

HEALTH AND STRESS

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STRESS, DEPRESSION, AND SUBTLE ENERGIES

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"Stress" and "depression" are terms often used to describe specific subjective moods or feelings. They may be difficult to define, since they can have a different connotation for others. This is particularly true for stress, which is a highly personalized phenomenon that really does differ for each of us.

A good illustration of this might be obtained by observing the varied reactions of passengers on a steep roller coaster. Some can't wait for the terrifying ride in the torture chamber to end so that they can get back on solid ground and scamper away. For others, it is an exhilarating, enjoyable thrill, and they race to get on the very next ride. And you may also see a few with an apparent air of nonchalance that seems to border on boredom, suggesting that the experience had little effect one way or the other.

Like stress, depression is really more of a description, as opposed to a definitive diagnosis. It is a subjective state that can have different manifestations, as well as causes. That helps to explain why so many different treatment options are available, with no way to accurately predict which will work best.

Subtle energy is an increasingly popular "buzz" phrase that is also hard to define. Exactly what makes an energy "subtle"? This adjective is often used to describe something that is faint (an odor or taste), or someone who is crafty (sly, insidious, deceitful), or discriminating (shrewd, perspicacious, sophisticated). Subtle is derived from the Latin *subtilem*, a very fine web such as that woven by a spider, with a texture so delicate that it could escape detection.

When subtle (subtile) was used to describe immaterial things in Shakespeare's day, it meant abstruse, elusive, deceptive, intricate, not easily grasped or understood, and implied something rarefied, or of such a thin consistency that it had penetrating properties. It is these attributes and qualities that are currently most appropriate for our current appreciation of how subtle energy therapies can alleviate depression. These novel approaches seem to be safer and more effective for many patients. Discovering how they work may also provide important insights into the nature and causes of this debilitating disorder.

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What Causes Depression?

Everyone feels down in the dumps on occasion, and it would be abnormal not to be depressed following the loss of a loved one. However, about 40 million people feel that way all or most of the time, or have recurrent bouts of depression. Depression is one of the most prevalent illnesses in both sexes. It can be chronic or persist for lengthy periods, and then disappear for no apparent reason. Relapses and recurrences after months or even years of being symptom free are frequent, and often precipitated by some stressful event.

Symptoms can vary. In one nationwide survey, more than one respondent in five reported being significantly sad, bored, lonely, restless, or upset in the preceding two weeks, with five percent complaining of three or more of these feelings. Men were more likely to list being restless, while feeling lonely or upset were more frequent in females.

Depression is almost twice as common in the gentler sex, and approximately one in four women will suffer a major depressive episode at some time in their life, compared to only one in seven men. The reason for this is not clear, but some believe it is related to the rapidly changing and often nebulous nature of women's role in society, and the frustration and anxiety that this can engender.

Certain characteristics such as low self-esteem, a sense of having little control over life events, and a predisposition to excessive worrying and pessimism seem to foster the development of depression. These traits may heighten responses to stressful events or interfere with appropriate coping responses. Teen age high school girls are more likely to experience depression than boys, as well as associated eating disorders like anorexia and bulimia. Some believe that the traditional upbringing of girls may contribute to this.

Depression is more common in separated and divorced individuals, but the highest rates are seen in women who are unhappily married. Sexual or physical abuse, and widowhood are also risk factors. Depression that occurs on a seasonal basis is four times more common in women than men. Manic-depressive illness affects both sexes equally, but women tend to have more severe symptoms of both elation and depression, and more rapid cycling of these mood swings.

Hormonal influences seem to play an important role. Some women tend to become depressed just prior to their menstrual period and protracted post partum depression following pregnancy is not uncommon: "Involuntary melancholia" was also a popular diagnosis in the early days of psychiatry. This referred to the onset of depression frequently associated with "change of life", or menopause. Estrogen replacement therapy given to alleviate hot flashes, night sweats, and other vasomotor symptoms, often improves menopausal mood disturbances and depression.

However, no consistent correlation has ever been demonstrated between estrogen levels and depression. In addition, studies reveal that postmenopausal depression is more likely to be associated with stressful life events, such as the death of a loved one, and a prior history of depression. Negative beliefs about menopause are another factor. There are significant sociocultural differences; menopausal complaints and depression appear to be more frequent and severe in well developed countries, and among more affluent individuals.

