 percent of gout sufferers are men, and 83 percent of thyroid disease sufferers are women. Examples of gender’s influence in health and natural interventions for each follow.

Autism

An estimated 80 percent of children diagnosed with autism or Autistic Spectrum Disorder (ASD) are boys. Autism is a complex developmental disorder characterized by impaired communication and social skills plus narrow, repetitive, and inflexible attention, behaviors and interests. In 2007, the Centers for Disease Control (CDC) reported that one in every 150 children is currently diagnosed with autism. The diagnosis of autism is made by rating behaviors, including disconnection from others, self-stimulation behaviors (hand flapping, rocking, etc.), lack of resiliency to change in routines, and lack of speech.

Natural Interventions: Though the diagnosis of autism is based on behavior indexes, it can be successfully treated with biological interventions. Vitamin B12 can assist detoxification for many autistic children. Digestive and genetic abnormalities in autistic individuals can result in the protein gluten in wheat and the protein casein in dairy products forming mind-numbing, morphine-like compounds (gluteomorphine and caseomorphine) that can perpetuate autistic symptoms. Avoidance of wheat and dairy is essential for some autistics to gain skills and function.

Gallbladder Disease

The “five F’s” used by physicians to describe people most at risk for developing gallbladder disease are “fair, fat, female, forty, and fertile.” (over)

Gender in Health, cont.

Over the span of life, 70 percent of an estimated 20 million Americans who develop gallbladder disease are women. Women's risk factors include the use of birth control pills, estrogen prescribed without monitoring blood levels of estrogen and its metabolites, and pregnancy. Women on weight loss diets, especially those who cyclically "yo-yo" or "crash" diet, are at increased risk for developing gallstones.

Natural Interventions: In addition to avoiding a diet rich in fat, sugar and refined foods, eating more whole foods with a focus on nutrient-dense, brightly colored vegetables is recommended. As reported in the American Journal of Gastroenterology, magnesium deficiency increases the risk of gallstone formation by 30 percent. Taking magnesium supplements can slow gallstone formation, as can supplementation of fish oil and the amino acid taurine. Eating foods to which one is allergic can also result in swelling of the gallbladder ducts, increasing the likelihood of a stone becoming lodged in a duct. Though any food can be a culprit, the most common suspect foods include eggs, pork, onions, citrus fruit, corn and nuts.

Heart Disease

Gender differences in the ways heart disease symptoms present are becoming more apparent following decades of research primarily conducted on men. Women have a lower risk of heart disease than men early in life, but these risks are the same after menopause. Unlike the classic symptoms of crushing chest pain that radiates down the arm and sweating often experienced by men having heart attacks, women may have a very different symptomatic presentation, including unusual fatigue, shortness of breath, sleep disturbance, indigestion, anxiety and arm heaviness or weakness. These more subtle symptoms risk being misinterpreted as "stress," delaying the diagnosis of serious heart disease.

Rather than the localized obstruction along the course of coronary arteries commonly seen in men, women are more apt to have plaque evenly distributed in their arteries, a type of obstruction not as readily apparent on tests traditionally used to diagnose coronary artery obstruction and not as amenable to being treated with coronary artery bypass or stent placement.



Natural Interventions: In addition to the lifestyle modifications recommended to reduce heart disease risk (smoking cessation, exercise, weight control and a healthy diet), limiting dietary sugar (that increases insulin levels) is encouraged as a strategy to limit insulin production. Chronically high insulin levels result in the storage, rather than burning, of body fat and also in the thickening of the lining of arteries (endothelium), which can set the stage for heart disease. The underlying cause of blockages in coronary arteries is inflammation, which can be decreased by eating oily fish (e.g., salmon, herring, mackerel and sardines), fish oil, and antioxidants.

Change of Life

Menopause, women's change of life that occurs when the ovarian production of estrogens and progesterone decreases, is far better researched than its male equivalent, andropause, which results from decreased testosterone production. Menopause and andropause differ in that women relatively abruptly become unable to bear children when their menstrual periods cease, while men experience a far more gradual decline of testosterone production, allowing them to father children into the later decades of life. Men are far less apt to seek medical remedies for the decline in sex hormones and its associated problems than women. Nevertheless, both men and women are at risk for developing unhealthy ratios of sex hormones that result in estrogen excess or imbalances.

Natural Interventions: Cruciferous vegetables (broccoli, cauliflower, kale, cabbage, mustard greens, brussel sprouts and collards) contain a chemical called indole-3-carbinol (I3C) that converts in the body to di-indolemethane (DIM). DIM plays an important role in reducing the conversion of men's testosterone to estrogen later in life and also stimulates healthy estrogen metabolism in women. While "good" estrogen metabolites promote vitality and health and protect the heart and brain, "bad" estrogen metabolites have been shown to promote obesity and cancer. Some individuals may benefit from an assessment of their hormonal status by a physician trained to assess and treat health problems associated with the change of life.



Alzheimer's Disease/Dementia

Greater longevity is a factor that contributes to women being diagnosed with 63 percent of all cases of Alzheimer's disease and dementia. These age-related degenerative brain diseases are characterized by memory loss, confusion, hallucinations, and agitation that can seriously impact the quality of life for an entire family. While men with Alzheimer's disease tend to wander more and be more socially inappropriate, women tend to refuse help, and are less stable emotionally and thus more apt to experience anxiety and depression.

Natural Interventions: Identifying and correcting hormonal imbalances (notably estrogen and thyroid) can boost cognitive function. High dose vitamin B12 has been shown to improve cognitive function. Other nutrients been shown to enhance cognitive function and help manage inflammation, including fish oil, phosphatidylserine, phosphatidylcholine, resveratrol, curcumin, carnosine, and vitamins D, B complex, C, and E. Detoxifying known neurological toxins, notably mercury, lead, and aluminum, may improve cognitive function. Because prescription drugs can contribute to cognitive decline, physicians should review their patients' drug regimens to determine which, if any, drug therapies can be discontinued or changed to less troublesome alternatives.

In Summary

Even though men are overall stronger, faster, taller and leaner than women, the vulnerability of each sex to various health problems challenges our notions that one sex could accurately be called the "weaker sex."

Gender aside, most health risks are modifiable by implementing simple lifestyle choices. Applying healthy strategies such as eating whole foods including ample fresh vegetables, limiting exposure to chemical toxins (e.g., tobacco smoke, pesticides, household chemicals, industrial pollutants), and seeking out natural solutions that boost health and support biology may deter the onset of or even prevent illnesses and diseases.

All content in this newsletter is intended to be informational and is not to be taken as medical advice or to replace medical care.