

Healing your body with your mind: the psychology of physiology

Philosophy and religion have long acknowledged that a person's thoughts and emotions are an integral part of living a long and happy life. In this article, Amutha Kanthasamy explains how being mindful and taking a positive attitude towards healing can help body's physical response to problems, and how stress, at the other end of the emotional spectrum, can lead to further kidney problems

■ body mind connection ■ kidney disease ■ belief ■ psychology

A few years ago, a newly diagnosed dialysis patient told me he blamed his sickness on his ex-wife. As I stood there, taking his background history, he told me:

'I got sick after my divorce. I am very angry with my ex-wife for what I am going through—it was because of her I got to where I am now.'

While taking his vital signs, I noticed his blood pressure, heart rate and breathing rate were increasing. People often fail to realise how much our own thoughts and emotions manifest as physical illness in our body. Stress is not just extrinsic—it can be caused by our circumstances or by our own attitudes and expectations. While some people thrive on stress, many others experience the negative effects it can have on health—and in particular, on the kidneys.

Stress-related physical illness

Stress is inevitable in today's society. The world that we live in is busy and demanding, and we do not necessarily take the time to stop and think about the repercussions of our stressful lifestyle. We persevere, thinking that someday things are going to get better—but the truth is that nothing will change until we take the first step. A literature review by Warburton et al (2006) has indicated that chronic stress is the

major cause of many problems and illnesses, including: high blood pressure, type 2 diabetes, obesity, cardiac issues, stroke, arthritis, intestinal issues, and breast cancer. This association with stress have been known of for some time. Brown (1997) wrote that negative emotions play a major role in physical illness:

'Science is about to validate long-held beliefs about the relationship between emotions and disease. A new field of research, exploring the connections between the neuroendocrine and immune systems, has already produced exciting discoveries which promise to confirm, in the most modern scientific terms, the influence of emotions on the onset, course, and remission of disease.' (Brown, 1997)

Defining stress

Stress is both a physiological response to a given stimulus, and a survival mechanism in response to a threat. Acute stress is experienced during a crisis; it is unexpected, intense, and the sudden emotional stress can lead to physical or mental illness. This can occur as a result of emotionally challenging situations, such as the death of a significant other, divorce, loss of a job, financial turmoil or childhood trauma (Cardeña and Carlson, 2011). When handled wisely, however, stress can help affect positive changes; however, when the person lacks the techniques to manage and overcome the stress, it will put their health at risk.

Physiological response

The natural evolution of our species has led to our bodies being built to live in

the wilderness. This is equally true for our survival response. The hypothalamus (a region in the brain) produces cortisol, the stress hormone that prepares to body for either fight or flight. The antagonist to this, the endorphins the body releases when the person is happy, sends a signal to hypothalamus that the threat has passed.

While this response was originally intended to help us in the event that we spot a threat to our survival, such as a venomous spider or a tiger, it has not disappeared because we have built cities around us. While the majority of us do not come across tigers on a regular basis, we often experience threats that trigger the same response.

Initial response

According to Ax (1953), physiological responses, such as increased heart rate, shallow breathing, high blood pressure, dilated pupils, muscle tension, upset stomach, fatigue, sweat and increased body temperature occur as the initial response to stress. When these are not dealt with promptly and in a positive manner, a secondary cascade of responses takes place as the body continues to prepare for fight or flight by increasing blood glucose and cholesterol, in order to bolster the amount energy ready and available for release; muscle breakdown can occur when the stress is particularly intense, as a last-resort energy resource (Ceriello and Motz; 2004).

A measure of blood creatinine (a by-product of muscle breakdown and dietary protein metabolism) is widely used to measure kidney function (Perrone et al, 1992). Excessive creatinine in the blood

Amutha Kanthasamy

Clinical Nurse Consultant, Queensland Health, Queensland, Australia

Email: amuthas68@yahoo.com

can put added pressure on the kidney to eliminating them, again causing further injury. This creates a cycle similar to how high blood pressure damages kidney and kidney disease causes high blood pressure.

Immune response and stress

Glomerulonephritis caused by bacterial or viral infections, lupus, Goodpasture's syndrome, immunoglobulin A nephropathy, and vasculitis, all of which are related to diminished immune function (Mayoclinic, 2017). A study on chronic stress, glucocorticoid receptor resistance, inflammation, and disease risk, confirmed that autoimmune diseases, infections and poor wound healing are all associated with chronic stress (Cohen et al, 2012).

Cohen's team suggests that exposure to significant stressful life events causes glucocorticoid receptor resistance, resulting in hypothalamic-pituitary-adrenal stress response, which in turn increases the cortisol level and has the effect on leucocytes levels in the blood stream. The person under stress is then susceptible to a range of illness, from the common cold to major illnesses such as chronic inflammatory diseases.

Mind-body healing

When a person is informed that he/she is in initial stages of kidney disease, it is important that they act quickly to mitigate further damage. The challenge is that worrying will only increase the stress and make the problem worse; the person has to take action instead. To do this, the person needs to have hope and the belief that it will get better. They also need to believe that external change will be reflected internally. Hope and belief produces dopamine, which induces reward-motivator behaviour and encourages the person to take further action (Groopman, 2004). A frank discussion with their doctor is highly useful here, in assessing what needs to change. Does the person need time to identify problems and sort things out, or is a more radical change needed, such as a change of job, environment, or relationship? It is important for the person to go meet with the doctor regularly to monitor progress, as it also offers a chance to check blood pressure and chemistry. This will, in turn, help the person to maintain the changes

and their belief that what they are doing is making them healthier.

Managing stress

For centuries, medicine has looked for the connection between physical health and the emotional, psychological and behavioural factors a person exhibits. Philosophy and religion have long acknowledged that the way to a healthy and happy life is lies in what the mind manifests in the body. Despite this, modern medicine has taken a long time to incorporate these practical solutions in day-to-day hospital care.

There are many simple lifestyle changes a person can to limit their risk of kidney disease. These include:

- Exercising—many studies have proven that exercise and sports (such as brisk walking, kickboxing, swimming, and dancing) can help reduce stress by working on hypothalamic-pituitary-adrenal axis pathway (Ross and Thomas, 2010). Creatinine can also be eliminated through sweat, and so exercise can help alleviate some of the workload imposed on the kidney during stressful periods
- Mindfulness—Dobkin (2009) discusses healing through mindfulness. It can be learned and mastered through activities such as medication, yoga, Tai Chi, and prayers (if religious)
- Socialising—talking to a trusted friend, a family member and or a health professional can help relieve stress and aid in finding a solution. Sarason et al (1990) encouraged social support in particular as a measure of stress-coping and health improvement
- Diversional therapy—this is used to divert the mind from the worries of life. Rollins and Riccio (2002) state that art therapies that can be used in this area to aid with self-healing and recovery. Other useful therapies in this area include music, painting, crafts, and journal-writing.

Conclusion

These ideas—diet and mindfulness—have long been part of traditional healing. As a health-care practitioner, I believe we have a long road ahead of us in bringing these ancient philosophies into Western medicine. Our own negative emotions and thoughts play a vital role in our physical health, and

as such, it is essential that we take action to manage our mental state to maintain a good physical health.

The first step on this road is to stop and think and what is worrying you. Once you understand it, you can begin to conquer it. Reaching out as early as possible can make a big difference—it allows for the person start again, take a brand-new path if needed, and remove the stress and anxiety. Next time you feel stressed, go for a quick walk, have good laugh, and remember that it is stress, not happiness, that leads to poor health. **JKC**

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