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The body's primary endocrine response to stress involves activation of the hypothalamic-pituitary-adrenal (HPA) axis, resulting in increased levels of cortisol. In many depressed patients, normal HPA regulatory mechanisms are disrupted, cortisol levels are elevated, and remain high, even when powerful synthetic steroids like dexamethasone are administered. Failure of dexamethasone to suppress elevated cortisol levels is often used as a diagnostic test for unexplained depression. It has been proposed that estrogen reinforces HPA activities to keep cortisol levels normal. In postmenopausal women, this protective effect is lost because of estrogen deficiency, so that higher levels of cortisol are often seen unless replacement therapy is given.

Women are more apt to develop hyperthyroidism and autoimmune thyroiditis, and there are also disturbed pituitary-thyroid regulatory feedback mechanisms in depression. Many depressed as well as manic patients show elevated thyroid hormone levels, and there may be abnormal responses to thyrotropin-releasing hormone. This forms the basis for the TRH test which is also used as a diagnostic aid for depression.

Altered levels or imbalances in brain neurotransmitters are frequently seen in depression. A reduction in serotonin is thought to be responsible for the insomnia, irritability, and anxiety often seen in depressed patients. Popular antidepressants like Prozac and Zoloft boost serotonin levels by inhibiting mechanisms that normally remove it. One study in healthy men and women showed that men produced 52 percent more serotonin than women, which might explain why depression is more common in women. Fatigue and depressed mood may be due to a decreased amount of norepinephrine, a stress related hormone which increases arousal and alertness.

There are also genetic factors. If one identical twin has depression, the other will also develop symptoms more than 75 percent of the time. The incidence is one in four in other twins, siblings, and parents. Blood relatives of adopted depressed patients are three times more likely to be depressed than others.

Depression And Heart Disease

Numerous studies have shown that depressed people are more likely to have heart attacks and other coronary events. Conversely, many people who develop heart disease subsequently become depressed. What researchers would like to determine is which comes first? Does depression cause heart disease, or does heart disease cause depression? What are the mechanisms involved, and more importantly, how can such links be broken?

Scientists first became aware of these connections more than two decades ago, when it was found that 1.5 to 3 percent of the general population could be classified as depressed at any given time. However, the percentage was six times higher in patients with heart disease. In addition, although one out of every six people in the general population had some history of a clinically significant episode of major depression at some time in their lives, this tripled to 50 percent in patients with heart disease.

More recently, studies all around the world have confirmed this link between depression and coronary heart disease. Canadian researchers followed over 200 acute heart attack patients, and found that those who were depressed were four times more likely to die within the next six months compared to non depressed controls. They concluded that depression was just as accurate at predicting impending mortality as standard risk factors such as a prior heart attack or poor cardiac function. U.K. researchers who followed 673 men and 551 women found that men who had been diagnosed with depression within the past 10 years had triple the risk of developing heart disease than others. A U.S. report similarly showed that patients just diagnosed as having coronary artery disease and who were depressed, were twice as likely as those not depressed to experience a heart attack or require bypass surgery within the next 12 months.

Depression tends to be common in older individuals who are also at greater risk for coronary artery disease. This is particularly true for older women deprived of the protection provided by menses and estrogen.

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A study of approximately 4000 men and women aged 70 and older by researchers at the National Institute on Aging reported that older men who became significantly depressed for the first time were twice as likely to develop symptomatic heart disease over the next five years than healthy controls. Curiously, this sequence of events was not found to be statistically significant in women.

One reason might be that women in this age group would have been more likely to have had a higher incidence of both depression and symptomatic heart disease in the prior two decades following menopause. It should be noted that increased iron stores are believed contribute to the development of coronary heart disease and heart attacks. The decreased incidence of heart attacks in premenopausal women compared to men the same age is thought by many to be due in part to the periodic depletion of iron during menstruation. Following menopause, this ceases abruptly, and along with the fall in estrogen levels, may set the stage for the appearance of symptomatic heart disease. Therefore, women who reached the age of 70 without having experienced either postmenopausal heart disease or depression would represent a cohort relatively resistant to both because of better coping skills, genetic, or other factors. The male and female groups were thus not comparable, since the most susceptible females may have been weeded out. Some of these elderly females may have been receiving estrogens, which also could have provided protection.

Distinguishing Cause From Effect

The coexistence of depression and heart disease, as well as stress, depression, and heart disease, raises the chicken and egg question of which came first. This is particularly true when trying to unravel the links between stress and depression. While there is good evidence that excess stress can cause depression, being depressed is also stressful. When patients present with obvious signs of both anxiety and depression, it may be difficult to determine which came first, whether both stemmed from the same stressful situation, or had completely different origins. When confronted with a

One way to solve such dilemmas is by a long term prospective study, in which healthy individuals are interviewed and thoroughly examined at an early age to evaluate their physical and mental health. They are subsequently monitored periodically by collecting similar data as well as information on changes in lifestyle habits and psychosocial stresses known to have health consequences. Such information is now available from a unique study, which shows that even mild episodes of depression can increase the risk for coronary artery disease ten or fifteen years later.

