



## **CAUSES OF DEPRESSION**

### **A COMBINATION OF CAUSES**

Most scientists believe that the cause of clinical depressive disorders is related to at least three factors: genetics, biochemistry and life events. Although the exact role played by these factors is not yet fully understood, substantial progress has been made in treating the symptoms, offering hope for at least 80 percent of those with a depressive disorder.

### **GENETIC FACTORS**

Studies of families with histories of high rates of depression have led scientists to conclude that vulnerability to the illness could be inherited or passed on through the genes from one generation to another.

Recently, direct evidence of genetic vulnerability to a serious form of depression, called manic-depressive illness has been found: family members with the disorder were shown to have genes different (in a specific areas of the cell) from those who were not ill. The different genes, while not necessarily the cause of the illness, may serve as an indication of a genetic abnormality that causes the illness. For this reason the genes are called “genetic markers.”

Long before sophisticated gene-mapping techniques provided evidence for genetic vulnerability, research with twins indicated that inheritance plays a role. Scientists have shown that if one identical twin suffers from depression; there is a 70 percent likelihood that the other will also be affected. Among non-identical twins, however, the risks decrease to about 25 percent.

Since identical twins have all their genes in common, and non-identical twins have only half their genes in common (as in siblings), the rates attest to genetic involvement.

### **BIOCHEMICAL FACTORS**

Almost 30 years ago, scientists observed that certain medications had strong mood-altering properties. The implications of these observations—that mood disorder such as depression could be a function of a biochemical disturbance—prompted clinical and laboratory studies that revolutionized the concept and treatment of mental illnesses.

Since then, several types of medication have been developed and successfully used to treat the symptoms of depression, with new ones being developed and tested regularly.

How these medications work is being intensively studied. Central to most theories is the role of neurotransmitters—“chemical messengers”—that convey electrical signals from one nerve cell to another. This chemical signaling sets in motion a complex interaction in the nervous system that affects behavior, feelings and thought.

It's now believed that depressive and manic episodes are associated with improper functioning of particular neurotransmitters. Originally it was thought that depression was caused by deficits in two such neurotransmitters—nor epinephrine and serotonin—at critical locations in the nervous system and that an excess of these neurotransmitters caused mania.

More recently, it has become evident that a third transmitter, dopamine (and possibly others), may also be involved in mood disorders.

It's not yet known whether these “biochemical disturbances” arise on their own or whether they're caused by some combination of stress, trauma genetics and other conditions.

## **LIFE EVENTS**

Personal losses, financial problems, physical illness, midlife crises, sex role expectations and “psychosocial” phenomena such as personality, upbringing and negative thinking styles have been cited as contributors to depressive illness. These factors, arising outside the body and brain are often called “environmental” factors.

Any change, serious loss or stress—divorce, the death of a loved one or the loss of a job—can trigger depressive feelings. In most cases, such feelings are temporary, but some people—who may have a pre-existing genetic or biochemical vulnerability—develop a depressive illness.

Trying to sift apart the environmental, biological and genetic causes of depressive illnesses is extremely complex. Confusion about terms—depressive *feelings* vs. depressive *illness*—adds to the problems.

For example, depressive feelings and demoralization are certainly more common among the poor, the deprived and those lacking social supports and yet it's not clear whether depressive illnesses are more prevalent among victims of such environmental stressors.

On the other hand, studies show that women are at greater risk than men for major depression at every age. In contrast, manic-depressive illness—much less prevalent than major depression—occurs about as frequently in women as it does in men. Whether this is because the biochemistry of women is different than men or because they're subject to more environmental stress, or for some other reason, is not yet known

## **Contact these organizations for additional information:**

- **Mental Health America** (800) 969-6MHA (703) 684-7722
- **National Depressive and Manic-Depressive Association** (312) 642-0049
- **National Foundation for Depressive Illness**
- **National Alliance for the Mentally Ill** (703) 524-7600
- **Depression/Awareness, Recognition and Treatment Program** National Institute of Mental Health (301) 443-4140