

## Chronic Stress-The Root Cause for All the Diseases

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### ABSTRACT

*We all go through stress at some point of life but now a days, we have started to live in stress everyday because of the new age fast life coupled with wrong lifestyle habits. Stress affects all systems of the body including the musculoskeletal, respiratory, cardiovascular, endocrine, gastrointestinal, nervous and reproductive systems. Chronic stress will lead to cellular stress or cellular death, which will straight away make you embrace chronic diseases. It has not been easy to integrate this evidence linking psychiatric illness and mental stress with the development of cardiovascular disease into the clinical practice of medicine.*

### Keywords

Lifestyle habits, Stress, Chronic diseases, Depression.

### Introduction

Stress increases the risk for diabetes mellitus, especially in overweight individuals, since psychological stress alters insulin needs. Stress also alters the acid concentration in the stomach, which can lead to peptic ulcers, stress ulcers or ulcerative colitis. The relationship of stress with psychiatric illness is strongest in neuroses, which is followed by depression and schizophrenia [1]. The environmental stress perspective emphasizes assessment of environmental situations or experiences that are objectively related to substantial adaptive demands.

The psychological stress perspective emphasizes people's subjective evaluations of their ability to cope with demands presented to them by certain situations and experiences [2]. The morbidity and mortality due to stress-related illness is alarming. Emotional stress is a major contributing factor to the six leading causes of death in the United States: cancer, coronary heart disease, accidental injuries, respiratory disorders, cirrhosis of the liver and suicide [3]. More specifically, it is devoted to understanding the interactions between the immune system, central nervous system and endocrine system [4]. Several studies have shown that chronic stress exerts a general immunosuppressive effect that suppresses or

withholds the body's ability to initiate a prompt, efficient immune reaction [5].

The longer the stress, the more the immune system shifted from potentially adaptive changes (such as those in fight-or-flight response) to potentially detrimental changes, at first in cellular immunity and then in broader immune function. They also found that the immune systems of people who are older or already sick are more prone to stress-related change [6]. Some studies found that type A individuals generate more stressful life events and were more likely than others to interpret encountered life event in an emotionally adverse way [7]. Since blood pressure and serum cholesterol increases during stress, the relationship between stress and hypertension has long been suspected; emotional stress is generally regarded as a major factor in the etiology of hypertension [8].

Migraine headache is also related to stress resulting because of constriction and dilatation of the carotid arteries of one side of the head. The constriction phase, called the prodrome, is often associated with light or noise sensitivity, irritability and a flushing or pallor of the skin. When the dilatation of the arteries occurs, certain chemicals stimulate adjacent nerve endings, causing pain. Diet may precipitate migraine headaches for some people. However, predominant thought on the cause of migraine pertains to emotional stress and tension. Feeling of anxiety, nervousness,

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anger or repressed rages are associated with migraine [9]. Causative factors in bipolar disorders are multifactorial and complex, and genetic factor seems to influence life events exposure. Those with greater genetic loading, there were fewer stressful life events before the first episode and they had the earlier onset of the disease.

A number of studies have shown that the onset of depression is often preceded by stressful life events. The discussion will centre round the causes of mental illness and its management at two levels—in the immediate environment, and in professional settings. We shall, however, place more emphasis on the former, though we shall indicate also the proper use of professional services, which ensures that the patient receives the best possible attention while those around him may receive appropriate support. A number of other early physicians also made important contributions to the study of mental illness. Aesclepiades was a very shrewd clinical observer, and was, for his time, humane. He recommended music as a form of sedation (see above also), warm baths, soft hammocks and light. ‘Patients should be kept in well-lighted places; darkness leads to terror, and terror increases the misery of madness [10].

It is important to remember that, from a caring point of view, the village was in fact the ‘total institution’ for most people and that (more importantly) the last word on any subject rested with the Church as arbiter. The history of the treatment of the insane from earliest times up to the end of the eighteenth century is mainly characterised by fear of those who were ‘possessed’. There were, however, occasional instances of humane treatment and attempts to understand symptoms. As the nineteenth century began, there developed a preoccupation with ‘containment’; the latter part of this chapter deals with this preoccupation and the movement towards a greater degree of toleration and understanding of the mentally ill. In the nineteenth and twentieth centuries, according to Henderson and Gillespie, four main areas of development are to be discerned in the treatment of the mentally ill, though these overlap very considerably [11].