The Johns Hopkins Precursor Study was initiated by Dr. Caroline Thomas almost four decades ago, in an effort to determine whether certain personality characteristics or emotional states predisposed people to the development of hypertension. This had been suggested by various pioneers in psychosomatic medicine based on personal observation. Retrospective studies in patients with established essential hypertension also seemed to show a preponderance of certain common behavioral traits.

Caroline Thomas was one of the pioneers in female medicine and always questioned what most of us accepted as dogma. My recollection is that after surgery for cancer of the breast, she discovered that this particular type of malignancy tended to have a high correlation of involving both breasts. Although there was no indication of this, she had her healthy breast removed as a prophylactic measure. At the time, this seemed rather radical, if not ridiculous to many, and a few thought it was tantamount to malpractice. However, this preventive surgery is now recommended for this cancer, which is often multifocal.

Her husband, Henry Thomas, was a superb clinician and teacher who exemplified the Osler tradition. He had a special interest in the causes of essential hypertension, and believed it was related to emotional factors. I was fortunate to get to know both of them quite well during my internship and residency at Johns Hopkins. They were fascinated when I told them about my Fellowship with Hans Selye and his research studies on the role of stress in hypertension and heart attacks.

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It was obvious that mental and physical stress caused a prompt elevation in blood pressure. This could be demonstrated by immersing a hand in ice water (so-called "white coat" hypertension.) The \$64 question was whether abnormal hypertensive responses to such challenges or chronic excessive stress could produce sustained hypertension. Selye had demonstrated this, as well as accelerated atherosclerosis and coronary artery disease in rats subjected to prolonged exposure to blaring noise or bright lights after their eyelids had been sewn back. However, such stressors were rarely encountered by humans. The prognostic significance of abnormal blood pressure responses to the types of daily stress we encounter was and still is a controversial subject, although the link with coronary artery disease appears to have been confirmed.

Caroline reasoned that she could resolve the problem by means of a long term prospective study on Johns Hopkins Medical Students. She already had detailed medical information about them, they were available to obtain additional data about their emotional status, and as physicians, could likely be relied upon to participate in follow-up studies and questionnaires. In the early 1960's, she embarked on her unprecedented Precursors Study to determine the role of heredity, emotions, stress, and environmental influences on the development of essential hypertension.

She subjected the medical students to an additional exhausting battery of psychological tests, including figure drawing and Rorschach ink blot interpretations, and conducted in depth interviews not only with them, but also family members and friends who agreed to be of assistance in this unusual project. Participants were subsequently contacted periodically to obtain follow-up information on physical and mental health status.

Funds for this type of long term research that would not bear fruit for decades was difficult to obtain. However, Joel Elkes, Chairman of the Department of Psychiatry at Johns Hopkins, and formerly President of The American Institute of Stress, came to the rescue.

The Precursors Study confirmed the important roles that personality, behavioral traits, and responses to stress in the development of hypertension. The advent of the computer has now made it possible to also study the links between these and the likelihood of future heart attacks, peptic ulcer, certain cancers, schizophrenia, suicide, and depression.

Researchers recently reported their findings on a group of 1190 men who had been enrolled in Johns Hopkins medical school between 1948 and 1964. In the 35 or more years of follow-up, 12 percent reported having experienced at least one bout of significant depression. These individuals were more than twice as likely to have had a subsequent heart attack or evidence of symptomatic coronary heart disease than their non depressed classmates. Both groups were at similar risk based on family history, blood pressure, cholesterol levels, smoking status, and physical activity. Female physicians also showed a depression-heart attack link, but the results were not statistically significant because only 109 were enrolled in the study.

How depression can lead to heart disease is not clear. Some studies show that depression is associated with a decrease in heart rate variability and baroreceptor reflexes that allow the heart to adapt to stressful challenges. There are also effects on the sympathetic nervous system and increased secretion of stress related hormones known to cause cardiac damage. Although four out of five physicians in this study had received appropriate antidepressants or psychotherapy, they were just as likely to develop heart disease as those who were not treated; some antidepressant drugs may cause disturbances in heart rhythm or be harmful to the heart if taken for prolonged periods, and this might be a factor. It is also possible that heart disease and depression have similar roots but different incubation periods.

