HEALTH AND STRESS

The Newsletter of
The American Institute of Stress

Number 1 2000

IS IT SIMPLY "STRESS", OR SOMETHING MORE SINISTER?

Key Words:hyperventilation, irritable heart syndrome, neurocirculatory asthenia, soldier's heart, effort syndrome, drug and cognitive-behavioral therapy, hormonal influences, electromagnetic therapy

Fear, nervousness, depression, and anxiety are synonyms that are often used to signify "stress". Such emotional states are also often accompanied by disturbing physical feelings. Almost everyone has experienced a "queasy" sensation in the stomach, pounding of the heart, or sweaty palms. These represent very normal reactions to stressful situations like making a speech to a large audience, an important interview that could affect the rest of your life, or just going out on a first date with someone new.

They result from physiologic responses designed to improve the ability to cope with threats and challenges more efficiently. Most of these reactions tend to be temporary and generally do not last for more than a few hours. However, individuals with an anxiety disorder have similar symptoms that can be chronic or recurrent, and sometimes so severe as to be incapacitating.

ALSO INCLUDED IN THIS ISSUE

They may feel fearful, nervous, apprehensive, depressed, or even agitated almost every day. When questioned, some attribute this to vague worries about health, finances, work or family problems, but for many, there is no specific provocation. In such instances, the normally helpful emotion of anxiety backfires and can hamper or prevent normal daily functioning. Not infrequently, both patients and physicians chalk everything up to "stress" or "nerves". In any given year, one out of every five Americans has a mental illness and half the population will experience this problem at some time during their life. Anxiety disorders are the most common type and affect about 20 million Americans. Although there are now very effective treatments for these and all mental illnesses, millions continue to suffer needlessly, and alone. This frequently results from failure to recognize early warning signs and symptoms, and fear of the stigma of being labeled as having some sort of psychiatric diagnosis.

There may be inappropriate treatment due to misdiagnosis because symptoms and complaints can vary so widely. While often dismissed as simply "stress" or a "case of nerves", anxiety disorders are very real biological illnesses. Some have a hereditary basis and / or are triggered by stressful experiences and environmental factors. There are various types, each of which has its own distinct characteristics and responds best to different therapies.

Health and Stress: The Newsletter of The American Institute of Stress is published monthly. Annual subscription rate $35.00 (U.S.), $45.00 (Foreign).

HEALTH AND STRESS
The Newsletter of
The American Institute of Stress

Paul J. Rosch, M.D., F.A.C.P.
Editor-in-Chief
e-mail: stress124@earthlink.net
home page: www.stress.org

General Anxiety Disorder

Patients who suffer from Generalized Anxiety Disorder (GAD) tend to have more persistent and severe symptoms than the anxious feelings most of us experience on occasion. Diagnosis may be difficult because complaints can vary so much. Some simply find it difficult to relax because they always seem to be worried about something. Others who often wake up suddenly in a state of severe tension assume they probably had a bad dream they can't recall. Or there may be problems in concentration that make it tough to read more than a few pages of a novel or get through the daily newspaper at one sitting.

GAD sufferers usually recognize that their anxiety is more intense than the situation warrants but don't seem to be able to do anything about it. Some have difficulty relaxing, falling or staying asleep, or staying focused on details for any prolonged period; there is a tendency to startle more readily, feel fatigued, and depressed. They may experience trembling, twitching, muscle tension, headache, irritability, sweating, hot flashes, or a lump in the throat. Feeling nauseated, light-headed, out of breath, or the need to go to the bathroom frequently are also common complaints.

GAD comes on gradually with early warning signs appearing during childhood or adolescence, although it can also begin later on. It is more common in women than men and there is frequently a family history of similar problems, Symptoms seem to diminish with age and the condition causes relatively little impairment in daily activities. Most patients with GAD are able to function adequately in work or social settings, and unlike some other anxiety disorders, there is rarely a compelling need to avoid specific situations.

