

# Psychoneuroimmunology and health essay



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A traditional view, still held by many scientists, is that the immune system is self-governing. That is to say that it is self-regulatory and functions autonomous and separate from the rest of the body. With the growing focus on the comparatively new science of Psychoneuroimmunology (PNI) these old views are becoming less reasonable. The goal of this paper is to look at what illness really is, the common causes of illness, the role of our immune and defensive systems, stress and our body, mind, feelings and spirit in creating and curing illness.

Also we will examine Psychoneuroimmunology as the relatively new science, its formation and its relevance to the medical community in finding potential cures for disease through the immune system. The name Psychoneuroimmunology was provided in 1975, by Dr. Robert Ader, director of the department of behavioural and psychosocial medicine at New York's University of Rochester. Dr. Ader claims that there is a link between our nervous system, emotions, the immune system and our mind. He elucidates the links between our states of mind and our states of health.

It is one piece of a much combined puzzle - the puzzle of what creates and maintains harmony and well-being. The recognition of the mind/body connection and the finding of its routes and mechanisms of operation, through the arising field of psychoneuroimmunology, represents one of the most important and promising medical/scientific progresses of the last two decades. Since the time of Descartes, Western medicine, like Western science and philosophy, has been controlled by the doctrine of dualism, which sees the mind and the body as independent.

So what exactly is this mind/body connection that is presenting so significant in the on-going evolution of medicine? How does it work? The fundamental premise of mind/body medicine is that our thoughts, feelings, and mental states influence our bodies at the physical level and reflect themselves in our health. The brain has often been called the body of the mind. It is, at least at the physical level, both the source and performer of all that we think and feel and it is through the brain's connections with our other organs, glands, and tissues that feelings influence health.

The “ Stress Response”, described by Hans Selye in the early 1970's, still presents one of the best illustrations of the mind/body connection. The Stress Response, which is also called the “ Fight or Flight Reaction”, results in a sequence of events that occur in the body when people experiences something that they feel to be threatening or challenging. The evolutionary goal of this response is to make ready the body to either fight or run away.

When the hypothalamus gets the message from cortical centers that there is a threat, it influences on the adrenal glands through the sympathetic nerves and indirectly through the pituitary gland via the blood stream, causing the adrenals to release corticosteroids, epinephrine, and norepinephrine.

Corticosteroids carry out a variety of functions; they have anti-inflammatory effects, raise blood sugar, prevent allergic reactions, mobilize fat and prepare the body for action in other ways. Epinephrine and norepinephrine also prepare the body by influencing on the heart, blood vessels, and back again on the brain.

As a result of sympathetic nervous system activation a number of body events occur, comprising: increased blood pressure, increased respiratory rate, increased heart rate, increased fuel consumption, increased blood flow to skeletal muscles, increased muscle tone, increased sweat. Research has shown that an inseparable chemical link exists between our emotions, which combines all stress in our lives, both good and bad, and the regulatory systems of the endocrine and immune systems through the central nervous system.

This research emphasizes the significance of expressing our emotions both verbally and physically in an appropriate way. When strong emotions give rise to fear, anger or rage and these are not expressed in a healthy way then the body's natural response is that of the sympathetic nervous system as demonstrated in Cannon's research on homeostasis and the fight or flight syndrome. At this point, unsuitable storing of these stressful emotions generates an excess of epinephrine. This excess of epinephrine causes a chemical breakdown, resulting in internal weakening of the immune system and an enlarged potential for disease.

Studies of stress in medical students have exhibited a negative impact of test anxiety on immune function connected with decreases in natural killer cells, T and B lymphocytes, and helper T cells. Studies examining long-term stress have also presented immune system effect. For instance, a drop in activity of natural killer cells and a decrease in the proportion of helper T-cells, accompanied by subjective reports of a higher rate of symptoms of illness in medical students under stress. The clinical involving of PNI is far reaching.

For instance, it has been noticed that when vaccinated with the cold virus stressed people are much more likely to catch the cold than less stressed people. Those who are stressed see that they get far worse immune response to common vaccines such as the flu and hep B vaccines. Elsewhere it has been observed that people could improve immune function through bettering their ability to relax or through better emotional expression even if that expression was only keeping a journal about stressful events.

The therapeutic potential of this finding has more recently been tested in the notice that patients with a chronic inflammatory condition such as asthma or rheumatoid arthritis can greatly improve their condition by writing in a journal about stressful events. It should be clear that we have some dissent with the medical model which suggests that bacteria or viruses can simply enter the individual, take hold and create disease.

As we discussed earlier, the significant question is which comes first, the invading organism which causes the breakdown of the protection network or the breakdown of the network allowing invasion of organisms which cause disease. The medical model empowers only the physician and eventually only provides a trap. Without knowing the true nature of illness we cannot begin to look for prevention and complete elimination and healing of illness. Once we recognize that we are in charge of our own well-being and health we can ultimately take charge of our lives and our fates.