Much more research is required to determine whether treating depression or correcting the neuroendocrine disturbances that often accompany it will help prevent the development of coronary heart disease, and perhaps other disorders as well.

Depression And Other Diseases

Widowed individuals die at rates three to nine times higher for the ten leading causes of death during the year following loss of a spouse than non depressed married controls. Men seem to be affected more than women, possibly because their life style changes so abruptly. However, depression greatly increases the risk of death in older women, according to researchers who tracked 7500 over the age of 67 between 1988 and 1994. They found that those who were depressed had almost a 50 percent increased risk for death due to all causes, and were 80 percent more likely to die of heart disease. Depression has been linked to higher rates of hypertension, irregular heart rhythms, and increased clotting tendencies, all of which predispose to strokes, as well as heart attacks.

Dozens of recent studies suggest that depression can influence the onset and course of other diseases, including asthma, diabetes, and cancer. Depression lowers immune system resistance to malignant growth, and has been linked to the onset and accelerated course of lung, breast, cervical, lymphoid and other cancers. The brain and central nervous system have direct hard wired connections to the immune system, and there are also complex neuroendocrine communication pathways. The more researchers explore the impact that depression and stress have on microsystems in the body, the more connections they find.

Having a heart attack or cancer can also cause depression, which can initiate a vicious cycle that worsens the condition. Women are twice as likely as men to become significantly depressed following a heart attack, and this may have serious consequences. A recent study revealed that such individuals had triple the death rate and incidence of cardiac complications such as rhythm disturbances, a second heart attack, and need for bypass or other surgery compared to others who were not depressed. One explanation may be that depressed patients are less likely to eat properly or engage in regular exercise, and more apt to skip or abuse medication and smoke.

Stress and depression can also interfere with response to treatment. In one recent report, 200 patients who underwent cardiac catheterization to determine the extent of obstructive disease were asked questions about their ability to perform normal daily activities. Immediately following the procedure they completed questionnaires designed to measure levels of anxiety and depression. They were then treated with either medication, or a surgical procedure, depending on the findings.

Severely blocked arteries hindered patients much more than less obstructed ones, as one would anticipate. One year after treatment was instituted, the original severity of artery blockage no longer correlated with ability to perform daily activities, which had returned to normal in most subjects. However, this ability remained significantly impaired in patients who had been even mildly depressed at the time of catheterization, regardless of the degree of obstruction or the type of treatment received.

There may be other explanations for the depression-heart attack link. Electrocardiographic monitoring studies have revealed evidence of restricted blood flow to the heart in the hour following high levels of sadness. There may also be a disruption in the ability of the autonomic nervous system to maintain the variation in the time interval between heart beats due to respiration normally seen in healthy hearts.

A reduction in this type of heart rate variability is associated with a greater risk of coronary events and sudden death. Heart attack patients who show a reduction in normal heart rate variability have poorer outcomes and higher death rates. Decreased heart rate variability is frequently seen in depression, possibly due to decreased parasympathetic input.

Some antidepressant drugs also reduce this physiologic variation, and might put depressed heart attack patients at increased risk for sudden death. Because of this, there has been renewed interest in electroconvulsive shock treatment, which increases parasympathetic activity. Subtle energy approaches may be more effective and are much safer.

Subtle Energy Therapies For Depression

The prevalence of major depression has steadily increased in all age groups over the past few decades. It is now the most common chronic condition seen by primary care physicians and is present in five to nine percent of patients. It is not only common, but costly, due to direct medical expenses for treatment, hospitalization and institutional care, as well as increased absenteeism and diminished productivity.

The condition frequently goes unrecognized, and only one out of three women with significant depression ever seek medical attention. Doctors often fail to make the correct diagnosis, or prescribe sedatives and tranquilizers which often makes it worse. More than one out of six patients with a history of hospitalization for depression will eventually commit suicide. Among the 1.5 percent of Americans who take their own life each year, depression is the cause in at least half.

Unfortunately, the treatment of depression has been mired in misunderstanding. For years, psychiatrists debated whether the illness was caused by biologic or behavioral factors. As indicated, part of the problem is that depression is a description rather than a discrete diagnosis. It can have multiple causes, which is why so many treatment options are available, including monoamine oxidase inhibitors, tricyclic and tetracyclic antidepressants, selective serotonin uptake inhibitors, lithium, electroconvulsive and insulin shock therapy, etc. There is no way to know which works best for any given patient, and a recent report indicates that popular drugs like Zoloft and Prozac are no more effective than the older medications they have largely replaced.