At that time, it was hypothesized that psychological distress can cause infertility or infertility can cause these psychological issues among men & women. Hence, it is obvious that infertility leads mild to severe psychological issues among men & women. To better, understand infertility there is a need to discuss the basic concept of infertility. Overall, this study provided solid evidence of the mental health and chronic diseases situation among both the gender indicated the potential heterogeneity across cohorts, regions, and measurement tools [12].

## Discussion

### Chronic stress and diseases connection

Chronic stress raises catecholamine and suppressor T cells levels, which suppress the immune system. This suppression, in turn raises the risk of viral infection. Stress also leads to the release of histamine, which can trigger severe broncho-constriction in asthmatics. Stress also alters the acid concentration in the stomach, which can lead to peptic ulcers, stress ulcers or ulcerative colitis [13].

Chronic stress can also lead to plaque buildup in the arteries (atherosclerosis), especially if combined with a high-fat diet and sedentary living leading heart diseases and stroke. The correlation between stressful life events and psychiatric illness is stronger than the correlation with medical or physical illness. The relationship of stress with psychiatric illness is strongest in neuroses, which is followed by depression and schizophrenia. There is no scientific evidence of a direct cause-and-effect relationship between the immune system changes and the development of cancer. However, recent studies found a link between stress, tumour development and suppression of natural killer (NK) cells, which is actively involved in preventing metastasis and destroying small metastases [14].

### Human and His Body during Stress

Your body responds to physical, mental & emotional stress by releasing stress hormones such as epinephrine and norepinephrine, which increases your blood pressure, speeds up the heart rate and raises your blood sugar levels [15]. These changes help a person act with greater strength and speed to escape a perceived threat or a stressful situation once in a while. Now imagine you going through stress every day, the same and regular rise in blood pressure, sugar levels & heart rate will make you end up in chronic inflammation leading to cellular death and chronic diseases especially cancer, diabetes, heart diseases & stroke etc. Stress can also cause changes that promote the buildup of plaque deposits in the arteries of your heart [16].

### Key points to learn

- Psychological stress increases apoptotic cell death (programmed cell death) in the hippocampus and temporal cortex, because of “innate immune-induced inflammation” leading to chronic diseases.
- According to the prospective epidemiological studies, a higher degree of stress is associated with elevated incidences of neoplasia (the uncontrolled, abnormal growth of cells or tissues in the body) and cancer mortality in previously healthy individuals and with poorer prognosis in cancer patients and also psychosocial stress will be considered as a sure shot risk factor for specific types of cancer and plays a key role in the cellular aging process.
- Chronic psychological stress will result in long-lasting impairments of brain functions that partly involve neuronal cell damage leading to Parkinson’s & Alzheimer’s.
- Psychological stress leads to secretion of a hormone called as cortisol and the high levels of cortisol from repeated stress can increase blood cholesterol, triglycerides, blood sugar and the blood pressure [17].

### How to Handle the Stress in the Right Way

- Embrace a well designed scientific exercises regime designed as per your current medical, physical, psychological and professional status
- Go for a balanced diet
- Avoid alcohol or smoking to distress
- Practice meditation, breathing exercise, Yoga and forgiveness

- Practice a precise sleep pattern
- (especially between 9.00 pm to 5.00 am or 10.00 pm to 6.00 am, sleep during this time will automatically help you to come out of stress and fight anxiety, depression etc)
- Have a regular supplement of Omega -3 and Vitamin – D
- Go for Psychological counseling therapy

## Conclusion

Stressful events are facts. In addition, you may not be able to change your current situation. However, you can take steps to manage the impact these events have on you. You can learn to identify what causes you stress and how to take care of yourself physically and emotionally in the face of stressful situations. Avoid unhealthy ways of managing your stress, such as using alcohol, tobacco, drugs or excess food. If you're concerned that your use of these products has increased or changed due to stress, talk to your doctor and get your lifestyle plan designed as per your requirements to handle the stress effectively. The rewards for learning to manage stress can include peace of mind, less stress and anxiety, a better quality of life, improvement in conditions such as high blood pressure & diabetes, better self-control and focus, and better relationships. In addition, it might even lead to a longer, healthier & a disease free life.

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