

What is the relationship between stress and illness



The meaning of the term stress according to Collin, William (1996) describe stress as pressure, tension, quantity of measuring things, physical or mental strain.

The stress reaction is a physical response where by the body prepares itself to get action. The effect of stress varies from person to person as it is the person reaction, which makes it an optimistic or pessimistic stress reaction.

Any factor that produces stress is called a stressor and it can be almost any interruption. Short time stressors occur daily. These everyday events may cause a sudden stress reaction, but the body will quite quickly return to a balance state and homeostasis will be restored. (Collin, William (1996).

Long time stressors occur when one or more stressors may go above a person's capabilities and prevent the return of homeostasis. If this occurs, chronic ill health may follow. People who suffer from stress have a weakened immune system that decreases their resistance to infection and prolongs recovery from illness trauma. (Hugh, Richard and ob 2004).

WHAT ARE THE EFFECTS OF STRESS?

There are four kinds of effects associated with the stressed state;

Physiological effects e. g. release of adrenaline and noradrenalin, shut down of digestive system, increased heart rate and constriction of blood vessels.

Behavioural effects e. g. reduce work performance, disrupted sleep patterns and increased absenteeism. Emotional effects e. g. feeling of anxiety and depression, increased physical tension and increased psychological tension.

Cognitive effects e. g. poor concentration, increased distractibility and reduce short- term memory capacity.

According to Selye views stress as the physiological response of the body to external stressors. Stimulus definition emphasizes the role of external stimuli, the physiological response to these stimuli and physiological process that mediate between stimulus and response.

According to Cox (1975) considers that stress involves external stimuli, the physiological response to these stimuli and psychological process that mediate between stimulus and response. The psychological processes involve differences between individuals in their perception of the environmental demands and their own capacity to cope with them.

The general adaption syndrome was developed by Selye (1956) who subjected rats to noxious agents. The same symptoms appeared in response to a variety of these stimuli and so were considered to be due to a general state described as stress.

The stress response was thought to complies in three phases: Alarm reaction, this is the stressful event followed by activation of the hypothalamic- pituitary adrenal system as the body is prepared for energy expenditure (fight or flight)

Resistance: the body copes with a persistent stressor by maintaining high levels of arousal.

Exhaustion: body's defence system become exhausted and responses to minor additional stresses become exaggerated psychosomatic disorders (e.g. Gastric ulcers or chronically raised blood pressure may develop).

Stress and illness relationship.

There is increasing evidence that stress can cause illness by interfering with the immune system. The immune system protects the body from harmful viruses when the stress response is activated; the activity of the immune system is slowed down.

The immune system protects the body from harmful infection viruses and bacteria, and helps to repair the tissue damage. Short terms stress leads to the suppression of the immune system; all the resources are diverted to deal with the stressful situation. Cold and other infections manifest themselves after busy and stressful work. The short term suppression of immune system is not dangerous, as it is self regulating and will recover when stress term, can leave the vulnerable to infection and disease.

A study done by Brady et al (1958) where he used monkeys to study the body's response to stressor and whether a link could made to illness. The research by Brady used two monkeys to investigate whether the electric shock used as the stress or would cause stress related illness. The monkeys were given different roles, monkey A was given the control button to decide when the shock intervals were to be received. The monkey B was yoked but did not have the control button. The shock was timed at twenty second intervals for six hours, and for 23 days. Findings showed that the monkey A began to develop, die of gastric ulceration, but monkey B remained healthy.

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Brady concluded that shock were not severely stressful because monkey B showed less or no gastric ulceration, the critical factor was the stress associated with trying to avoid the shocks. Brady's conclusion was that being in control was more stressful than the stressor.

However Brady's experiment shows that there is a link between stressors and the body's response. The model influences our understanding of the relationship between stress and illness. It lead to vast amount of research, Brady generalized from monkeys to humans and showed that there is a link with being in control. On the other hand Brady's experiment was poorly controlled. The monkeys were not subjected to same condition of being yoked or control. He generalized monkeys to human which could not be the same. Humans are capable of thinking other solutions which are different from monkeys.

Russek (1962) study was to see if the effect of high levels of occupation stress and lower level occupation stress on the prevalence of cardiovascular heart disease. He sent questionnaires to four groups, GPs and Anaesthetist, and was judged to be lower in stress in medical practice.

The other groups were the pathologist and dermatologists who were judged to be lower in stress in the medical area. Ressek's questionnaire measured family diet and incidence of coronary heart in the sample.

Ressek's results showed that, the high stress group was more prone to coronary heart disease, than the lower stress group. The high stress group were the GPs and the Anaesthetists and lower stress group were the dermatologist and pathologists. This study confirms the relationship between
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stress and job responsibilities, and the development of coronary heart disease.

Rosenman et al (1974) undertook a larger study lasting for nine years involving several thousand 39-59 years old men. Divided into two groups. Type A and type B they used the personality and type A behaviour people to link between people who are highly stressed and coronary heart disease. By the end of the study, 257 men in the sample had developed coronary heart disease (CHD), of which 70 percent were from type A group, twice the rate of heart disease found in type B group. The difference in the incidence of CHD between the two groups was independent of lifestyle factors, such as smoking and obesity that are known to increase the chances of heart disease. Rosenman et al argued that some people have type A personalities which create and maintain high levels of stress in their lifestyle.

These people are often aggressive, competitive and highly driven perfectionists who will not delegate and impatient towards others. Rosenman et al proposed that if both type were to undergo a surgery type A people show higher blood pressure levels than type B. Type behaviour could be interpreted as a way of coping with heightened physiological activity.

Although some aspects of lifestyle were controlled for, there may have been other variables that could have affected vulnerability to heart disease, such as elements of hardiness, social support and regular exercise. This study was not experimental study, so the cause and effects cannot be assumed. Other studies have failed to show a relationship between Type A and heart disease. However, there is clear evidence that stressed people are more likely to become ill than less stressed people and it is this relationship that

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psychologists are interested, in the appears to be positive correction between stress and illness.

Research has also shown that there is a strong relationship between stress and illness from the cognitive perspective of Douglas and Meaney (1998). These psychologists investigated the effect of cortisol, which is hormone that maintain and regulates the supply of blood sugar. Two different groups were formed: Group A had a moderate level of cortisol in their body while group B had high cortisol. Both groups were supplied with hydrocortisone and metarapone and their memory was tested. Some group that had hydrocortisone found their memory got worse, while those who had metarapone in this group had their memory restored and in group B the ones that had hydrocortisone recorded no changes at all whilst for those who had metarapone their memory got worse. Douglas et al (1998) assumed that memory impaired group in the study suffered from too much stress in their life, this was able to link to stressor.

In conclusion the physiological, behavioural and cognitive perspective has all both strength and weakness. However, there appears to be evidence that support a link between stress and illness.

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