Of particular interest has been the finding that medications like Dilantin given to reduce epileptic seizures are beneficial for some types of depression, and valproic acid has been approved for the treatment of bipolar disease. These drugs are sometimes referred to as "membrane stabilizers", since they are believed to correct disruptions of the normal electrical gradient across the cell wall, possibly by influences on ionic flux. This is an important observation, since it supports a rationale for subtle energy therapies that may operate in a similar fashion.

Acupuncture And Music

Acupuncture may reduce or eliminate symptoms of depression "at rates comparable to those of psychotherapy or pharmacotherapy," according to one study. Researchers evaluated levels of depression in women who received either acupuncture or no treatment for a period of 8 weeks. The study was designed to minimize the influence of the placebo effect, since patients may respond to a therapy simply because they believe it will be effective. The acupuncture group received either treatment specifically targeted to relieve depression, or standard acupuncture therapy for other common complaints, such as low back pain.

They found that "following treatment specifically designed to address depression, 64% of the women experienced full (symptom) remission." The remission rate of patients receiving this targeted treatment for depression was nearly double that in those who received nonspecific acupuncture therapy, and much higher than that of women receiving no treatment. As an official from the American Psychological Society commented, this degree of improvement "is comparable to that seen in randomized clinical trials of antidepressant medication or psychotherapy." The mechanism of action is obscure, but traditional acupuncturists contend that their technique rectifies energetic "imbalances" between *yin* and *yang* forces in the body that can cause disease.

Music can be utilized to elevate mood and provide a feeling of stimulation, as with national anthems and John Philip Sousa marches. Melody, tempo, and syncopation, may all play a role, and we have had several presentations at our Montreux Congresses to illustrate this. Perhaps the most impressive is the classical composer Peter Hübner's Medical Resonance Music Therapy. These computer generated compositions based on Pythagorean principles have been shown to have powerful stress reducing properties in numerous hospital and clinic studies over the past decade, and can also be utilized to relieve pain and bolster immune defenses.

Light, Bioelectromagnetic, Aromatherapy, And Other Subtle Energy Approaches

People tend to become depressed during the winter because of less exposure to light rather than the cold weather. Patients who suffer severely from this improve if they are exposed to bright white light for a half hour or so when it is dark out. Trials in Europe, Japan, and the U.S. now confirm that bright light is also beneficial in treating nonseasonal depression. Patients often improve within a week, which is much more rapid than responses to drugs or psychotherapy. A half-night of prior sleep deprivation seems to produce better results. It is believed that there are disturbed circadian rhythms in many depressed patients and that light therapy can correct these timing abnormalities. Special light boxes using fluorescent bulbs can be obtained for \$200-\$400, and only 15 minutes of exposure may be required for high intensity units. Bright light therapy appears to potentiate the action of antidepressant drugs and is especially beneficial when treatment is initiated, since most medications don't start to take effect for two to three weeks. Light therapy is also useful for pregnant women, children, and others for whom drugs may be contraindicated. For some patients, bright light at any time of day helps their depression, but seasonal affective disorder (SAD) patients may do better with morning light, especially if they tend to sleep late. For depressed patients who nod off early in the evening and can't stay awake for prime-time television, bright light therapy in the evening is preferred.

Norman Shealy and Saul Liss presented their research on the use of cranioelectrical stimulation for the treatment of depression at our 1988 Montreux Congress on Stress. They showed that improvement often occurred within a week, and was associated with a parallel rise in serotonin, particularly in those who had low levels. We have had periodic updates since then, and at our recent Congress, we had a presentation on repetitive transcranial magnetic stimulation (rTMS), which has now been found to be effective in patients resistant to drug therapy. Unlike transcranial stimulation, in which the energy signal passes through the skull, this new approach uses a hand held device to deliver a very rapid, intermittent, pulsating electromagnetic field targeted to a specific area of the frontal cortex, where sophisticated imaging studies often show an energy deficit. Patients improve rapidly as the abnormal area returns to normal and there are few adverse side effects. Another presentation at this Congress showed that ordinary magnets applied to special acupuncture points on the skull could also relieve depression. Various types of aromatherapy and homeopathic approaches can also provide benefits for certain depressed patients.

The bottom line is that all these subtle energies appear to work at a physical / atomic level, rather than the traditional chemical / molecular model used to explain drug effects. In a sense, they are more logical and natural approaches, since they are designed to restore disturbed energy mechanisms that may be the real cause of depression, pain, and many other disorders. Learning how they work could also lead to newer and more effective treatments - so stay tuned.

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