A definitive diagnosis may be difficult to establish, but GAD should be strongly suspected in individuals who chronically suffer from unfounded fears and worries, or whose symptoms are much more severe than the normal anxiety complaints most people are apt to experience. The key element is persistent worry and anxiety not related to any other illness. GAD is much easier to diagnose when advanced, since it is often so debilitating, that ordinary daily activities have obviously now become arduous and exhausting chores.

Generalized anxiety disorder afflicts about 3% to 4% of the U.S. population in any given year. Its frequent coexistence with other psychiatric disorders often complicates diagnosis, and influences the type of treatment, as well as prognosis. A recent study revealed that 58% to 65% of subjects who have ever suffered from GAD also have at least one other psychiatric disorder. The two that were found to coexist most frequently were panic disorder and major depression, although substance abuse and other stress related conditions like irritable bowel syndrome were often seen.

Treatment must be individualized based on complaints. Benzodiazepine tranquilizers like Valium have traditionally been used for anxiety, but some believe that Buspirone, an unrelated azapirone drug may be more effective. In depressed patients, different drugs are indicated, and in others, biofeedback and relaxation techniques are useful in reducing symptoms due to increased muscle tension. Cognitive-behavioral therapy can also be very effective, and is frequently used in combination with some of the above.

Panic Attacks And Panic Disorder

Panic gets its name from Pan the Greek god of fertility, who is generally represented as a vigorous and lustful figure having the horns, legs, and ears of a goat. Like a shepherd, he was a piper who haunted the high hills. Pan was also a prankster who enjoyed suddenly frightening unwary travelers, and like cattle, could make them stampede in "panic" terror.

Panic attacks are sudden and severe episodes of overwhelming anxiety and terror that can occur for no apparent reason. Patients say they often begin with a presentiment of impending doom and that they feel "strange", or that their surroundings are unreal. They are terrified by the fear of losing their mind or impending death (*angor animi*) due to a heart attack or not being able to breathe. This is quickly followed by palpitations, difficulty in breathing, tightness or a lump in the throat, trembling, sweating, and dizziness. Hyperventilation may occur which produces numbness in the lips and fingers, and even spasms of the hands and feet when severe. Attacks can vary in frequency and severity, usually lasting for 5-15 minutes, but on occasion can persist for an hour. Immediately after the event is over there is often a feeling of generalized weakness or exhaustion that may last for a few hours. Except for minor variations, all the episodes are similar for each individual.

Panic attacks are essentially exaggerated, sudden, and severe attacks of anxiety. Like General Anxiety Disorder, they typically start in the teens, are twice as frequent in females, and have a genetic link. While found in all races and levels of social status, cultural differences may influence how symptoms are expressed. The initial episode often comes "out of the blue" while engaged in some normal activity like driving or even walking to work. However, attacks are also often apt to be precipitated by some stressful situation, such as the loss of a loved one, a surgical procedure, serious accident or illness as well as chronic overwhelming work overload. Excess caffeine consumption, stimulant drugs such as those found in asthma and cold medications can also trigger panic attacks.

Diagnosis of panic attack depends on experiencing at least four of the following:

- Difficulty breathing
- Palpitations
- Chest pain or discomfort
- Choking or smothering sensation
- Dizziness or unsteadiness
- Feelings of unreality
- Tingling sensations in face or hands
- Hot or cold flashes
- Sweating
- Faintness, trembling, or shaking
- Fear of dying, going crazy, loss of control

Panic attacks are hardly new and have had a variety of labels. Those associated with increased rate or depth of respiration were referred to as **hyperventilation syndrome**. Patients with predominant cardiovascular symptoms had **neurocirculatory asthenia** or **irritable heart syndrome** and attacks following physical exertion were called **soldier's heart** or **effort syndrome**. Panic attacks are more common in smokers and patients with mitral valve prolapse or hyperthyroidism because both of these disorders are associated with increased sympathetic nervous system adrenaline effects that can precipitate attacks as well as aggravate them.

A diagnosis of panic disorder is made when at least three panic attacks occur within a three-week period in the absence of any severely stressful or threatening situation followed by a month of chronic concern about having another. More than 3 million people in the U.S. suffer from panic disorder and there is often a family history. One study showed that if one identical twin developed panic disorder the other would also be extremely likely to. This high degree of correlation was not seen in fraternal twins, suggesting that a genetic influence in combination with environmental factors increases vulnerability.

