



UNIVERSITY of WASHINGTON

Center for
Genomics and Public Health

Spotlight



MAY 2011

<http://www.uwcgph.org>

May is Mental Health Awareness Month

Depression: Symptoms & Impact

Your mental health is an important part of your overall well-being. Mood disorders, which include depression, can increase a person's risk for heart disease, diabetes, and other medical conditions. About 1 in 10 American adults has a mood disorder. The two most common types of depression are major depressive disorder (MDD), also called clinical depression, and dysthymic disorder, a milder form of depression.

What is Depression?

Depression is an illness that significantly affects a person's lifestyle, according to the National Institute of Mental Health. It is not

Symptoms of Depression

- Persistent sadness
- Feeling anxious, guilty, worthless, or helpless
- An inability to get pleasure from activities that used to be enjoyable
- Difficulty concentrating
- Low energy
- Difficulty sleeping or oversleeping
- Changes in appetite or weight
- Thoughts of suicide
- Persistent physical symptoms that do not respond to treatment, such as headaches, digestive disorders, and chronic pain

a passing mood; the symptoms often persist, especially if left untreated.

When someone is depressed, that doesn't mean they just feel "down" or "blue." We all have periods of sadness, and often our sadness is an appropriate response to a situation. However, when those feelings last for an extended period of time they can impact a person's life in profound ways.

Depression can include persistent feelings of sadness, anxiety, and worthlessness. These feelings are often accompanied by a prolonged disinterest in normal activities or an inability to perform responsibilities at home or at work.

Many people across the United States experience, or have experienced, MDD. The average age when MDD starts is 32, though it can affect people at any age. The National Institute for Mental Health reports that 16.5% of U.S. adults will have MDD at some point in their life—that's one out of every six Americans.

The Causes of Depression

Although no one knows exactly what causes it, researchers have found a number of things that may increase the risk of developing depression, including:

Family history: Some types of depression tend to run in families. Scientists are looking for specific genetic factors that may be involved.

Brain chemistry: Depression can occur when chemicals (neurotransmitters) in the brain are imbalanced.

Major life events: Trauma, illness, the death of a loved one, financial worries, job loss, and other significant events can trigger depression.

Psychological factors: People with low self-esteem and those who feel easily overwhelmed by stress are more prone to depression.

Chronic illness: Depression can also be a symptom of other chronic health conditions, such as heart disease, stroke, diabetes, and cancer.

Family Health History

Scientists believe that people with a family history of depression may inherit a genetic predisposition, or susceptibility, to developing depression. This is why it is important to gather your family health history—for example,

Genomics and your health

knowing whether any of your close relatives (e.g., parents and siblings) have been diagnosed with depression. If depression runs in your family, you may be at a higher-than-usual risk for depression as well.

Knowing your family health history can help you and your doctor understand your risk of developing depression and help you identify possible signs or symptoms. Family health histories are a useful way to understand not only depression, but disease patterns in your family in general. If you'd like to create a family history, check www.hhs.gov/familyhistory/.

Treatment for Depression

The good news: depression is treatable. The American Psychiatric Association reports that 80 to 90 percent of people who seek treatment will eventually respond well. Treatment options may include psychotherapy (talk therapy) with a trained mental health professional, behavioral therapy, such as regular exercise, antidepressant medicine, or a combination of these treatments.

Antidepressant Medications & Genes

Antidepressants work to correct a chemical imbalance in the

brain. Since a particular medication or dose that works for one individual may not work for another, health care providers generally start by prescribing a low dosage. They then adjust the drug and dosage based on the patient's response.

Pharmacogenomics is the study of how genetic variations affect the body's ability to process drugs. Knowing a person's genetic makeup could one day help doctors prescribe doses more precisely. Pharmacogenomics offers potential for individualized treatment plans, although research is still in its preliminary stages. See the sidebar on EGAPP's recommendations for more information.

Researchers are currently examining cytochrome P450, or CYP450, which is a super-family of enzymes that break down and metabolize drugs in the body. How effectively the enzymes work depends on a number of factors, including the patient's gene variations, other medications, diet, and overall health.

Thus, the same dose of a drug may be effective for one person, ineffective for another, and potentially toxic to yet another. Researchers hope to learn how the genes that influence the CYP 450 family affect the way

individuals process drugs prescribed to treat depression.

Depression & Genetic Testing

People experiencing depression may or may not be helped by medication designed to balance brain chemistry (selective serotonin reuptake inhibitors, or SSRIs). Tests can analyze a patient's CYP450 for genetic variations (polymorphisms) that indicate whether SSRIs will be effective.

EGAPP, a group funded by the U.S. Centers for Disease Control and Prevention, studied the relationship between patients' clinical outcomes and use of the CYP450 test. EGAPP did not find enough evidence to recommend for or against the use of the test. Without sufficient evidence, "EGAPP discourages use of CYP450 testing for patients beginning SSRI treatment until further clinical trials are completed." (EGAPP Recommendation Statement. Recommendations from the EGAPP Working Group: testing for cytochrome P450 polymorphisms in adults with nonpsychotic depression treated with selective serotonin reuptake inhibitors. *Genetics in Medicine*. 9(12):819-825, December 2007.)

If You Suspect Depression

1. Visit your doctor, psychologist, or other medical professional. If they aren't an option for you, call a local crisis line or mental health organization for references. Social workers, area clinics, and libraries could also offer good resources.
2. Take care of yourself. Eating balanced meals, exercising regularly, asking friends for extra support, and sleeping regularly are very important.
3. Find out more about depression .
4. Take depression seriously. Call 9-1-1 or a local crisis line if your depression feels urgent or you have plans to harm yourself.
5. If a friend seems depressed, let them know you can offer support and assistance with finding resources.

Depression Resources

National Institute of Mental Health:
<http://www.nimh.nih.gov/health/topics/depression/index.shtml>

National Alliance on Mental Illness:
<http://www.nami.org/>

American Psychiatric Association:
<http://www.psych.org/>