Patients with panic disorder frequently also suffer from phobias, depression, or obsessive-compulsive disorder. This is important to recognize since, as will be seen subsequently, the coexistence of any of these can influence the type of treatment.

Phobias

Phobia is derived from the Greek word for horror or dread and refers to some severe or disproportionate fear of an object or situation which cannot be reasoned away and leads to avoidance of the offensive stimulus. There are numerous types of phobias and some are frequently associated with panic disorder.

Agoraphobia was first described in 1871 as the "impossibility of walking through certain streets and squares, or the possibility of doing so only with resultant dread of anxiety". A frequent misunderstanding is that agoraphobia is a fear of open spaces, but the Greek word *agora* refers to the marketplace and other places where people assemble. The most restrictive form is a fear of venturing into any public place alone. Others avoid situations in which they feel confined or possibly trapped such as shops, lines, theatres, public transport, bridges, tunnels, or elevators. The disorder usually starts in the early twenties and is present to some degree in one in every three patients with panic disorder. Even if they stay within a "zone of safety" such as the house or immediate neighborhood, most sufferers tend to have several panic attacks a month. For some, fear of an attack may become so pervasive that they become entirely housebound and must depend on others to do shopping, run errands, or accompany them if they go out. Agoraphobia is viewed as an advanced stage of panic disorder and is less likely to develop if panic disorder is treated early. A family history of having both problems is not uncommon.

Social phobia is a fear of being painfully embarrassed in some social setting and occurs only when individuals feel they are the focus of attention of others. The most common social phobia is a dread of public speaking, but there can also be a general fear of being observed by others while using a public restroom, eating out, talking on the phone, or writing a check. Apprehension about participating in some social event can begin weeks in advance and build up into a crescendo of symptoms that can be quite debilitating.

Although social phobia is often viewed as shyness, the two are quite different. Shy people may be very uneasy around others but they do not suffer the extreme anxiety in anticipating social situations, and they don't necessarily avoid circumstances that might make them feel self-conscious. People with social phobia are not necessarily shy at all. They can be completely at ease with others most of the time and only particular situations such as walking down an aisle in public or making a speech produces intense anxiety. Unlike shyness, social phobias can disrupt personal and career relationships, so that a big promotion may be refused for fear of future public scrutiny .

Specific Phobia

Formerly referred to as simple or single phobias, these are characterized by intense fear of a specific circumstance or object despite the fact that it poses no real danger. The most common are the fear of closed-in spaces (claustrophobia), heights (acrophobia), air travel (aerophobia), blood (hemophobia), and deep water (hydrophobia). The latter term is most often used as a synonym for rabies, since in its late stages, drinking liquids can cause such severe choking and convulsions that some patients are even afraid to look at water. Other objects or circumstances include small furry animals, snakes, insects, storms, fear of crossing a bridge, going through a tunnel, injections, venipuncture, or any type of dental or invasive medical procedure. There is also phobophobia, or fear of one's own phobia.

More than ten percent of the population suffers from some specific phobia. Phobias are very frequently seen in children, such as being afraid of animals, but most fears vanish with age. Those that start suddenly, in adolescence or later life tend to be much more persistent and only one in five disappears spontaneously. In the majority of instances, there is no obvious cause, although they seem to run in families and are slightly more prevalent in females. Specific phobias are usually not debilitating and rarely require treatment other than reassurance.

Obsessive-Compulsive Disorder

All of us tend to worry a little more about some things than others. Many people also have certain daily routines, and these may be rather detailed, e.g: eating lunch precisely at noon, watching the 6 and 11 PM News on certain channels, and they always going to bed at the same time during weekdays. There's nothing very abnormal about that and it's helpful to have a daily schedule with some degree of consistency. But for some individuals, worries and rituals can get out of control when they become dominated by thoughts and activities they realize make no sense but are powerless to prevent.

Obsessive-Compulsive Disorder (OCD) is diagnosed when recurrent or persistent distressful obsessions (thoughts) or compulsions (acts) significantly interfere with normal or reasonable marital, social or work routines. The fact that afflicted individuals realizes that their behavior is irrational increases their stress. Trying to resist the obsession or compulsion usually backfires, since it causes anxiety that quickly escalates to intolerable levels, and the only relief is to give in to the urge.

There are many kinds of compulsions and the two most common are cleaning and checking. Some individuals concerned about contamination will spend hours cleaning their home, showering or bathing, or washing their hands almost constantly. Concerns about safety or possible harm may make it necessary to check several or even dozens of times to be absolutely certain that all appliances and especially stoves have been turned off or that every window and door has been securely locked. Excessive repetition is a compulsion in which it is necessary to relieve anxiety by repeating a name or phrase over and over either out loud or silently. Another compulsion may be an excessively slow and maddening methodical approach to daily activities by overly meticulous or perfectionist individuals. Some are constantly "tidying up" and spend hours organizing and rearranging objects and possessions in an attempt to make them more symmetrical or adhere to another format.

Compulsive hoarders are unable to throw away useless items, such as old newspapers or magazines, sometimes to the point that they can fill several rooms and block doorways. Although this attracts great media attention, (as in the case of the Collier brothers who saved every newspaper, magazine and scrap of paper for decades), this is one of the least common compulsive-obsessive disorders.

About one in 50 people in the U.S. suffers from some form of OCD that consumes an hour or more a day. Men and women are equally affected and it often starts during adolescence or earlier. Compulsive cleaning, praying, counting and rearranging rituals are particularly apt to be seen in young patients. At least one-third of adult cases had their first signs of the disorder during childhood but the course of the disease is very variable. Symptoms may come and go, they may subside over time, or grow progressively worse. When the disorder first appears in adult life, it usually persists and/or becomes more severe if not treated.

OCD may run in families but new evidence suggests that in some adults, where the disorder clearly began during childhood, it may have been due to the same Group A beta hemolytic streptococcus that causes rheumatic fever. Sydenham's chorea is a disorder that can follow rheumatic fever and is characterized by the development of tics and jerky movements of the body. These neurological disturbances result from injury to brain cells from antibodies formed in response to these strep infections. Researchers at the National Institute of Mental Health noted that more than three out of four patients also exhibited OCD behavior prior to the onset of choreiform movements. Patients in remission often suffer a relapse following a subsequent streptococcal infection.

Some children with OCD who do not progress to chorea are believed to be examples of PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders Associated With Streptococcal Infection). Streptococcal antibodies have been foun to be unusually high in children with OCD compared to controls, and antibiotic therapy can reduce symptoms.

Post-Traumatic Stress Disorder

Post-Traumatic Stress Disorder (PTSD) is apt to occur following a psychologically traumatic event that is outside the range of normal human experience. Although not given a specific name until thousands of years later, PTSD was clearly described in ancient Greek and Roman accounts of traumatic battlefield experiences; Shakespeare provided a vivid portrayal in *King Henry the Fourth,* but PTSD was only recognized as a specific disorder twenty years ago because of psychiatric symptoms that were increasingly being seen in Vietnam war veterans. Affected individuals may re-experience the precipitating traumatic event in the form of very realistic recollections and / or recurrent intrusive dreams. There is often an associated sudden fear that the event itself will happen again. These feelings can be triggered by a stressful event or some stimulus that suggests the original trauma.

PTSD sufferers often become increasingly detached from other people and lose interest in normally significant activities. Some may feel guilty about having survived when family or close friends have perished. There is frequently a heightened state of alertness or vigilance which makes it difficult to concentrate or remember things clearly. Sleep disturbances are also common. Any activity that might result in some sort of recollection of the original trauma is scrupulously avoided, but attacks can be precipitated by anything that has some symbolic connection, no matter how remote. Acute PTSD symptoms usually begin within a few weeks or months of the shocking event and subside or disappear after a few months. In chronic PTSD, complaints either last for six months or begin more than six months after the trauma.

While PTSD was originally limited to or associated primarily with wartime experiences, it has been increasingly recognized in civilian life. PTSD has now become a fairly common diagnosis in survivors of rape, robbery, kidnapping, damaging earthquakes, hurricanes, tornadoes, fires and other natural disasters, motor vehicle and airplane accidents and victims of parental abuse and other violence. PTSD has even been used as a defense for murder.

Causes & Mechanisms Of Action

Anxiety disorders vary considerably in their clinical manifestations and can have different causes and mechanisms of action. In some types, a strong family history suggests a genetic predisposition while others seem to have their roots in stressful experiences. In many instances both factors are involved and environmental stimuli seem to pull the trigger of a loaded gun. Nevertheless, it is essential to recognize that each one is a biologic disorder mediated by biochemical and physiologic disturbances that have now been shown to respond to different therapeutic approaches.

For example, one clue to the physiology of panic attacks is the common symptom of rapid, heavy breathing which is designed to absorb more oxygen quickly to facilitate flight or flight responses. This increases the alkalinity or pH of the blood so that more calcium becomes bound to protein. The resultant decrease in ionizable calcium can cause numbness, tingling, and tetany similar to that seen when total calcium is low, as in hypoparathyroidsm Physicians have long known that patients with hyperventilation syndrome can achieve prompt relief by breathing in and out of a paper bag to take in more carbon dioxide to lower the pH.

Another clue comes from the injection of sodium lactate, which is produced during vigorous exercise. Its presence indicates a need for more oxygen and injecting sodium lactate produces the physical symptoms associated with panic and precipitates a panic attack in four-fifths of people with panic disorder, but only one-fifth of the general population. Lactate sensitivity appears to be inherited.

In other anxiety disordrs there can be variations in levels of serotonin, endorphins, and norepinephrine, or different disturbances in normal hypothalamic-pituitary-adrenal relationships. Cortisol tends to be high in panic disorder, especially when associated with depression, but low in PTSD, where increased endorphin and corticotrophin releasing hormone level is also common. The ability to identify and correct these abnormalities could lead to improved therapies.

Treatment Of Anxiety Disorders

As indicated in the discussion of panic attacks, the treatment of anxiety disorders usually consists of a variety of psychotropic medications and/or cognitive-behavioral therapies. However, treatment must be individualized because of the high incidence of coexistence of depression and other psychiatric problems, gender differences, age, and other factors which influence responses to treatment.

What is especially striking is the number of times one or more anxiety disorders occur with each other and with other mental disorders, such as depression and substance abuse. Nearly 60% of patients who are diagnosed with OCD are later diagnosed with depression. Hormones can significantly influence the brain's development. which may explain marked gender differences in the prevalence of psychiatric disorders. Major depression is two to three times more common in women than men, with lifetime prevalences as high as 20 percent. In contrast, substance abuse is much more common in men.

Pharmacologic Agents

Some of the medications frequently used for the treatment of anxiety disorders, include benzodiazepines (Valium, Ativan, Klonopin), tricyclic antidepressants (Elavil, Triavil), monoamine inhibitors (Tofranil), and selective serotonin reuptake inhibitors (Prozac, Zoloft). All provide benefits for certain complaints, but they also can have contraindication and disturbing side effects. Benzodiazepines, which are often prescribed as muscle relaxants and sleeping pills, produce rapid tranquilizing effects, but many patients develop a tolerance and half experience disturbing withdrawal symptoms when the medication is stopped. In older patients, benzodiazepines can increase the incidence of falls, cause confusion, and aggravate memory loss.

As noted, many anxiety disorder patients also suffer from depression and this can present a particular therapeutic challenge. For example. Valium is relatively contraindicated in depression since it often worsen symptoms. Valium can also affect the activities of all types of antidepressant medications, again underscoring the necessity of individualizing treatment.

Cognitive-Behavioral Therapies

Cognitive-behavioral therapy (CBT) has increasingly become a cornerstone of therapy for anxiety disorders. Approaches differ depending on symptoms. Patients are taught to anticipate the situations and bodily sensations that are associated with their panic attacks. They learn to identify and change patterns of thinking that cause them to misperceive commonplace events or situations as dangerous and to always "think the worst." Most patients do not recognize how deeply these anxiety-raising thoughts have become ingrained and this increased awareness helps to prevent or reduce the frequency and severity of attacks.

Patients whose attacks are brought on by hyperventilation are taught to replace thoughts like "I'm dying," with "I'm just overbreathing—I can handle this." Helping patients become less fearful by safely and gradually exposing them to situations and physical sensations they avoid or find frightening is another common CBT technique.

Hormonal And Gender Influences

Brain imaging studies reveal that men and women differ in their affective responses, but even when shown standardized pictures that evoke various emotions, women show more vivid responses as measured by changes in muscles involved in frowning, smiling, fear, etc. These differences begin after puberty and are most likely due to hormonal influences. Estrogen receptors are present throughout the brain, particularly in limbic locations that modulate mood.

Estrogen replacement can be effective in treating post-menopausal depression and also speeds up antidepressant effects in women but not men. Similarly, estrogen may reduce the severity and frequency of panic attacks. Remission of panic disorder often occurs during pregnancy with steady improvement each trimester; there is usually a relapse following delivery. In contrast, OCD often worsens during pregnancy, possibly due to oxytocin and other hormones.

Preventing And Treating The Stress Of Mental Illness in the Millennium

Since the past ten years had been officially declared the "Decade Of The Brain", it is particularly appropriate that two weeks before the millennium, the Surgeon General of the United States released the first comprehensive report on mental health ever issued by that office. This 487 page document is replete with staggering statistics on the pervasiveness of mental illness and its health and fiscal toll. It confirms that one in five Americans are affected each year, half the population will suffer some sort of mental illness during their lives, and "that nearly two-thirds do not seek treatment." Some 44 million workers who have no health insurance can't afford it, and even if they did, many plans don't cover it. Those that do have hefty co-payments; in 1996, of more than $32 billion spent on mental health for employees with private insurance, only $18 billion came from insurers. (An analysis of one California company plan showed it spent $1 per member per year.) Others fear that the stigma of having a mental illness may ruin their career or social life, especially because of lack of privacy in managed care settings. Some are simply not aware that there are now very effective treatments for almost all mental illnesses. The tragedy is that "mental illness, including suicide, is the second leading cause of disability." The financial toll from absenteeism and lost productivity is impossible to calculate. About $70 billion was spent on treatment last year (exclusive of Alzheimer's and drug addiction). Anxiety disorders are the most common mental illnesses and OCD therapy alone had a price tag of $9 billion. A massive campaign is being launched to educate the public and to force insurers to provide meaningful coverage in the millennium.

Help is also on the horizon from significant medical breakthroughs, especially in the field of bioelectromagnetic medicine. Repetitive transcranial magnetic stimulation has already proven effective in treating drug resistant depression and a new electronic implant may provide similar benefits. Stereotactic surgery which creates bilateral lesions in certain specific sites in the brain can improve some patients with severe OCD resistant to medications and psychotherapy. This procedure may no longer be necessary since electrical stimulation to these same locations (via technology developed under the auspices of the Medtronic QUEST program) appears to confer similar or superior benefits and is much safer. Similar approaches for other mental and neurologic disorders are also planned. Scientists have also discovered a link between anxiety and a gene that influences the tendency towards thinking negatively. It is believed that there are probably 9 to 14 other genes that may predispose to anxiety which might be manipulated in the millennium. There are promising new drugs in the pipeline, and a genetically altered animal model of anxiety has been created to speed up the development of superior millennium medications. As FDR noted, "The only thing we have to fear is fear itself".

Paul J. Rosch,M.D., F.A.C.P.
Editor-in-Chief

ISSN # 1089-148X

HEALTH AND STRESS
The Newsletter of
The American Institute of Stress
124 Park Ave., Yonkers, New York 10703

Non-Profit Organization
U.S. Postage
PAID
Yonkers, NY
Permit No. 400